LIFESTYLE AND SOCIAL SUPPORT OF WOMEN WITH HYPERTENSION IN MIZORAM

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

C. LALREMTLUANGI

MZU REGISTRATION NO.: 1506781

Ph.D. REGISTRATION NO.: MZU/Ph.D./1627 of 01.12.2020

DEPARTMENT OF SOCIAL WORK

SCHOOL OF SOCIAL SCIENCE

JULY, 2024

LIFESTYLE AND SOCIAL SUPPORT OF WOMEN WITH HYPERTENSION IN MIZORAM

By

C. LALREMTLUANGI

Supervisor

Dr. HENRY ZODINLIANA PACHUAU

Submitted

In partial fulfillment of the requirement of the Degree of Doctor of Philosophy in Social Work of Mizoram University, Aizawl.

MIZORAM UNIVERSITY

JULY, 2024

CERTIFICATE

This is to certify that the thesis **"Lifestyle and Social Support of Women with Hypertension in Mizoram"** submitted by **C. Lalremtluangi** for the award of the degree of Doctor of Philosophy in Social Work is carried out under my guidance and incorporates the student's bonafide research and this has not been submitted for award of any degree in this or any other University or Institute of learning.

Date: 23rd December 2024

Place: Aizawl, Mizoram

(DR. HENRY ZODINLIANA PACHUAU)

Research Supervisor
Department of Social Work
Mizoram University
Aizawl-796004

DECLARARTION

MIZORAM UNIVERSITY

JULY, 2024

I **C. LALREMTLUANGI**, hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or to do the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institute.

This is being submitted to the Mizoram University for the degree of **Doctor of Philosophy in Social Work.**

(C. LALREMTLUANGI)
Research Scholar

(PROF. C. DEVENDIRAN)
Head
Department of Social Work
Mizoram University
Aizawl- 796004

(Dr. HENRY ZODINLIANA PACHUAU)
Supervisor
Department of Social Work
Mizoram University
Aizawl- 796004

Acknowledgement

It is always a pleasure and blessing for me to complete this thesis.

First of all, I would like to thank the supreme power, the Almighty God who obviously is the one who has always guided me to work on the right path throughout my research work.

I would like to thank my guide Dr. Henry Zodinliana Pachuau, Associate Professor, Department of Social Work, Mizoram University for his endless support right from the beginning, Sir, I will always remember your understanding, guidance and professional ethics.

I acknowledge my deep gratitude to all the teaching and non-teaching staff of the Department of Social Work, Mizoram University for their valuable input.

My sincere thanks to the love of my life: Vanlalrempuii Ralte and Remruatfela Ralte for being my rock and inspiration throughout my journey.

I would also like to take this opportunity to thank my loving parents for their endless care and support.

I would like to thank all the respondents who gave their valuable information in spite of their busy schedule. Without them, this research would not have reached this stage. I hope the project will bring changes as a whole in the realm of hypertension.

This acknowledgement would not be complete without extending my gratitude to the Non-Communicable Disease Cell (NCD) Aizawl and Lunglei without their help I will not be able to complete my research work.

Date: 23rd December 2024

Place : Aizawl

(C. LALREMTLUANGI)

Research Scholar

Department of Social Work

Table of Contents

List of Tables

List of Figures

List of Abbreviations

HTN	Hypertension
CVD	Cardiovascular Disease
WHO	World Health Organization
CHD	Coronary Heart Disease
BP	Blood Pressure
OPD	Out Patient Department
MOHFW	Ministry of Health and Family Welfare
NPCDCS	National Programme for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke
NCD	Non-Communicable Disease
EME	Established Market Economies
GBD	Global Burden of Disease
COPD	Chronic Obstructive Pulmonary Disease
SHS	Second-hand Smoke
BMI	Body Mass Index
SDH	Social Determinants of Health
NHANES	National Health and Nutrition Examination Surveys
PAF	Population-attributable Fraction
NFHS	National Family Health Survey
COC	Combined Oral Contraceptives
PCOS	Polycystic Ovarian Syndrome
DASH	Dietary Approaches to Stop Hypertension
QOL	Quality of Life

Chapter - I

Introduction

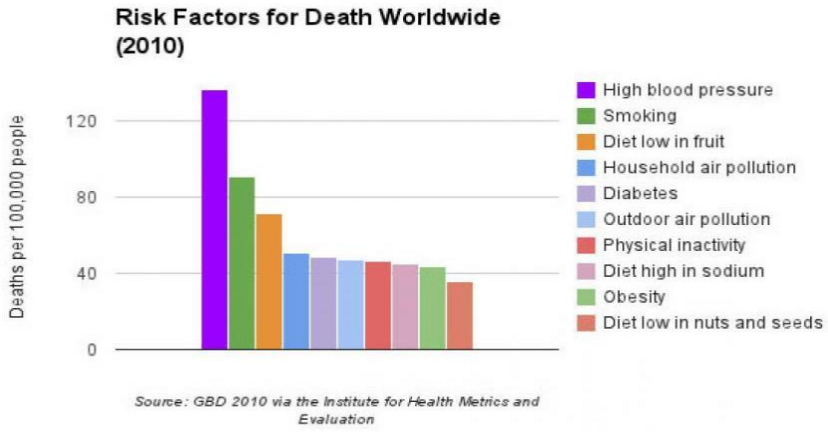
The purpose of this study is to examine the complex interactions between lifestyle choices and social support networks and women with hypertension (HTN) across the Districts in Mizoram. One common cardiovascular disease that presents serious health hazards is hypertension, especially in women. The objective of this research is to elucidate the intricate relationship between lifestyle decisions, including nutrition, exercise, tobacco and alcohol consumption and stress reduction, and the influence of social support according to the accessibility, quality and adequacy on the treatment and consequences of hypertension in females. Comprehending the interplay among lifestyle, social support, and hypertension in females is crucial in order to formulate focused interventions and customized healthcare approaches. This epidemiology study looks at the prevalence of hypertension among female population in Mizoram.

The investigation of the occurrence and distribution of health-related diseases or events in specific populations, together with the examination of the various aspects that lead to these problems, and the utilization of this knowledge to control health issues. It is an investigation into the prevalence of events with clinical, social, biological, or public health significance; measurements of these occurrences are combined with analyses of their causal relationships to the factors that influence them (Miettinen, 2010).

1.1. International Scenario

The first worldwide report on hypertension from the WHO has been released. The increasing global prevalence of hypertension, which is associated with cardiovascular disease and overall death from all causes, serves as the backdrop for this analysis. The research emphasises how urgent it is to address hypertension and its associated issues, which affect over a billion people worldwide. Since hypertension raises the risk of cardiovascular disease, stroke, and early mortality, it remains a serious public health concern. According to the survey (Kario et al., 2024), only 54% of people with hypertension are diagnosed, 42% receive treatment, and only 21% have their hypertension under control.

Figure: 1Risk Factors for Death Worldwide



Hypertension is a key risk factor for cardiovascular disease (CVD), and the consequences in women can result in premature death and morbidity. Furthermore, because hypertension is a chronic but avoidable condition, lifestyle change is a crucial component for efficient hypertension control and management.

The Hindu (2023) reports that, globally, hypertension affects one in three individuals and four out of five do not have it well treated, according to first World Health Organization (WHO) study on hypertension released on September 19. Unmanaged blood pressure is a key risk component for various heart diseases includes heart attacks and stroke, and most prevalent cause of illness and mortality. It is crucial to highlight that health problems related with hypertension do not begin at over 140/90. Instead, they operate in a continuum even below what is characterized as clinical hypertension, notably in those who are diabetic, are obese, and those who consume tobacco and alcohol. Hence, assessments on hypertension levels in the community underestimate the cumulative risk of high blood pressure.

According to the World Health Statistics 2012, hypertension is the fourth leading cause of mortality in industrialized countries and the seventh in developing countries.

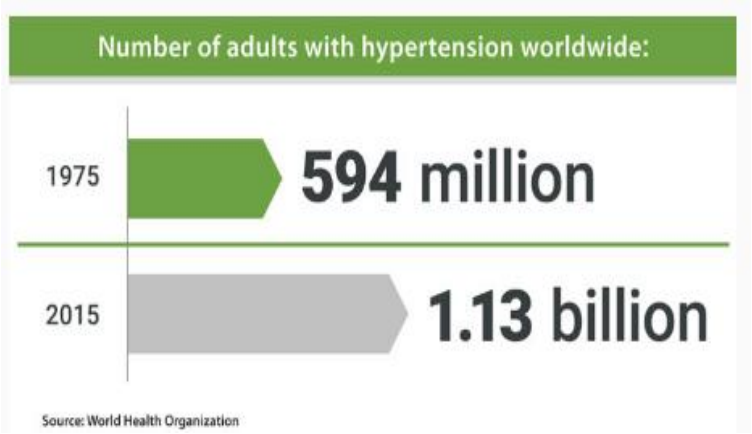
Pre-hypertension, hypertension, and other dangerously high blood pressure are the causes of 8.5 million deaths worldwide due to stroke, ischemic heart disease, other vascular illnesses, and renal disease (Zhou et al., 2021).

According to recent reports, approximately 1 billion adults (more than a quarter of the world's population) had hypertension in 2000, and this figure is expected to rise to 1.56 billion by 2025.

Based on prior statistics, hypertension is quickly increasing in developing countries and is one of the top causes of death and disability. While the average blood pressure in nearly all high-income countries has declined. The prevalence of hypertension in India fluctuated between studies in the late 1990s and early 2000s, ranging from 2- 15% in urban India to 2-8% in rural India (World Health Organization, 2012).

Hypertension affects an estimated 26% of the global population (972 million people), and the prevalence is anticipated to reach to 29% by 2025, owing mostly to rises in nations that are still developing economically. The high rates of hypertension place a heavy strain on public health. High blood pressure was the top modifiable risk factor for disability adjusted life-years lost worldwide in 2013 (Alexander, 2019), as a main contributor to heart disease and stroke, the first and third leading causes of mortality worldwide, respectively.

Figure 2 Number of adults with hypertension



More over a quarter of the world's population, or around 1 billion individuals, suffered with hypertension in 2000; by 2025, it is predicted that this number will have increased to 1.56 billion. Previous data indicates that one of the leading causes of death and disability in emerging nations is hypertension, which is also rapidly rising in these regions. In the meantime, blood pressure has decreased in almost all high-income nations while remaining constant or rising in most African nations. The

region with the highest rate of high blood pressure in 2008 was Africa (36.8%). In 199 high-, middle-, and low-income nations, the Global Burden of Diseases; Chronic Disease Risk Factors Collaborating Group recorded changes in mean body mass index (BMI), systolic blood pressure (BP), and cholesterol levels over a 35-year period (1980–2005). In high- and middle-income countries, the mean systolic blood pressure fell; but, in low-income countries, it increased to a level higher than in high-income ones. Moreover, the results for India align with the worldwide patterns in low-income nations (WHO, 2002).

Compared to age-matched women who do not take oral contraceptives, women who use these medications have a 2-3 times higher risk of hypertension. Age, duration of usage, and body mass index all increase the risk of hypertension. The Treatment of Mild Hypertension Study found that women are less likely than men to have their blood pressure controlled with lifestyle changes alone, presumably due to their less successful weight loss efforts. Losing weight is particularly crucial for women's blood pressure regulation due to the high prevalence of obesity (August & Oparil, 1999).Further they suggested that, hypertension is especially relevant in women because it is a modifiable risk factor that is exceedingly prevalent in older women.

Hypertension is a proven risk factor for cardiovascular disease, which affects about one billion people globally. Furthermore, recent statistics have reported an increase in hypertension-related mortality, emphasizing the importance of prophylactic strategies in controlling blood pressure and, as a result, suggested that lifestyle changes are one of the most effective ways to prevent and control hypertension (Ghezelbash & Ghorbani, 2012). They also revealed that, both direct and indirect associations between obesity and an increased risk of hypertension. They also claim that lifestyle factors including eating habits and physical exercise are associated to hypertension. As useful strategies for preventing and managing hypertension, they also suggested consuming more grains, fruits, vegetables, and milk in your diet while consuming less sodium, fat, and alcohol. Also, those who regularly exercised had a 35% lower chance of developing hypertension than sedentary ones.

1.2. National Scenario

As per the WHO research, 188 million Indians between the ages of 30 and 79 have hypertension, based on 2019 estimates. Just 37% of the patients have received a diagnosis, 30% are receiving treatment, and a pathetic 15% of patients have their hypertension under control. In terms of having the disease identified, managed, and treated, women seem to perform slightly better than males. Based on inaccurate data from regions of India, a February 2022 study indicated that the one-month case fatality rate was 18%–42% and the stroke incidence was reported to be 108–172 per 1,00,000 persons annually. Heart attacks ranked as India's leading cause of death and disability in the 2019 Global Burden of Disease survey (The Hindu, 2023).

Although hypertension is rather common in India, there is a low percentage of adults with the disease who are aware of their diagnosis, are receiving treatment, and have their blood pressure under control. States' health systems differ significantly in how well they manage hypertension, even when state economic development is taken into account. Men, residents of rural areas, and those with lower household incomes must have special access to hypertension diagnosis and treatment (Prenissl et al., 2019).

Hypertension (HTN) significantly affects cardiovascular health and healthcare systems in India, hence impacting public health. 57% of stroke deaths and 24% of deaths from coronary heart disease (CHD) in India are attributed to hypertension. A worldwide data research on the prevalence of hypertension worldwide found that in 2005, 20.6% of Indian men and 20.9% of Indian women had the disease. HTN rates in % are expected to rise to 22.9 and 23.6 for Indian men and women by 2025, respectively (Anchala, 2014). The assessment of the risk factors for hypertension in China and India shows that several risk factors contribute to the prevalence of hypertension, including increasing age, unhealthy diet (especially salt intake > 5gms doubles the risk of hypertension), obesity, alcohol and tobacco consumption, less physical inactivity, and urban residence (Wang et al. 2014).

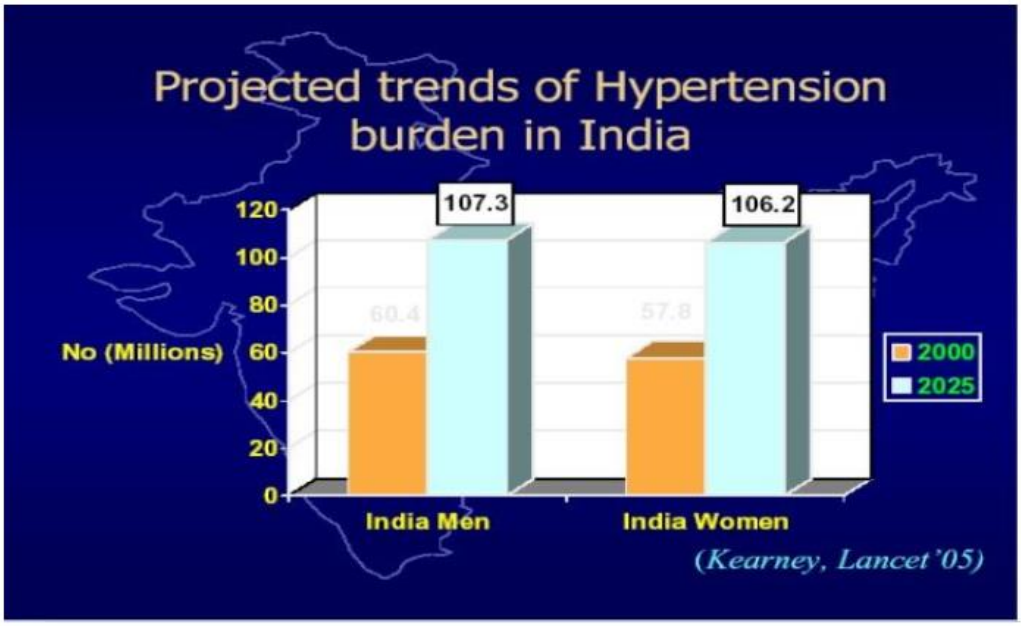
The prevalence of hypertension in India fluctuated between studies in the late 1990s and early 2000s, ranging from 2-15% in urban India to 2-8% in rural India (World Health Organisation). In 1990, 2.3 million Indians died from cardiovascular illnesses; by 2020, this number is predicted to triple. In India, hypertension is directly

linked to 24% of deaths from coronary heart disease and 57% of fatalities from stroke.

China and India are the two most populous developing countries with an increasing trend in hypertension prevalence. As a result, hypertension prevention and control pose a substantial problem. In 2000, India and China had 118 million and 160 million hypertensive people, respectively (Wang, Tiwari& Wang, 2014). According to epidemiological research, hypertension affects 25% of urban and 10% of rural Indians. There are 31.5 million hypertensive people in rural areas and 34 million in metropolitan areas.

The predicted prevalence of hypertension (among those aged 20 and older) in India in 2000 was 20.6% among males and 20.9% among females, according to a recent analysis of the global burden of hypertension. By 2025, it is anticipated to climb to 22.9% and 23.6%. The anticipated total number of hypertensive people in India in 2000 was 60.4 million men and 57.8 million females, and this figure is expected to rise to 107.3 million and 106.2 million, respectively, by 2025 (Chaturvedi, 2009).

Figure 3 Projected trends of Hypertension burden in India



According to reports, cardiovascular diseases (CVD) accounted for 2.3 million fatalities (25% of all deaths in India in 1990). Additionally, coronary heart disease was the cause of 1.2 million deaths, and stroke was the cause of 0.5 million.

By 2020, there will likely be an 11% rise in cardiovascular mortality in India. A significant portion of the population in India has non-optimal hypertension, which is directly responsible for 24% and 57% of all deaths from coronary heart disease and stroke, respectively. Blood pressure (BP) is directly linked to the risks of various forms of cardiovascular disease, and these associations between BP and disease risk are continuing. This is significant since hypertension is a treatable condition, and a 2mmHg population-wide reduction in blood pressure can avoid 151,000 strokes and 153,000 coronary heart disease deaths in India (Gupta, 2004).

Because hypertension is a lifestyle condition, it can be caused by how a person lives his or her life. Based on this, Kaur et. al. (2007) evaluates the practices of hypertension patients consulting O.P.D at D.M.C & H, Ludhiana. The data was gathered by an interview schedule that included several characteristics of hypertensive people such as identifying data, socio-demographic data, and lifestyle behaviors. The findings revealed a variety of methods among hypertensive patients for hypertension control, as well as participant flaws such as inconsistent logbook maintenance, avoidance of yoga, meditation, and physical workouts. The results led to the recommendation that a nurse be assigned to the cardiology outpatient department (O.P.D.) in order to encourage patients to adopt healthy lifestyle practices in order to control their blood pressure.

1.3. Regional Scenario

On February 4, 2014, the Mizoram Government, through the Ministry of Health and Family Welfare (MOHFW), inaugurated the National Programme for the Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS). As a result, MOHFW highlights the current statistics analysis of Mizoram's current situation in terms of non-communicable diseases:

Table 1 Health and Family Welfare Department, Government of Mizoram Report 2020.

Year	Total screened	Hypertension	Diabetes	CVDs	Stroke	Cancer
2014 – 15	23,947	2,119	3,512	85	56	
2015 – 16	85,710	12,904	9,666	673	179	
2016 – 17	1,08,888	14,362	14,202	730	59	50
2017 – 18	80,000	7,624	10,686	332	43	68
2019 – 20	135273	11700	12807	51	44	135

Source: Computed

In Mizoram, hypertension affects 12% of women between the ages of 15 and 49. Stage 1 hypertension affects 7% of women, stage 2 affects 2%, and stage 3 affects 1% of women. Just 1% of women with normal blood pressure require blood pressure medication, but little over one-fifth (12%) of women have normal blood pressure. Hypertension tends to rise with age and is more prevalent in cities than in rural regions (National Family Health Survey, 2018).

The following table depicts the report by Mizoram National Program on Prevention & Control of Cancer, Diabetes, CVDs & Stroke (NPCDCS) for State NCD Cell within March 2023-2024 from eight (8) District NCD Cells.

Table 2: Mizoram NPCDCS report during March 2023-2024

Sl.no.			Male	Female	Total
1	No. of newly diagnosed with	Diabetes	1830	2358	4188
		Hypertension	4320	4116	8436
		HTN &DM (both)	587	658	1245
		CVDs	956	923	1879
		Stroke	105	61	166
2.	No. of new patients initiated on the treatment	Diabetes	2405	3566	5971
		Hypertension	3669	3627	7296
		HTN &DM (both)	662	634	1296
		CVDs	1226	1191	2417
		Stroke	235	135	370
3.	No. of patients on follow up	Diabetes	3757	5966	9723
		Hypertension	5381	7245	12626
		HTN &DM (both)	2034	3260	5294
		CVDs	1896	1569	3465
		Stroke	312	221	533

Source: Computed

Among Mizo women though there is awareness about hypertension, it does not make a significant impact in promoting a healthy lifestyle that allows individuals to be free of lifestyle disorders (Lalremtluangi, 2017).

1.4. Concepts Definition

Hypertension: Hypertension is defined as abnormally high blood pressure along with a high level of psychological stress. The patients with this disease will have a blood pressure reading more than 140 over 90mm. Blood pressure measurements are used to diagnose hypertension. The first reading would be the systolic pressure, which is the pressure at which the heart pumps blood through the body, followed by the diastolic pressure, which is the pressure at which the heart rests and replenishes the blood (Admin, 2020).

Persistently elevated blood vessel pressure is referred to as hypertension, or high blood pressure, by the World Health Organization. Every part of the body receives blood through veins that carry it from the heart. Vascular blood is pumped by the heart with each pulse. Blood is forced against artery walls by the heart's pumping action, which results in blood pressure. The heart must beat more forcefully to pump blood under higher pressure. It is regarded as the “silent killer”, as it generally shows no symptoms.

Rush (2023) mentioned blood pressure ranges defined by the American College of Cardiology and the American Heart Association:

Table 3: Blood Pressure Range

Sl.no	Blood pressure	Ranges
1.	Normal	Lower than 120/80 mm Hg
2.	Elevated	120-129 /not above 80 mm Hg
3.	Stage 1 HTN	130-139/80-89 mm Hg
4.	Stage 2 HTN	140 >/ 90 >mm Hg

Source: Computed

The World Health Organization's World Health Report 2002 highlighted the most important risk factors for non-communicable diseases whereby hypertension is also recognised as one of the high risk categories.

Due to its gradual and lasting organ damage that occurs before any diagnosable outward manifestation, hypertension is known as the "silent killer." As

such, it may also be thought of as the "Sleeping snake" that bites upon awakening. In this perspective, hypertension presents a major area of intervention because it is a frequent condition and is amenable to control through both non-pharmacological lifestyle factors and pharmacological treatment (Bollampally et al., 2016).

Lifestyle/Non communicable disease: A non-communicable diseases (NCD) which are sometimes called as lifestyle diseases are those diseases whose occurrence is primarily based on daily habits of people and are a result of an inappropriate relationship of people with their environment(Sharma & Majumdar, 2009). Non-communicable diseases and lifestyle-related illnesses have a chronic (long-term) cause; they do not arise from an acute (short-term) infection and do not transfer from one individual to another. These illnesses impair quality of life by causing bodily malfunction. They may also lead to death. As these are chronic illnesses they are a financial burden for lifetime. Therefore, there is an increasing concern these days concerning lifestyle disorders that can be readily prevented but not healed (Home Science in Daily Life).

Cardiovascular diseases (CVD) account for the largest percentage of NCD-related mortality (48%) among deaths from NCD. 36 million (63%) of the estimated 57 million global mortality in 2008 were attributed to non-communicable diseases (NCDs), according to the World Health Statistics database from 2012. Among the behavioural and physiological risk factors associated with the highest attributable mortality, elevated blood pressure accounts for 13% of fatalities worldwide. According to research, hypertension ranks fourth in developed nations and seventh in developing nations when it comes to early death. It is projected that by 2025, there will be 1.56 billion adults worldwide who suffer with hypertension, up from the over 1 billion individuals (more than 25% of the global population) who experienced it in 2000. Prior studies also suggest that one of the leading causes of death and disability in emerging nations is hypertension, whose incidence is rising quickly. While mean blood pressure has declined in practically all high-income nations (Suplement to Japi, 2013).

Because of the related morbidity, mortality, and societal cost, hypertension remains one of the most significant public health concerns worldwide. It is one of the most important risk factors for cardiovascular (CV) morbidity and death caused by

blood vessel damage in the heart, brain, kidney, and eyes. Hypertension kills 7.1 million people prematurely each year and accounts for 13% of all deaths worldwide (Tesema, 2016).

The World Health Report 2002 predicted that by 2020, cardiovascular diseases (CVDs) would account for the majority of deaths and disabilities in India. In an autopsy report, hypertension was responsible for 60% of heart failure fatalities, 40% of end stage renal disease deaths, 75% of myocardial infarction deaths, and 41% of stroke deaths (Biritwumet al, 2005). High blood pressure is defined as blood pressure that is elevated to the point where clinical benefit from medication or other therapeutic measures is required. The diastolic and systolic components of blood pressure are both significant in determining one's cardiovascular risk (Edwards &Walker, 2001).

The majority of the health burden in developed nations is attributed to non-communicable diseases (NCDs), with cardiovascular diseases (CVDs) in particular representing a fast growing global issue. They also present a significant opportunity for improved health. Heart disease, cancer, accidents, and other violent causes account for three out of every four deaths in a large portion of the developed world. Globally CVD is responsible for every third death and coronary heart disease (CHD) is already the number one killer in the world (Puska, 2002).

According to World Health Report 2002, cardiovascular diseases (CVDs) would be the biggest cause of death and disability by 2020 in India. In 2020 AD, 2.6 million Indians are estimated to die owing to coronary heart disease which comprises 54.1 % of all CVD deaths. Nearly half of these deaths are predicted to occur in young and middle aged persons (30-69 years). Currently Indians experience CVD fatalities at least a decade early than their counterparts in nations with established market economies (EME). The Global Burden of Disease (GBD) study predicts that 52% of CVD deaths occur below the age of 70 years in India as compared to 23% in EME, resulting in a substantial adverse impact on its economy. The contributing factors for the increased burden of CVDs are increasing prevalence of cardiovascular risk factors including hypertension, dyslipidemia, diabetes, overweight or obesity, physical inactivity and tobacco use. It is an area where large health benefits can be

gained through the deployment of primary care interventions and fundamental public health strategies targeting diet, behaviours and the environment.

A person's lifestyle can be defined as their way of living. A way of life that people, families (households), and communities exhibit in order to manage their daily physical, psychological, social, and economic circumstances. It manifests itself in patterns of behaviour related to work and play, as well as (individually) in actions, attitudes, interests, beliefs, values, and the distribution of income. It also symbolises how individuals view themselves and think others perceive them, or their self-image or self-concept. According to the Business Dictionary, a person's lifestyle is influenced by a variety of factors, including their family, socioeconomic status, culture, and social circles. Because it is a reversible risk factor for stroke, ischemic heart disease, congestive heart failure, renal failure, and peripheral vascular disease, hypertension is a major public health concern. Everyone now agrees that decreasing risk factors including hypertension and making dietary and lifestyle modifications will help prevent cardiovascular disease (Campbell et al., 1999).

Dustan (1987) adds that obesity is a key associate of hypertension and are obviously associated to maturity onset diabetes; these two illnesses are among the most serious dangers for atherosclerosis. There is possibility that avoidance of obesity in industrialized nations will greatly lower the occurrence of hypertension and atherosclerosis resulting to a decreased mortality from these vascular illnesses.

According to Perry, M. (2017), obesity is defined as an increase in body fat that can impact people of any age and affect people of both sexes. There are several factors that are linked to an increase in body fat content that leads to obesity. When you consume more calories than your body needs, you acquire weight. The extra calories you consume from food are converted to fat by your body. Numerous studies have proven that obesity is one of the factors that contribute to hypertension. Based on demographic research, approximately two thirds of obese individuals are at risk for hypertension. Additionally, there are risks associated with sleep apnea, coronary heart disease, and congestive heart failure.

People who over eat to the point of being overweight or obese are more likely to have high blood pressure, according to Vaesa, J. (2016). Gaining weight puts extra strain on the artery walls because it requires more blood to carry oxygen throughout

the body. Two values are used to compute blood pressure: the first, known as the systolic, measures how much blood your heart pumps. The second figure, known as the diastolic, represents the level of resistance the blood encounters in the arteries. 120/80 mm Hg or less is regarded as normal blood pressure.

Soriguer et al. (2003) stated that hypertension in highly connected with obesity and was impacted by sex, diabetes, and age. Although the content of monounsaturated fatty acids in the serum phospholipids is negatively correlated with this risk, the use of sunflower oil and the presence of excess polar molecules in cooking oil have been linked to the risk of hypertension. These associations persisted even after being included in models for age, sex, obesity, and the existence of problems with glucose metabolism. The consumption of polar cooking oil components is positively and independently correlated with the occurrence of hypertension, while blood concentrations of monounsaturated fatty acids are negatively correlated.

One in six deaths from non-communicable diseases (NCDs) are related to tobacco smoking, which is a key modifiable risk factor shared by diabetes, chronic respiratory conditions, cancer, and cardiovascular diseases. Each year, tobacco smoking—both directs tobacco use and secondhand smoke—causes the deaths of almost 6 million individuals. This figure is expected to increase to 7.5 million by 2020, accounting for 10 million deaths. According to data from multiple studies, smokers are 2-3 times more likely to have coronary heart disease (CHD), 1.5 times more likely to have a stroke, 1.4 times more likely to get chronic obstructive pulmonary disease (COPD), and 12 times more likely to develop lung cancer. These risks are age-gradient, with younger age groups showing a larger relative risk (5–6 times). They are similar for men and women, and they decrease quickly with quitting smoking. The risk of atherosclerosis formation and progression is increased even in the case of second-hand smoke (SHS) exposure. Several risk variables work in concert with tobacco smoke (Thakur, 2011).

Initially known as non-pharmacologic therapy, lifestyle modification plays a crucial role in both hypertension and non-hypertensive individuals. Changes in lifestyle can serve as both an initial treatment for hypertensive patients prior to the start of pharmaceutical therapy and a supplement to medication for those who are

already receiving it. These interventions can facilitate drug withdrawal and step-down in hypertensive individuals with medication-controlled blood pressure who are extremely motivated and successful in making and maintaining lifestyle changes. In non-hypertensive, lifestyle adjustments have the ability to avoid hypertension, and more generally to reduce BP and hence minimize the risk of BP-related clinical consequences in whole populations (Appel, 2003).

Hypertension is a major risk factor for cardiovascular disease in women. Oral contraception users are more prone to develop hypertension. One aspect of female hypertension that warrants special consideration is obesity. Obesity is significantly more common in middle-aged women than in men, and there is evidence that females influence blood pressure more than males (August&Oparil, 1999). Women with high normal blood pressure are more likely than women with normal blood pressure to develop hypertension or have a catastrophic cardiovascular event (Conen et al., 2007).

Social support: The actual or perceived availability of social resources that can be used for consolation or help, especially during stressful times, is referred to as social support. One's social network, which consists of all the people they frequently engage with in social situations, offers social support. While not all social networks are beneficial, those that are typically have a positive impact on users' health and general wellbeing. Social support appears to benefit people's physical and psychological health both directly and indirectly by mitigating the negative impact of stressors on health (Lepore, 2012).

Social support means having friends and other people, including family, to turn to in times of need or disaster in order to extend your perspective and retain a decent self-image. In times of need or disaster, friends and other people, particularly family, can help you maintain a positive self-image and focus. Social support enhances one's quality of life and serves as a shield against adversity (Jain & Jha, 2022).

Family and friend support play distinct roles in the two elements of mental health in the elderly with hypertension. Family support was more important for emotional well-being, whereas friend support contributed more to cognitive well-being (Wang et al., 2022).Social support is an important means for people with

higher blood pressure further, participation in community-based organizations may improve blood pressure for these individuals(Lei et al., 2019).

Regular blood pressure monitoring and medication adherence are positively correlated with family social support. Though further prospective research is required to fully understand the impacts of family social support, depression, and self-efficacy on self-care behaviours, strategies to enhance family social support should be created for the treatment of hypertension (Hu et al., 2015). Patients with hypertension who perceived higher social support are more likely to adhere to the dietary of hypertension and further suggests that health care providers need to facilitate support from friends, family and significant others of patients to achieve optimum dietary adherence(Hanifah et al., 2021).Peer support program improved hypertension patients' adherence to treatment regimens(Haidari et al., 2017).

Emotional support and network features are linked to the diagnosis and management of hypertension. Significantly, those with larger social networks have a decreased chance of undiagnosed and uncontrolled hypertension—that is, if they talk to their network members about health-related matters. A larger network size is linked to a higher risk of undetected and uncontrolled hypertension when these communication channels are closed. Health care utilization partially mediates associations with diagnosis, but the benefits of network resources for hypertension control do not seem to stem from health-related behaviours (Cornwell & Waite, 2012).

Hypertensive patients are observed to improve as their social support increased. In addition to the assistance provided to patients by nuclear family members, additional forms of social support, particularly professional agencies and community organizations, should be promoted and strengthened (Pan et al., 2021).

The level of structural social support and satisfaction with social support did not correlate with hypertension risk in addition, the study indicate that better functional assistance may be linked to a lower incidence of incident hypertension(Harding et at.,2022).

Social support is associated with indices of mental health (depression, stress level, and wellbeing) and had a moderate relationship with intense exercise (Ocsovszky et al., 2020).

To increase hypertension patient compliance, it is crucial to implement a program of health promotion activities that includes not only patients but also family and social members (Sartika & Maytasari, 2020).

Patients with hypertension feel more empowered to take control of their own recovery and have a better understanding of their illness and how to modify their lifestyle when more family members are involved in their care. The more informed the hypertension patient is about the physiological aspects of the condition, the more likely they are to be able to control it effectively (Simamane et al., 2023).

Patients with hypertension who experienced more social support were more likely to stick to their hypertension diets(Hanifah et al., 2021).

Compared to women with normal blood pressure, those with high normal blood pressure are significantly more likely to develop hypertension or experience a catastrophic cardiovascular incident. These individuals require careful monitoring and lifestyle adjustments. Once hypertension has developed, the cardiovascular event rate is increased shortly after the diagnosis of hypertension has been made, especially among women with high normal blood pressure at baseline (Conen et al., 2007).

In addition, newly research studies mentioned that women with high blood pressure are at higher risk than their male counterparts of vascular disease, prompting researchers to recommend different treatments in women (Ellis, 2014) and cardiovascular disease (CVD) claims more women's lives than any other disease, but is often underestimated and undiagnosed and there is an on-going misperception that women are at a lower risk of cardiovascular disease than men (Gudmundsdottir, 2012). In 2007, CVD caused about one death per minute among women in the United States, more women's lives than were claimed by cancer, chronic lower respiratory disease, Alzheimer's disease and accidents combined *(*Roger et al. 2011*).*

Moreover, more deaths in women are linked to hypertension than to any other avoidable risk factor. Pharmacological treatment of established hypertension has proven benefits, yet blood pressure control is achieved in only 57 % of patients with pharmacological intervention, and, therefore, primary prevention of hypertension (lifestyle modification, i.e. non – pharmacological treatment) could have major positive public health ramification by reaching more women and would have the

proven benefit of avoiding drug therapy with its potentially adverse effects (Karpman, 2009).

Non Communicable Disease Cells and Clinics: The National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) was introduced in 2012 with an emphasis on infrastructure enhancement, human resource development, and referral with the goal of preventing and controlling major non-communicable diseases in India. NPCDCS was launched in Mizoram in 45thFebruary, 2014 and District NCD Cells and Clinics have also been set up under this programme. Currently the programme was implemented in Aizawl, Champhai, Kolasib, Mamit, Lawngtlai, Lunglei, Serchhip & Siaha District(NHM Mizoram, n.d.).

The primary goals of the NPCDCS are: promoting health via behavior modification with the participation of the media, civil society, community-based organizations, and the community. At every stage of the health care delivery system, starting with sub centers, opportunistic screening is conducted for common malignancies, hypertension, and early diagnosis. Additionally, outreach camps (30 years and above) are planned. To stop and manage long-term non-communicable diseases, particularly diabetes, cancer, cardiovascular disease, and stroke. To increase the capability of healthcare at all levels for early detection, treatment, prevention, information education and communication (IEC)/Behavior change communication (BCC, operational research and rehabilitation. To support for diagnosis and cost effective treatment at primary, secondary and tertiary levels of health care(Health & Family Welfare Department, n.d.).

1.5. Overview of Literature

Hypertension is a significant risk factor for cardiovascular disease in women, yet it is frequently overlooked and untreated, and there is a persistent misconception that women have a lesser risk of cardiovascular disease than males (Sheokand, 2014).

Several researches had been conducted to investigate the adverse effects of hypertension on women, as well as techniques for reducing the negative effects of hypertension. For instance, during the past years, several studies had been carried out on matters relating to hypertension. There were 972 million persons living with

hypertension globally in 2000, and this figure is expected to rise to more than 1.56 billion by 2025 (Zungu, 2013).The World Health Organization's World Health Report 2002 highlighted the most important risk factors for non-communicable diseases whereby hypertension is also recognized as one of the high risk categories.

In the past decades, hypertension in women studies occupy an important place since, the disease have a deep connection on women. For instance, identify trends in the prevalence of hypertension among women (Sheokand, 2014; Das et al., 2022; Gupta, 2004; Yurdakul & Aytekin, 2010), condition on diagnosis and care (Antonetti & Bisognano, 2014;Engberding & Wenger, 2012), perception on their condition (Deepti et al., 2023), health management (Gustafson, 2009; Rangarajan & Kochar, 2000), impact of hypertension (Dorobantu et al., 2016;Geraci & Geraci, 2013; Abramson & Melvin, 2014).), chances of development of the disease (Kumar, 2016;Ellis, 2014; Farukh et al ., 2022; Hayes et al., 2013; Datta et al., 2021), hypertension is particularly important in women because it is a modifiable risk factor that is extremely prevalent in older women(August & Oparil,1999); hypertension prevention strategies ((Mills et al., 2020).

Unawareness and uncontrolled hypertension were widespread in Asian population and connected with socio-demographic characteristics (Liew et al., 2019).Hypertension are more frequent in senior individuals, especially women, and less educated people (Baldisserotto et al., 2016).Older age groups, urban areas, lower educational status in women, working individuals, and economically sound men were identified as risk factors for hypertension(Chakraborty et al., 2022).Elderly, illiterate, and tobacco and alcohol consumers are more likely to be affected with hypertension Laxmaiah et al. (2015).Population prone to hypertension (Susetyowati et al., 2023; Wang et al., 2023; Bhimarasetty et al., 2022)

There is a high prevalence of undiagnosed hypertension among women(Talukdar et al., 2021). Conventional risk factors like older age, higher BMI, tobacco, and alcohol use increased hypertension odds among women of reproductive age in India. Gender-specific characteristics like early childbirth, menarche, oral contraceptive use, and hysterectomy were also associated with hypertension Chhabra et al. (2022).Significant direct association between age and cardiovascular parameters in hypertension patients, with a negligible positive relationship between

gender and body mass index, suggesting older individuals and overweight individuals are at higher risk(Micheal et al., 2021).Hypertension is a significant contributor to India's cardiovascular disease epidemic, with socio-demographic disparities in prevalence, diagnosis, and treatment. Improved detection is crucial for reducing disease burden, with treatment and management mainly effective in women (Moser et al., 2014).

Socio-demographic studies on hypertension (Goswami et al., 2017;Indrapal et al., 2022; Halim & Sitanggang, 2023; Iriana et al., 2022). High body mass index, family history of hypertension, exposure to cigarette smoking, physical inactivity, and excessive sodium intake were substantially related with an elevated risk of hypertension in women(Journal of Pakistan Medical Association, 2023).

A healthy lifestyle is linked to a lower risk of hypertension, emphasizing the need to address lifestyle factors to reduce this risk (Zhen et al., 2023).Study that link between lifestyle factors and hypertension prevalence with physical activity being the most associated characteristic, while unhealthy eating habits, smoking, and stress also increase the risk (Herawati et al., 2023).Age, brown skin colour, sedentary lifestyle, and obesity are strongly associated with hypertension in adults, emphasizing the need for interventions(Lavor et al., 2020).

Lifestyle modification, originally dubbed non-pharmacologic therapy, has vital responsibilities in hypertensive as well as non-hypertensive persons(Appel, 2003).Lifestyle factors significantly influence hypertension prevalence (Beilin, 1999).Indian growing public health issue with high blood pressure, necessitating non-pharmacological management strategies (Gupta & Guptha, 2010).Hypertension, a global risk factor for cardiovascular diseases, necessitates lifestyle changes like dietary changes, physical activity, and increased consumption of fruits, vegetables, and milk to reduce mortality rates (Ghezelbash&Ghorbani, 2012).Borah et al. (2018) found prevalence of hypertension, with factors like age, salt intake, tuibur, high BMI, and sedentary lifestyle linked.

Hypertension, condition causing blood vessel damage, can lead to serious health issues like strokes, heart attacks, and kidney failure, influenced by factors like excessive salt intake and unhealthy diets(The National Aboriginal Health Organization, 2010). High tobacco, alcohol, and unhealthy diet habits as major risk

factors for NCD, recommending an integrated approach for hypertension control(Oommen et al., 2016). Hypertension control measures(Kaur et. al., 2007; Bollampally et al., 2016; Mahajan, et. al., 2012).

Lifestyle modification as a means for hypertension management and control (Marcello et al., 2018; Elgendy et al., 2022;Goetsch et al.,2021; Valenzeula et al., 2021) Dhakal et al. (2021) discovered that low adherence to lifestyle modifications in hypertensive patients results in poor therapeutic effectiveness, decreased quality of life, and increased healthcare costs.Niu et al.(2021) study highlights the link between genetic and lifestyle factors in rural areas, emphasizing the significance of maintaining a healthy lifestyle for hypertension prevention.

Hanifah et al. (2021) highlight the significance of social support in promoting adherence to a patient's hypertension diet or therapy, suggesting that healthcare providers should facilitate this support. (Tavares & Silva, 2019; Oktaviani et al., 2019) found that emotional, informational, and instrumental support from family relationships is crucial for hypertensive individuals, requiring attention from healthcare professionals like nurses. Family social support positively influences medication adherence and regular blood pressure measurement, suggesting strategies for hypertension control (Hu et al., 2015; Gao et al.,2022; Shahin et al. 2021; Osamor, 2015; Turan,2019; Ofoli et al., 2017; Nursalam et al., 2020; Bahari et al., 2019; Sartika & Maytasari, 2020; Adisa, 2017; Vahedparasat et al., 2018;). More social support and that community-based organization participation can potentially improve blood pressure (Lei et al., 2019). Haidari et al. (2017) indicates peer support program improved hypertension patients' adherence to treatment regimens, emphasizing the importance of managing chronic conditions effectively. Bell (2010) suggests social support, including emotional and financial, could potentially improve hypertension.

Rising prevalence of chronic and mental health issues, including depression suggest interventions focusing on social support and anxiety reduction (Ji et al., 2021; Yazawa et al.,2022; Ojike et al., 2016; Ocsovszky et al.,2020; Spikes et al.,2020; Sheokand, 2014;). (Rahmatika, 2019; Kretchy et al.,2014;) emotional support significantly influenced dietary compliance. Social network ties and resources, including information and support, are linked to hypertension diagnosis

and management, with larger networks reducing undiagnosed and uncontrolled hypertension risks (Cornwell & Waite, 2012). Harding et al. (2022) no correlation between structural social support and hypertension risk, suggesting better functional assistance may reduce the incidence of hypertension.Brownstein (2007) suggests community health workers can significantly influence hypertension self-management, especially in multidisciplinary programs targeting underserved racial/ethnic populations. The Mulyana (2018) study found that social support negatively impacts individual coping strategies in hypertension patients.(Santana et al., 2019) found risk ratio between hypertensive and normotensive women, with hypertension women having a higher risk as they age.

Lestari et al (2022) mention correlation between family support and hypertension lifestyle, with gender, hypertension knowledge, and family support being significant factors affecting their lifestyle. Simamane et al. (2023) found that increased family involvement in hypertension management empowers patients to manage their condition and improve their lifestyle. Hanifah et al. (2021) found that social support significantly influences dietary adherence among hypertensive patients, suggesting that healthcare providers should provide such support. Yoshikawa et al (2021) found that social support positively impacts healthy eating habits in individuals enrolled in T-exercise Select, potentially contributing to healthier lifestyle behaviors. Azimi & Daigle (2020) study found that lack of social support directly impacts violent victimization and increases the risk of engaging in dangerous lifestyles.

1.7. Statement of the problem

Hypertension is the most prevalent modifiable risk factor for CVD, the main cause of mortality in women worldwide (Ahmad &Oparil, 2017). In addition, hypertension is a chronic condition which cannot be cured but may be prevented (Centre for Health Protection, 2013), hence lifestyle modification and social support is one of the crucial components for efficient control and management of hypertension. In, Mizoram, 11,700 people were diagnosed with hypertension and hold the majority group among non-communicable disease i.e., diabetes, stroke, CVDs and cancer (National Health Mission, Mizoram, 2020). Social support was more important for patients with higher blood pressure, therefore engagement in

community-based groups may improve blood pressure for these individuals (Lei et al, 2019). However, India's total healthcare spending (is considerably lower than that of other countries (Mehra, 2020). Therefore, it vital to have a full examination of hypertension in relation to lifestyles and social support of women and also corrective actions that may be performed in order to enhance the lifestyles, health and social support of women with hypertension in Mizoram.

1.7. Objectives

i) To find out the demographic profile of women with HTN in Mizoram.

ii) To explore the lifestyles of women with HTN across Districts in Mizoram

iii) To explore dimensions of social support according to the availability, accessibility, adequacy and quality across the Districts in Mizoram.

iv) To explore the suitable provision for promoting the welfare of women with hypertension in Mizoram.

v) To find out the relationship between lifestyles and social support of women with HTN across the Districts in Mizoram

vi) To suggest measures of social work intervention and social policy in the field of HTN among women in Mizoram.

1.8. Chapter Scheme

The study followed the following chapter scheme:

1. Introduction
2. Review of Literature
3. Methodology
4. Results and Discussions
5. Conclusion

Chapter – II

Review of Literature

A literature review is a critical and complete survey of existing research material on a given issue. It is a vital aspect of academic and scholarly writing, commonly found in research papers, theses, and dissertations. The fundamental objective of a literature review is to provide a full grasp of the current state of knowledge in a certain topic, identify gaps, and build a basis for the research at hand.

Therefore, this chapter covers several assertion bases on the specific aspects mention:

2.1. Studies relating to socio-demographic profile of women with HTN

According to Liew et al. (2019), socio-demographic diversity within ethnic groups was linked to variances in hypertension between different ethnic groups. Across all ethnic groups, age and educational attainment were reliable indicators of hypertension. Asian populations were more likely to be unaware of the existence of uncontrolled hypertension and its correlation with socio-demographic variables.

Baldisserotto et al. (2016) conducted a cross sectional study which presents data from a longitudinal research. From the register of a health service in Porto Alegre, Brazil, 3784 adults were chosen at random. The eligibility requirements were 18 years of age or older, with a verified diagnosis of diabetes or hypertension, and consultation at least once in the previous three years. A questionnaire on demographics, medical history, lifestyle, and socioeconomic factors was used to collect data at home. The results showed that older people, particularly women, and those with lower levels of education had higher rates of hypertension and diabetes. Individuals who have two chronic diseases at the same time are more likely to have more co-morbidity.

In addition to examining the demographic and socioeconomic factors associated with hypertension, Chakraborty et al. (2022) focused on estimating the national prevalence of hypertension in India for both men and women. They found that older age groups, urban areas, lower educational status in women, higher educational status in men, working individuals, and economically sound men were identified as risk factors for hypertension. They also found that individuals with hypertension were more likely to seek medical attention. Finally, they suggested that

policymakers should take these findings into account for better preventive planning and allocate appropriate weightage to identify risk factors.

A community based cross-sectional study adopting multistage sampling procedure was carried out by Laxmaiah et al. (2015) in which 120 Integrated Tribal Development Authority villages were selected randomly from each State. Forty households were randomly selected from each community. All male and female household members over the age of 20 were included in a number of investigations. It was discovered that the prevalence of hypertension was higher among tribal men and women in India, particularly in the states of Kerela and Odisha. It was also noted that older individuals, those without formal education, and those who use tobacco and alcohol were more likely to have hypertension. Appropriate medical and social interventions must be started because of the tribe's low levels of awareness of hypertension and poor health-seeking behaviours. The community's efforts to prevent and manage cardiovascular morbidity and mortality might benefit from this.

Muxfeldt (2004) conducted a descriptive cross-sectional population based study amount the hypertensive patients attending the internal medicine outpatient clinic of a university hospital in Rio de Janeiro, describing their cardiovascular risk and indentifying flaws in the treatment provided for severely hypertensive patients, in order to implement an arterial hypertension management program in which it was being found that the patients with arterial hypertension under treatment at the university hospital had a profile of high cardiovascular risk and poor blood pressure control. Since better hypertension control is the only option to lower the rates of morbidity and death from cardiovascular illnesses, more work must be done in this area.

Baldisserotto et al. (2016) stated that hypertension and diabetes are more prevalent in older individuals, especially women and less educated people. People suffering with both chronic conditions simultaneously are more likely to have additional co-morbidities.

Laxmaiah et al. (2015) revealed the high prevalence of hypertension among tribal in India. There was a substantial correlation found between age, literacy, physical activity, alcohol and tobacco usage, and obesity and hypertension. Low awareness and understanding existed regarding hypertension and the behaviour of

seeking health care. Adopting appropriate intervention measures is necessary to raise tribal members' understanding of hypertension and their treatment practices.

Muxfeldt et al. (2004) mentioned that patients with arterial hypertension had a profile of high cardiovascular risk and poor blood pressure control and further suggest that greater effort for improving hypertension control is needed, since this is the only way to reduce morbidity and mortality rates of cardiovascular disease.

The study found that being female, middle-aged, working as a government servant or private officer, regularly smoking, and residing in an urban environment are major risk factors for prehypertension, with females having a 3.1 times higher risk than males, middle-aged individuals having a 2.9 times higher risk, and smokers having a 1.6 times higher risk (Susetyowati et al., 2023)

In a study conducted by Bhimarasetty et al. (2022), predictors for hypertension among Indian women were identified and a risk score was developed for early detection and appropriate intervention. The study revealed that the prevalence of hypertension was positively correlated with age and weight. Additionally, it was found that residing in urban areas, consuming a non-vegetarian diet, consuming alcohol, and using tobacco were associated with a higher prevalence of hypertension.

Furthermore, factors associated with undiagnosed hypertension in women in India included age, body mass index (BMI), wealth quintiles, education, religion, caste, and geographical zones. Talukdar et al. (2021) stated that there is a high prevalence of undiagnosed hypertension among women. It is noteworthy that the case was higher in urban areas compared to rural areas. Concerns have been raised regarding the personal and reproductive health of women due to the high prevalence of undetected hypertension within this population.

In their study, Wang et al. (2023) examined the prevalence of social determinants of health (SDH) and its association with hypertension in women compared to men in the United States. They analysed data from the National Health and Nutrition Examination Surveys (NHANES) conducted between 1999 and 2018. The study revealed a significant correlation between negative social determinants of health (such as low educational attainment, low household income, being unmarried, and unemployment) and hypertension in women. The population-attributable fraction

(PAF) of social determinants of health (SDH) for prevalent hypertension is higher in women compared to men. It also suggests that health resources should prioritise socioeconomically disadvantaged populations, taking into account gender disparities, to improve hypertension management.

Chhabra et al. (2022) explores the connection between gender-specific variables and hypertension among women of reproductive age in India, using data from the National Family Health Survey-4 (NFHS-4). Higher education, a higher socioeconomic status, and residing in an urban region were linked to lower odds of hypertension, but traditional risk factors like older age, higher BMI, and tobacco and alcohol use were connected with increased risks. Risk factors for hypertension were shown to be gender-specific and included younger age at first childbirth, early menarche, usage of oral contraceptives, and hysterectomy. Domestic violence was also found to be substantially related with hypertension. Empowered women had lower odds of hypertension. The findings indicate the necessity of incorporating gender-specific characteristics in screening and building personalized models for risk assessment of hypertension among women.

To investigate the relationship between socio-demographic characteristics (gender, age, and body mass index) and cardiovascular parameters in hypertension patients, Micheal et al. (2021) found a significant direct association between age and cardiovascular parameters, but a negligible positive relationship between gender and body mass index. The study establishes a close relationship between body mass index, age, and gender and cardiovascular parameters, exhibiting varied degrees of connection. Older persons and those who are overweight or obese are anticipated to have an elevated risk of hypertension.

The study seeks to evaluate the socio-demographic characteristics associated with the occurrence of hypertension and related risk factors among patients who received treatment at the Outpatient Department of the Regional Research Institute of Unani Medicine in New Delhi, India.

Hypertension contributes considerably to India's current cardiovascular disease epidemic. Moser et al. (2014) conducted a study using nationally representative survey data to investigate socio-demographic disparities in hypertension prevalence, diagnosis, and treatment in Indian adults and further stated

that, hypertension is extremely common in India, even among underweight people and those from lower socioeconomic backgrounds. Improved detection is essential to reduce the disease burden caused by hypertension. Treatment and management are reasonably good, especially in women, while urban men require more cautious attention.

Goswami et al. (2017) concentrate on the relationship between socio-demographic traits—such as smoking, chewing tobacco, drinking alcohol, having an excessive body mass index, and being lazy—and hypertension. People who have hypertension often experience symptoms including anxiety, light-headedness, arrhythmia, headaches, fatigue, and dyspnea. It has been shown that age, gender, and family history have an impact on the development of hypertension.

The study to determine characteristics associated with hypertension in women of reproductive age in Madiun, Indonesia carried out by Journal of Pakistan Medical Association (2023) demonstrated that high body mass index, family history of hypertension, exposure to cigarette smoking, physical inactivity, and excessive sodium intake were substantially related with an elevated risk of hypertension in women.

According to Indrapal et al. (2022), who study the prevalence, causes, and behaviours associated with hypertension in rural India, some socio-demographic factors—such as living in affluent neighbourhoods, owning a business, smoking cigarettes, and drinking alcohol—are associated with increased risk of developing hypertension. Obesity and overweight were also found to be significant risk factors. A lower zinc and carbohydrate diet was linked to an increased risk of hypertension. It was suggested that behaviour change communication be used to raise awareness and encourage individuals to have a more balanced diet in order to lower their blood pressure.

The predictors of hypertension among women of reproductive age (15-49 years) working at the Sungai Tering Community Health Centre in East Tanjung Jabung Regency in 2022 was studies by Halim and Sitanggang (2023) concluded that family history, physical activity, and seafood consumption have all been linked to the development of hypertension in women of reproductive age. Age, obesity, and hormonal contraception have not been linked to hypertension. To lower the chance of

getting hypertension, healthy lifestyle behaviours are recommended, such as a balanced diet, regular physical activity, and regular health checkups.

2.2. Studies relating to hypertension and women

Antonetti & Bisognano (2014) discovered that hypertension is a common disorder that affects approximately a billion people worldwide, with a high number of cases reported in the United States, to address the diagnosis, treatment, and specific issues that women with hypertension face, emphasizing the importance of improved diagnosis rates and effective care. Women are more aware of their hypertension diagnosis than men, and they receive the same therapy and control. However, there is still a worrying under diagnosis of hypertension in women in basic care, with less than 33% of new cases accurately identified.

Hypertension has a wide-ranging impact on a patient's lifestyle. Attitudes, values, and experiences, as well as patients' social and cultural conditions, are all important considerations in hypertension treatment. Deepti et al. (2023) investigate hypertensive women's perceptions of their conditions. The findings indicate that hypertensive women's noncompliance with medication is a common occurrence that is the result of a conscious decision based on her knowledge and beliefs about the medical ailment and treatment. The way women think about hypertension needs to change. There was knowledge gaps observed, highlighting the need for additional patient education.

Gustafson (2009) underlines that cardiovascular disease (CVD) prevention is typically disregarded in women's health management, in spite of CVD being the most common cause of mortality in females being even more common than cancer, HIV/AIDS, malaria and tuberculosis combined. Given that CVD can save six out of ten fatalities, it is critical that women have a broader understanding of the disease. Dyslipidemia, hypertension, smoking, stress, diabetes, obesity, inactivity, unhealthy eating habits, and binge drinking are among the factors that contribute to CVD. Older women are particularly prone to CVD due to co-morbidities.

Das et al. (2022)'s study found an inverse relationship between height and mean blood pressure in Indian women aged 15-49. Shorter women had a higher prevalence of hypertension. Height was linked to decreased systolic blood pressure

but not diastolic blood pressure. Height is a useful method for screening women for NCDs, especially during pregnancy, to prevent premature morbidity and mortality.

A cross-sectional study involving 65,544 middle-aged women found a significant relationship between restless legs syndrome and hypertension. The study assessed the condition using self-administered questionnaires and collected information on hypertension diagnosis and blood pressure values. Multivariable logistic regression models showed that women with restless legs symptoms had a higher likelihood of having hypertension. The study also found that more frequent restless legs symptoms were associated with higher concurrent systolic and diastolic blood pressures.

The majority of women die from cardiovascular disease, according to Engberding & Wenger (2012), who noted that women have paid less attention to CV risk assessment despite having a lower absolute risk of CV events than men of the same age. The majority of CV cases affect women who are aware of the conventional CV risk factors. Enhancing risk factor management among females across all age groups has great promise in reducing cardiovascular morbidity and mortality in the community. The most important measure to reduce the risk of future cardiovascular events in women, outside stopping smoking, is managing hypertension (HTN).

Dorobantu et al. (2016) study the epidemiology and pathophysiology of hypertension, focusing on its impact on women's heart disease (IHD) incidence and consequences. They found that hypertension has diverse epidemiological patterns in both men and women, with distinct proatherogenic effects. Premenopausal women face the same cardiovascular risk as men, while postmenopausal women have higher cardiovascular risk factors and microvascular dysfunction. HDP and PCOS are women-specific conditions that increase the likelihood of developing hypertension and IHD.

Cardiovascular diseases in India caused 2.3 million deaths in 1990, with hypertension being the leading cause. The prevalence of hypertension has steadily increased, with urban adults having a high prevalence. Rural populations have a lower prevalence, but there is a strong correlation between lifestyle factors and hypertension increase. Thirty-seven million people in urban and thirty-five million in rural areas have hypertensive, with seventy percent of them in Stage I. Borderline

hypertension and Stage I hypertension carry significant cardiovascular risks, and population-based cost-effective hypertension control strategies should be developed (Gupta, 2004).

According to Ellis (2014), high blood pressure is known as the "silent killer" since it frequently exhibits no symptoms. Additionally, recent studies indicate that women with high blood pressure may be more susceptible to vascular illness than men, leading to the recommendation of distinct therapy for this population. Men's mortality from cardiovascular disease has significantly decreased over the last 20 to 30 years, according to the study; women's mortality is not affected by the same trend. Women now die from heart disease more often than any other cause.

Geraci & Geraci (2013) mentioned that cardiovascular disease is the leading cause of death in women in the United States, and hypertension contributes significantly to cardiovascular mortality. Women's hypertension rates are continuously rising, along with the obesity and diabetes epidemics, women's blood pressure management rates remain unsatisfactory. High-quality data on specific outcomes associated to hypertension in women are few. A greater body of research is required to determine the most successful regimens for women throughout their lives. Some studies that compare age-matched males and hypertensive women reveal that sex-specific approaches are more beneficial.

Sheokand (2014) identify trends in the prevalence of hypertension among women. There is a widespread misperception that women are less likely than men to get cardiovascular disease, despite of the fact that hypertension is a significant risk factor for the disease in women. It is also often ignored and left untreated.

Kumar (2016) states that a new study reveals that women who suffer high BP when pregnant may also have high chance of developing cardiovascular issues and even diabetes in their later years. Moreover, women who have hypertension during pregnancy may be six times more likely to experience subsequent health problems like metabolic syndrome.

According to the correlation between hypertension and CVD in women, older women are more likely to have hypertension, and premenopausal women had lower blood pressure than age-matched men. Additionally, population blood pressure rises with age. Women who use oral contraceptives are more likely to develop

hypertension, so it is important to check their blood pressure at least twice a year. Women on hormone replacement treatment (HRT) who are normotensive (have normal blood pressure) have a minimal chance of developing hypertension.

August & Oparil (1999) states that hypertension is particularly important in women because it is a modifiable risk factor that is extremely prevalent in older women. Obesity is one factor that should be highlighted when discussing female-onset hypertension. Middle-aged women are much more likely than men to be obese, and research suggests that body weight affects blood pressure more in women than in men. Compared to age-matched women who do not take oral contraceptives, women who use these drugs are 2-3 times more likely to have hypertension. Age, length of use, and increased body mass all raise the risk of hypertension. Women are less likely than males to have their blood pressure under control with lifestyle modifications alone, according to the Treatment of Mild Hypertension Study. This may be because women have less success with weight loss. Reducing weight is especially crucial for controlling blood pressure in women because obesity is so common in this population.

Yurdakul & Aytekin (2010) emphasizes the significance of understanding hypertension in women and its associated effects. While pharmacological therapy has showed promise in avoiding cardiovascular and cerebrovascular illnesses, it is unclear whether the treatment advantages are equal for men and women. The absence of sufficient evidence from existing studies makes it difficult to offer particular therapy recommendations for hypertensive women. More study is needed to close this gap and provide suitable treatment strategies for women with hypertension.

Rangarajan & Kochar (2000) study mentioned that women in the United States are more likely than men to develop hypertension due to their greater population and longer lifespan. Alcohol, obesity, and oral contraceptives are the leading causes of high blood pressure in women. Hormone replacement therapy may reduce cardiovascular mortality in postmenopausal women. Weight loss, exercise, and salt and alcohol reduction are all non-pharmacologic treatments for hypertension that should always be explored before medical treatment, and they are particularly effective adjunctive therapies. White women appear to benefit the least from antihypertensive drug therapy, although being more likely to stick with it.

Farukh et al . (2022) discovered that there are numerous sex-specific factors associated with the development of hypertension in women, such as age, combined oral contraceptives (COCs), polycystic ovarian syndrome (PCOS), preeclampsia, and so on. For a variety of socio-cultural and financial reasons, South Asian women have unique challenges when it comes to receiving medical care and adherence. The most effective sex-specific therapeutic options for enhancing hypertension control and reducing the risk of developing cardiovascular disease in the future in both genders require further research.

Hypertension is a leading cause of cardiovascular disease and mortality in both men and women. Its prevalence and severity increase with age, making blood pressure regulation more challenging. Women are more susceptible to hypertension due to menopause, contraceptive use, or pregnancy. Antihypertensive treatment reduces major cardiovascular events (Hayes et al. 2013).

Adolescent pregnancy carries a number of health hazards for both the mother and the child, as well as possible negative economical effects. The impact of teenage childbearing on the health of adult mothers is, nevertheless, poorly understood. Datta et al. (2021) investigates the link between child birth in adolescence and later-life risk of hypertension among women in India and found that adolescent childbearing was strongly associated with higher probability of adult female hypertension in India. The finding illustrates the intertemporal relationship between health risk factors during the life cycle, informing the importance of addressing adverse early life events for hypertension outcomes among women in India.

Hypertension is a significant health issue in women, increasing the risk of cardiovascular disease, heart attacks, and strokes. It affects around 60% of women over 65. Risk factors include obesity, ethnicity, diabetes, and chronic renal disease. To prevent hypertension, women should maintain a healthy weight, reduce sodium intake, and limit alcohol use. Women's unique causes include aging-related oestrogen levels during menopause, oral contraceptives, pre-eclampsia, and polycystic ovary syndrome (Abramson & Melvin, 2014).

Hypertension, the leading cause of cardiovascular disease and premature death globally, has increased in prevalence, particularly in low- and middle-income countries. In 2010, 31.1% of adults had hypertension, higher in LMICs than high-

income countries. Risk factors like high sodium intake, obesity, alcohol consumption, and unhealthy diets contribute to regional heterogeneity. However, awareness, treatment, and control are low, particularly in LMICs. Future studies should test prevention strategies and assess global hypertension prevalence and financial burden (Mills et al., 2020).

2.3. Studies relating to lifestyle and hypertension

Investigation on the relationship between lifestyle factors and hypertension in the Chinese population, Zhen et al. (2023) propose that a healthy lifestyle score is negatively correlated with the risk of hypertension, highlighting the importance of addressing lifestyle factors to reduce the risk of hypertension.

The study by Herawati et al. (2023) indicated that there is a link between lifestyle factors and the prevalence of hypertension, a non-communicable disease that is a major health concern and a leading cause of premature mortality. Physical activity was identified as the characteristic most associated with hypertension; unhealthy eating habits, smoking, and stress were all found to raise the risk of hypertension.

Hypertension, sometimes known as the "silent killer," frequently goes unreported by victims, resulting in a lack of understanding about their condition. Iriana et al., (2022) study sought to evaluate the relationship between hypertensive patients' features and their understanding of lifestyle in hypertension management from the Cibubur Village Health Centre. The findings revealed that age, previous education level, and level of knowledge all had a significant link with lifestyle in hypertension management. However, gender, occupation, and family history of hypertension did not have a significant impact on hypertension control. The findings imply that future research should look into the function of external environmental support in influencing lifestyle choices to control hypertension.

In their study, Lavor et al. (2020) evaluated the frequency of hypertension in adults and investigated its association with socioeconomic, demographic, and lifestyle risk factors. They discovered that advanced age, brown skin colour, a sedentary lifestyle, and being overweight or obese were strongly correlated with hypertension. This highlights the importance of implementing interventions that

specifically address sedentary behaviour and excessive weight in order to prevent and manage hypertension.

Lifestyle factors have a substantial impact on hypertension prevalence. Weight loss, exercise, a low saturated fat diet rich in fruits, vegetables, and seafood, and moderate alcohol use can all help lower blood pressure and enhance cardiovascular health. High salt intake and smoking raise the chances of developing hypertension. Risk factor clustering is more widespread in developing countries among lower socioeconomic groups with sedentary lifestyles. Elderly weight control, non-vegetarian diets, and regular fish dinners can provide significant cardiovascular advantages (Beilin, 1999).

Appel (2003) stated that high BP is one of the most important and common risk factors for atherosclerotic cardiovascular disease and renal disease. Pharmacologic therapy of hypertension patients and "lifestyle modification," which is advantageous for both non-hypertensive and hypertensive individuals, are the modern approaches to the epidemic of raised blood pressure and associated repercussions. There is a good amount of evidence to support the idea that changing one's lifestyle can have a significant impact on blood pressure. Blood pressure can be efficiently lowered by increasing physical activity, reducing salt intake, losing weight, consuming alcohol in moderation, increasing potassium intake, and adhering to a generally healthy diet known as the Dietary Approaches to Stop Hypertension (DASH) diet. The DASH diet is lower in fat and cholesterol and has an emphasis on fruits, vegetables, and low-fat dairy products. Although the data is conflicting, other dietary components like increasing protein or monounsaturated fat intake may help lower blood pressure. The present problem facing the public, government officials, researchers, and healthcare practitioners is to design and execute clinical and public health interventions that are effective in leading to long-term lifestyle modification.

According to Gupta & Guptha (2010) high blood pressure (BP) is a major public health problem in India and its prevalence is rapidly increasing among urban and rural populations. Thus, the first line of treatment for hypertension should involve non-pharmacological methods such as dietary modifications (lowering salt, raising potassium, avoiding and controlling alcohol), weight loss, quitting smoking, physical activity, and stress reduction. Furthermore, the first line of treatment for

comprehensive hypertension should be a multifactorial diet that focuses on lowering blood pressure, managing cholesterol, and reducing overall cardiovascular risk.

Hypertension is a clear risk factor for cardiovascular diseases which affect nearly one billion people worldwide. In addition to it, recent statistics have reported increasing mortality due to hypertension which reveals the importance of prophylactic strategies in controlling blood pressure and therefore, suggested that lifestyle changes as one of the most effective ways to prevent and control hypertension (Ghezelbash&Ghorbani, 2012). They claim that food habits and physical activity are lifestyle variables linked to hypertension, and numerous studies have found a direct or indirect link between being overweight and a higher chance of developing hypertension. In addition, they recommended consuming less alcohol, fat, and sodium and more grains, fruits, vegetables, and milk as efficient ways to avoid and manage hypertension. Furthermore, research has indicated that persons who regularly participate in physical exercise have a 35% lower risk of acquiring hypertension when compared to sedentary individuals.

Initial psychometric testing on the Simple Indicator Questionnaire by Godwin et al. (2008) in Kingston, Ontario and surrounding area among one hundred thirty six family practice mostly hypertensive patients with a mean age of 68 years; 58% were women. The majority of the subjects were white, and they resided in a small city and its rural environs. A self-administered questionnaire was used in the study design to collect data for external validity testing that was blinded, Cronbach Alpha testing on completed questionnaires, and test-retest reliability. On the 12 questions, they discovered that the test-retest reliability ranged from 0.63 to 0.97. For food-related questions, the Cronbach Alpha was 0.58, and for physical activity-related questions, it was 0.6. The SLIQ scores of participants and blinded raters had a 0.77 correlation coefficient.

Oommen et al. (2016) to assess the prevalence of NCD risk factors among Mishingtribes in Assam using the WHO STEPs approach among a total of 332 individuals (men 54%) aged 25-64 year from Tinsukia district by multistage cluster sampling. Using the WHO STEPs approach, information was collected on demographics, STEP 1 variables (tobacco, alcohol, physical activity, diet), and measured STEP 2 variables (weight, height, waist circumference, and blood

pressure), and multivariate analysis was used to determine the relationship between STEP 1 and STEP 2 variables. Furthermore, conclude that tobacco use, alcohol consumption, and poor eating habits were prevalent among men and women in this community and were significant NCD risk factors. In addition to it, an integrated approach of culturally appropriate population level and high risk strategies are warranted to reduce these risk factors and to enhance adequate control of hypertension.

The National Aboriginal Health Organization (2010) reported that another term for high blood pressure is hypertension. Blood pressure is a measurement of the force exerted by blood on the blood vessel walls during blood circulation. Chronically high blood pressure can cause damage to the body's blood vessels. High blood pressure frequently precedes major health issues like heart attacks, strokes, and renal and cardiac failure. Stress, inactivity, eating too much salt or sodium, being overweight, and following a poor diet are all factors that can cause blood pressure to rise. These are modifiable risk factors.

Hypertension is a lifestyle disease, therefore it can be developed in an individual by the way how a person lives his life. In line to it, the habits of hypertensive patients visiting D.M.C & H, Ludhiana for O.P.D. visits are evaluated by Kauret al. (2007). The data was collected through interview schedule that comprised of different aspects of hypertensive person like identification data, socio-demographic data and life style practices. The results have shown the varied practices among hypertensive patients regarding control of hypertension and the shortcomings of the participants includes irregular maintenance of logbook, avoidance of yoga, meditation and physical exercises. Based on the results, it was suggested that a nurse must be assigned to the cardiology outpatient department (O.P.D.) in order to encourage patients to adopt blood pressure-controlling good lifestyle habits.

Bollampally et al. (2016) investigate Knowledge, Attitude and Practice (KAP) among the general population which helps in the future development programs for effective health education. This study's primary goal was to evaluate the patients' understanding, attitudes, and practices around hypertension. The institutional ethics committee approved the six-month study, which was conducted

among in-patients at Gandhi Hospital in Secunderabad between August 2015 and January 2016. There were 160 hypertensive patients in all, whether they had co-morbid conditions or not. Adults under thirty years old, children, and women who were pregnant or nursing were not allowed to participate. A basic random sampling technique was used to choose the patients. Patients with hypertension were given a KAP questionnaire that had been properly prepared and validated. In-person interviews were used to complete this questionnaire and obtain informed consent. Graph Pad Prism software version 5 was used for the statistical analysis. The study signifies that there is a good score towards knowledge, attitude and poor score towards practice and suggested that in order for patients to practice better disease control, they need assistance and direction. Clinical practices that support patients in managing their diseases include home medication reviews, patient counseling, and pharmaceutical care programmes.

Mahajan et. al. (2012) had conducted an epidemiological study to assess knowledge, attitude, practices, and risk factors and associated co-morbidities in hypertensive patients in an urban slum of Mumbai. The cross-sectional study using semi -structured proforma found out that, hypertensive patients in the area had very low level of awareness, attitude, and practices around hypertension. Poor practices led to greater blood pressure and BMI. As a result, they proposed health education aimed at various risk factors, as well as the promotion of regular physical activity. Furthermore, individuals must be taught about hypertension and its risk factors via mass media. Moreover, they suggested that health workers play a role in educating people and setting an example by avoiding risk factors for hypertension such as fatty food, alcohol, and smoking, and that people be educated and encouraged to engage in physical activities.

The impact of hypertension on health-related quality of life is something that doctors and normotensive responders from the general population may not fully understand, according to a 2002 study by Stein, J.D., et al. that examined the self-reported quality of life (QOL) among patients with systemic arterial hypertension. They draw the conclusion that, in contrast to patients who are impacted, doctors and people with normal blood pressure often overstate the negative effects of hypertension on quality of life. One possible explanation for hypertension patients'

noncompliance with treatment regimens could be the relatively small influence that high blood pressure is said to have on their quality of life.

Castro &Coutinho (2011) had conducted a field study of a quantitative exploratory, descriptive and not experimental to assess the quality of life and risk factors to patients with hypertension. In which they identified that, majority of employees who have chronic illnesses report that their quality of life is adequate in many ways, yet a sizeable percentage of respondents expressed dissatisfaction with their overall quality of life. Encouraged by their friends and family to follow common sense, many of them have misconceptions about the pathology and even treatment taboos, which makes it difficult for them to adhere to the prescribed course of action. There is still a severe lack of information regarding the sickness and strategies to avoid difficulties when a chronic illness progresses, despite the developers' claims to be aware of it and their belief that it has no negative effects on their quality of life.

Marcello et al. (2018) study claims that fresh evidence suggests that lifestyle factors may influence blood pressure levels. The authors of this study examine the most significant clinical and epidemiological research on the contribution of various lifestyle factors to the development of hypertension. They come to the conclusion that there is strong evidence that changing one's lifestyle, with a focus on alcohol and sodium consumption, quitting smoking, degree of physical activity, and food habits, can help avoid and manage hypertension. Health practitioners, including doctors, should promote healthy lifestyle choices.

This study investigates the impact of lifestyle changes on individuals with high blood pressure in Kawasoti Nawalpur. It reveals main causes include obesity, alcohol consumption, smoking, salt and junk food, and sedentary lifestyle. Hypertension symptoms include headaches, sleep issues, dizziness, shortness of breath, and palpitations. Further, stated that reducing hypertension involves weight loss and lifestyle changes.

Hypertension affects around 1.13 billion people worldwide (26%), with the majority residing in low- and middle-i ncome countries. Hypertension has been established as a significant risk factor for cardiovascular disease. Elgendy et al. (2022) conducted an interventional study to improve the health of hypertensive

individuals through lifestyle changes, and they concluded that a healthy lifestyle, such as being active more than four days per week, losing weight, eating a diet rich in fruits and vegetables, a low salt diet (BMI was a major predictor), and quitting smoking, has been shown to be effective therapy for preventing and controlling hypertension.

Dhakal et al. (2021) investigated adherence to lifestyle modifications and associated factors in hypertensive patients and concluded that low adherence to lifestyle modifications leads to poor therapeutic effectiveness, decreased quality of life, poor health outcomes, and increased health-care costs. Various factors influence adherence levels, which vary depending on cultural, socioeconomic, and national settings, and it has been found that adherence to lifestyle modification is low in older patients. To enhance their level of adherence, more effective lifestyle modification counselling and educational techniques must be implemented, with an emphasis on older age groups and taking into account educational level, occupation, family income, and family history of hypertension. Application to clinical practice Nurses regularly interact with hypertension patients in hospitals where they are required to deliver health education on lifestyle changes.

A major preventable cause of cardiovascular disease that affects over a billion people worldwide is hypertension. Modifying one's lifestyle is essential for lowering known risk factors as well as preventing and controlling hypertension. Among these are quitting smoking, losing weight, getting more exercise, cutting back on alcohol and sodium in food, and adhering to the DASH diet. They might also support highly motivated individuals throughout drug reduction and withdrawal. Goetsch et al. (2021) look into how much diagnosed hypertension patients adjust their lifestyles; the study participants did not all use alcohol or tobacco products. Fruit consumption in the diet and physical exercise were unusual lifestyle choices. During clinical consultations, primary care physicians should ask their patients about their unhealthy habits and encourage them to make the required lifestyle changes.

Although high genetic risk and unhealthy lifestyles are associated with a high risk of hypertension, but the combined relationship between lifestyle score and genetic factors on blood pressure remains limited, especially in resource-constrained areas. (Niu et al., 2021) explore the separate and joint effects between genetic and

lifestyle factors on blood pressure and hypertension in rural areas. These findings suggest that lifestyle and genetic variables together influence blood pressure and hypertension. The results suggest the use of a healthy lifestyle in precision hypertension prevention.

Valenzeula et al. (2021) states that lifestyle therapies, such as regular physical activity, weight management, healthy eating habits, stress management, and appropriate sleep, have been demonstrated to be useful in preventing and treating hypertension. These therapies have been shown to lower traditional risk factors for hypertension, such as obesity and insulin resistance. Lifestyle changes also benefit vascular health by improving redox and inflammatory status. Furthermore, these measures help to minimise sympathetic over activity, which is related with hypertension. Lifestyle changes may also boost the release of myokines, which have a positive impact on blood pressure management. Overall, the findings imply that lifestyle interventions can help prevent and manage hypertension by targeting several physiological pathways.

In Mizoram, North East India, a cross-sectional study was conducted among urban and rural populations by Borah et al. (2018) to evaluate the prevalence and risk factors of hypertension (HTN) in the Mizo community. They found that the following factors were independently linked with HTN: age, additional salt (salt added to food), tuibur (a particular type of tobacco), high BMI, and sedentary lifestyle. The findings of this study have relevance for public health since modifying these risk factors' lifestyles in the community may lessen the burden of HTN.

2.4. Studies relating to social support and hypertension

Hanifah et al. (2021) emphasizes the importance of social support provided by family friends and significant other to adhere to the patients' diet or therapy to manage hypertension adequately. Patients with hypertension who felt more socially supported were more likely to follow their hypertension-specific diets. This further shows that in order for patients to adhere to their diets to the best extent possible, health care practitioners should encourage support from friends, family, and significant others.

Hu et al. (2015) showed that family social support was positively associated with medication adherence and regular BP measurement. More prospective research

is required to fully understand the impacts of depression, self-efficacy, and family social support on self-care behaviours, but strategies to enhance family social support should be created in order to prevent hypertension.

Gao et al (2022) investigate the prevalence of medication adherence and its determinants among hypertensive patients in Shanghai and further concluded that, medication adherence of hypertension patients needs to be improved. Considered as strategies to enhance adherence, health literacy and social support had direct and/or indirect impacts on adherence.

Medication adherence is a major factor influencing treatment outcome in hypertension patients. One of the most overlooked difficulties for healthcare practitioners is the impact of patients' social supports on drug adherence. Therefore, Shahin et al. (2021) assess how patients' social supports affect medication adherence in hypertension patients and further assessed that, the impact of social support on medication adherence and identified gaps in the existing literature. Some patient groups may benefit from family or peer support to improve adherence. According to this analysis, medical professionals should determine whether their patients have sufficient social supports to enable them to follow recommended treatment plans and reap its benefits.

Failure to comply with treatment regimens is one of the leading causes of poor disease control among patients with chronic diseases, posing a challenge for health care professionals. To investigate the relationship between adherence to treatment regimens and perceived social support among hypertensive patients, Zamalijeva & Jusiene (2013) conducted a study and discovered that both age and perceived social support can predict prescription medication abuse, as measured by forgetfulness, among hypertensive patients.

Lei et al. (2019) found that social support was more important for people with higher blood pressure. Further, it was also found that participation in community-based organizations may improve blood pressure for these individuals.

The greatest risk factor for death is high blood pressure, thus patients should learn how to control it. The management of chronic illnesses is done through the peer support scheme. Therefore, Haidari et al. (2017) investigate on the effect of a peer support programme on hypertensive patients' adherence to their regimen and found

that peer support programmes improved hypertension patients' adherence to treatment regimens.

Bell (2010) stated that social support was defined by emotional and financial support, and marital status and the study observed that the relationship between race (but not ethnicity) and hypertension varies by social support level. The findings imply that social support may have a positive impact on hypertension in Black people; nevertheless, it is uncertain if social support may have an effect on ethnic variations in hypertension.

According to Osamor (2015) concluded that social support is strongly associated with hypertension treatment compliance. These results point to the necessity for more research into the benefits of social support promotion as a therapeutic strategy for chronic illness.

Turan (2019) concluded that drug treatment adherence in patients with hypertension and social support levels of the patients were found to be substantially good; besides, adherence to drug treatment was found to increase positively as the social support of patients with hypertension increase.

Ofoli et al. (2017) studied to find out how family/social support influences medication adherence in hypertension patients and discovered that, hypertensive group adhered to their prescriptions effectively. Family and social support were major markers of effective drug adherence.

Ji et al. (2021) states that chronic and mental health difficulties, such as depression among hypertensive patients in elderly care homes, have become more prevalent as the population ages. The study emphasises the need of social support in sustaining mental health among hypertensive patients living in elderly care facilities. To reduce depression among hypertension patients in aged care homes, interventions aimed at improving social support, institutional satisfaction, and anxiety reduction should be prioritised. More critically, people with concomitant chronic conditions require special attention.

In rural China, where loneliness has been a big issue for community members due to younger generations migrating from rural to urban areas, hypertension has reached epidemic levels. Yazawa et al. (2022) study imply that being lonely despite high levels of social support poses the greatest risk for hypertension but, did not

confirm a buffering effect of social support on the link between loneliness and hypertension.

Tavares & Silva (2019) studied the types of support offered by the network of social support and implications on hypertensive life and further concluded that, the types of emotional, informational and instrumental support originated mainly from family relationships and may mean alternative treatments, featuring a care focused on people with hypertension and their network of relationships which requires attention from healthcare professionals, including nurses.

To identify the family support of hypertensive patients Oktaviani et al. (2019) study 100 families of hypertensive patients using purposive sampling method. This study was performed in the Sukoharjo Community Health Center area and discovered that the average family support for patients with hypertension was 14.62 for emotional support, 20.03 for award support, 25.67 for instrumental assistance, and 14.57 for informational support. Based on the study's findings, it can be said that while most family support for hypertension patients falls into a good category, more needs to be done in order to carry out family empowerment initiatives.

Rahmatika (2019) study on the correlation of emotional support and dietary compliance of elderly patients with hypertension around the area of Sukomulyo Community Health Center, Manyar subdistrict, Gresik. Based on the data collection, this study was an analytical observational research study. The cross-sectional approach was used in this study. A sample size of 37 responders, who were senior hypertensive patients, were included in the simple random sampling study. With the age range of 60–70 years old and the occupation of mother, the majority of responders were female. In the meantime, the characteristics pertaining to educational attainment showed that over 50% of the participants had completed high school. The majority of responders received good emotional support (83.8%), and 67.6% of them followed their diets with obedience. A p-value of 0.552 is shown by the statistical test of the relationship between mental support and senior hypertension diet adherence. The elderly diet compliance of hypertension patients in the integrated health post of the workforce is uncorrelated with family mental support.

Nursalam et al. (2020) study look at how SMS-based social support affects medication adherence and blood pressure reduction in hypertensive patients and

found that SMS-based social support has favourable benefits for improving medication adherence and lowering blood pressure in hypertensive patients; nevertheless, for future studies, experts recommend that interventions be offered on a regular basis to maximise their effectiveness.

Cornwell & Waite (2012) explore the role of social network ties and network-based resources (e.g., information and support) in hypertension diagnosis and management and found network characteristics and emotional support are associated with hypertension diagnosis and control. Significantly, those with larger social networks have a decreased chance of undiagnosed and uncontrolled hypertension—that is, if they talk to their network members about health-related matters. A larger network size is linked to a higher risk of undetected and uncontrolled hypertension when these communication channels are closed. While the use of healthcare services somewhat mediates relationships with diagnosis, health-related behaviours do not appear to be the source of the network resources' benefits for controlling hypertension.

The study to investigate the links between family social support, self-efficacy, and self-care behaviours among Saudi men with hypertension by Bahari et al. (2019) states that, to improve hypertension self-care habits among Saudi men should concentrate on boosting individuals' self-confidence in performing specified healthy behaviours. Family support can also help people with hypertension practise self-care habits.

Kretchy et al, (2014) demonstrated the need for clinicians to pay attention to negative emotions and their role in medication non-adherence. It is advised that focus be placed on the potential use of spirituality as a means of helping hypertension individuals control their negative feelings.

The study by Shimomura & Wakabayashi (2012) explores the relationship between cardiovascular risk factors and prehypertension and hypertension in Japanese women. Results show that light and heavy drinkers have higher odds of pre-hypertension and hypertension, while smokers have lower odds. Obesity, alcohol consumption, and dyslipidemias are linked to these conditions. Interventional trials are needed to determine if correcting these factors and limiting alcohol use can prevent pre-hypertension and hypertension in women.

Ojike et al. (2016) suggest that psychological distress is associated with higher odds of hypertension after adjusting for other risk factors for high blood pressure. To validate these results and clarify the processes by which stress raises the risk of hypertension, more research is required.

Investigation on the impact of social support on treatment adherence in hypertension in China, (Pan et al., 2021) found that treatment adherence in hypertensive patients were observed to improve as their social support increased. Apart from the help that patients receive from their immediate family, it is important to encourage and reinforce the presence of other social support networks, especially those that are affiliated with professional associations and neighbourhood associations.

Harding et at. (2022) investigated the relationship between social support and incident hypertension and further states that there was no correlation found between the incidence of hypertension and the degree of structural social support and satisfaction with social support. In addition, the study indicates that better functional assistance may be linked to a lower incidence of incident hypertension.

Brownstein (2007) stated that community health workers may have an important impact on the self-management of hypertension. Initiatives that include community health workers as members of multidisciplinary teams have potential, especially for underserved diverse racial/ethnic communities.

With 4 million deaths annually from cardiovascular disease, it is the leading cause of death in Europe. In addition to the well-known lifestyle determinants, psychological factors account for at least 25-40% of illness incidence. Isolation in adulthood is a primary source of chronic stress, which increases the disease's prevalence. Low levels of social support and isolation increase the likelihood of depression and high blood pressure, both of which contribute to the prevalence of cardiovascular disease. Ocsovszky et al. (2020) study the link between social isolation and health behaviours and concluded that, social support was associated with indices of mental health (depression, stress level, and wellbeing) and had a moderate relationship with intense exercise.

Spikes et al. (2020) conducted a study to look at how exposure to contextualised racial and gendered stressors, social support, and depressed symptoms

influenced HTN disease perceptions and blood pressure (BP) medication adherence and found that, before starting blood pressure medication, it is critical to assess one's beliefs and mental health.

Hypertension is a condition defined by anomalies in the heart and blood vessels that produce an increase in blood pressure. Sartika and Maytasari (2020) conducted a study to determine the relationship between family, social, and health worker support and hypertensive patient compliance. They discovered that in order to increase hypertension patient compliance, it is crucial to implement a programme of health promotion activities that includes not only patients but also family and social members.

Mulyana (2018) study is based on the growing prevalence of chronic hypertension in Indonesia. As a result, it is necessary for the patient to be able to regulate the disease throughout their life. There were misperceptions about the situational demand that induced hypertension and the patient's ability to cope with it. As a result, it has escalated into a severe issue that requires assistance from multiple sources. The goal of this study is to look at the relationship between sources of social support from spouses, family, and other hypertensive patients, as well as individuals' coping strategies in hypertension management and found that, social support was unfavourable to individual coping strategies in hypertension patients in Tugopagu Village.

Nascimento et al. (2012) study emphasizes the prevalence of sedentary lifestyle, stress, high blood pressure, raised BMI, dyslipidemia, and abnormal blood glucose levels as modifiable risk factors for cardiovascular illnesses in hypertensive women.

Forman et al. (2009) calculated the hypothetical proportion of hypertension incidence in women related to food and lifestyle variables and indicated that adhering to low-risk dietary and lifestyle factors was associated with a significantly lower rate of self-reported hypertension. Adopting low-risk dietary and lifestyle practices may prevent a considerable proportion of new-onset hypertension in young women.

Santana et al. (2019)’s study investigated the prevalence of sexual dysfunction in hypertensive women and how it differed from non-hypertensive

women. A systematic evaluation of eleven papers revealed a risk ratio of 1.81 between hypertensive and normotensive women, with significant heterogeneity. Women with hypertension had a higher relative risk as they became older. However, the meta-analysis was extremely variable, emphasizing the need for additional study in this field due to methodological constraints and a limited sample size.

Although women are more likely than males to acquire cardiovascular disease, hypertension is a significant risk factor for the condition that is frequently ignored, mishandled, and believed to be less common in women. As a result, Sheokand (2014) identified trends in the prevalence of hypertension among women. The study found that hypertension is a substantial risk factor for cardiovascular disease in women, yet it is frequently disregarded. The majority of patients were at high risk of obesity, and hypertension developed between the ages of two and four. Stress was the leading factor, followed by ageing, diabetes, heredity, sedentary lifestyle, and excessive salt consumption.

Adisa (2017) evaluated available and desired sources and types of social-support among hypertensive and type-2-diabetes (T2D) patients using a cross-sectional questionnaire-guided interview among 250 hypertensive and 200 T2D patients, and a review of medical records to retrieve disease-specific clinical parameters in University College Hospital and Ring-Road State Hospital, Ibadan, southwestern Nigeria among adults out-patients with hypertension, T2D, and T2D co-morbid with hypertension and found that family source was the most accessible, but government and non-governmental organization support were largely desired.

The of perceived social support in adherence to treatment regimens among patients with chronic diseases was explored by Vahedparasat et al. (2018) using a qualitative study on 34 patients with chronic diseases, who were purposively recruited from the targeted cities of Bushehr and Tehran, Iran. From June 2014 to November 2015, extensive unstructured interviews were carried out as part of the data collection procedure. The most significant and frequent sources of perceived social support among Iranian patients with chronic illnesses were their wives, families, and friends, according to continuous and concurrent analysis of data obtained using the content analysis approach. Based on the findings, the participants

recognized that having social support could aid them in following their medical regimens and managing their conditions.

2.5. Studies relating to Lifestyle and Social support

Lestari et al. (2022) investigated the effects of family support and hypertension knowledge on the lifestyle of individuals with hypertension and the factors influencing their lifestyle, using a cross-sectional quantitative study with a research sample of 103 respondents. Further, concluded that there is a relationship between family support and knowledge with the lifestyle of patients with hypertension. Variables that affect the lifestyle of patients with hypertension are gender, knowledge of hypertension and family support.

Simamane et al. (2023) used a grounded theory technique for the qualitative inquiry to investigate the extent to which family engagement aids in hypertension management, specifically knowing what hypertension is and how it is handled. After consulting the research participants in the intervention study group, the participants were specifically chosen. The study contacted and invited individuals from Umlazi Township, KwaZulu-Natal, as well as those who are closest family relatives. It was shown that patients with hypertension feel more empowered to take control of their own recovery and have a better understanding of their illness and how to modify their lifestyle when more family members are involved in their care. The likelihood of an individual being able to properly regulate their hypertension increases with their level of knowledge of the physiological features of the condition.

Hanifah et al. (2021) study to determine the association between social support and dietary adherence among hypertensive patients at Tangerang's Primary Health Centre and found that a Patients with hypertension who experienced more social support were more likely to stick to their hypertension diets. The findings imply that health care practitioners should enable support from patients' friends, family, and significant others in order to attain optimal dietary adherence.

The study conducted by Yoshikawa et al. (2021) investigated the relationship between social support and dietary intake in individuals enrolled in T-exercise Select, an intervention aimed at enhancing lifestyle behaviours. The findings of the study indicate that the intervention has a positive impact on healthy eating habits and

that social support is associated with dietary behaviours that may contribute to healthy eating.

To identify the association between social support and self-management behaviourin patient with hypertension in Puskesmas Pandak I Bantul (Khomsatun & Sari, 2011) conducted a study among 47 respondents who were selected using purposive sample technique. The study utilized a descriptive correlative design with cross-sectional approach. The Chronic Illness Resources Survey (CIRS) questionnaire and the Hypertension Self-Care Activity Level Effects (H-SCALE) questionnaire were both valid and reliable tools used in the data collection process. To determine the relationship between social support and self-management behaviour in hypertension patients, the data was analyzed using Pearson Correlation and Spearman Rank Test analysis. They discovered a strong correlation between self-management behaviours in the areas of food intake and body weight control and social support. For patients with hypertension, nurses can increase social support and promote self-management and overall health.

2.6. Research Gaps

From the literature reviewed the following research gaps could be notice:

1) Hypertension that is present across the gender but few studies available on women and hypertension in a wider scale.

2) Non pharmacological treatment like lifestyle modification as a means of hypertension control studies was very few in the area.

3) A specific study on social support in terms of accessibility, quality and adequacy as a means to help women with hypertension is very rare.

4) Different studies highlighted the effectiveness of social support in hypertension treatment but no further studies have been found in Mizoram context.

5) Several studies depicted the relationship between social support and lifestyle for hypertensive patient, however studies related to this area was not found in the region.

6) Studies supporting social work education to help women with hypertension is hard to find.

7) Social work intervention in public health promotion through lifestyle modification and social support in the control of hypertension are limited.

The present study will try to fill the above research gaps.

Chapter – III

Methodology

The methodology chapter serves as the foundation for this research study, detailing the systematic approach used to collect analyses and evaluate data. A well-crafted methodology ensures the rigour and credibility of the research, providing readers with a road map to understand the study's approach and its conformity with the research objectives. We will look at the study strategy, data collecting, and analytical methodologies used to answer the research questions stated in this dissertation in this section.

3.1.Field Setting:

3.1.1. Profile of the study area

Mizoram ("Land of the Mizos") was previously known as the Lushai Hills District of Assam until being renamed the Mizo Hills District in 1954. Mizoram was established as a centrally managed union territory in 1972, and it became a state in 1987. Mizoram encompasses an area of 21,087 square km. Mizoram shares geographical boundaries with Assam, Manipur, and Tripura, which are 123 km, 95 km, and 66 km, respectively. It shares 630 miles of international border with Myanmar and Bangladesh.

It is located in the north-eastern region of the country, bordered by Myanmar (Burma) to the east and south, Bangladesh to the west, and the states of Tripura to the northwest, Assam to the north, and Manipur to the northeast. Aizawl, located in the state's north-central region, serves as its capital. It is a small state with an unending diversity of landscapes, hilly terrains, flowing streams, a rich abundance of flora and fauna, and much more to offer.

According to Census 2011, Mizoram's population is 10.97 lakh, up from 8.89 lakh in 2001. According to the most recent census data, Mizoram's total population is 1,097,206, with 555,339 men and 541,867 women. In 2001, the total population was 888,573, with 459,109 men and 429,464 women. The total population growth rate this decade was 23.48 percent, compared to 29.18 percent in the preceding decade. In 2011, Mizoram's population was 0.09 percent of India's total. In 2001, the rate was 0.09 percent.

Mizoram is one of the least inhabited states in India. Population density declines from north to south, owing mostly to a southern increase in humidity and temperature, which makes the area less ideal for settlement. Aizawl is the state's main major metropolis; followed by large town in the south, Lunglei, within both the district the research investigation was carried out.

Christianity is the most common religion in Mizoram, with 87.16% of the population following it. Hinduism is the second most common religion in Mizoram, accounting for 2.75%.

Figure: 4 Map indicating the district of Mizoram

3.1.2. Aizawl District

The capital and largest city of the Indian state of Mizoram is Aizawl. The city is situated on a ridge 1132 metres (3715 feet) above sea level, north of the Tropic of Cancer in the northern region of Mizoram. To the west and east of the city are the Tuirial and Tlawng river valleys. The summertime high is between 20 and 30 degrees Celsius, while the wintertime low is between 11 and 21 degrees.The district has a population density of 113 per square kilometre (290 per square mile). From 2001 to 2011, its population grew by 24.07%. Aizawl has a sex ratio of 1009 females to 1000 males and a literacy rate of 98.5%.

3.1.3. Lunglei District

Lunglei is one of 11 districts in Mizoram, India. In 2011, it was the state's second most populous district, after Aizawl. It is also Mizoram's largest district,

covering an area of 4,536 km2 (1,765 square miles).It is situated in the southern region of the state. The district's overall physical area is 4536 square kilometres, with a population of 161428 and 27889 homes. The population density is 36/sq. km. The sex ratio is 947 females to 1000 males. The district has a good climate, with moderate summers and mild winters. The temperature ranges from 80 to 240 degrees Celsius in the winter and 180 to 320 degrees Celsius in the summer.

3.2 Methodology

3.2.1. Research Design

The study is descriptive in design and adopts a mixed method, viz. quantitative, qualitative and participatory techniques. The study is conducted in 2 districts of Mizoram wherein, Aizawl District represent the northern region and Lunglei District represent southern region.

3.2.2. Sampling

The unit of the study was women with hypertension in Mizoram. The study adopted a purposive sampling technique from the list of NCD. Overall, sample included 222 respondents based on Non-communicable Disease (NCD) Cell record (111 from Aizawl district and 111 from Lunglei district). The choice of sample included those presently having hypertension as a primary/secondary disease.

3.2.3. Tool of Data Collection

Data was collect from both primary and secondary sources. Primary sources included data collected from women with hypertension. Secondary sources are collect from government and non-government records.

A semi-structured interview schedule form the tools for data collection for finding the personal profile, family characteristics, suggestions and scope for social work intervention to improve the lifestyle related to hypertension. Simple Lifestyle Indicator Questionnaire (SLIQ) which was developed by Godwin, et al. (2008) was employed to measure the lifestyle of women across women with hypertension in Mizoram. Simple Lifestyle Indicator Questionnaire (SLIQ) includes the SLIQ's 12 questions and outlines the scoring system. The SLIQ consists of five components: nutrition (3 questions), activity (3 questions), alcohol use (3 questions), smoking (2 questions), and stress (1 question). Each component can be assigned a raw score as well as a category score. The overall SLIQ score is calculated using the five category

scores to ensure that each component receives equal consideration. Each component has a category score of 0, 1, or 2, based on raw scoring of questions related to each component. Component scores are summed to give a SLIQ score from 0 – 10. Categorically, a person is considered "unhealthy" if they have a SLIQ score of between 0 – 4, "intermediate" if the SLIQ score is between 5 – 7, and "healthy" if they score between 8 – 10 on the SLIQ. The higher the score, the healthier the lifestyle.The questions on diet and activity were amendable to assessment by Cronbach Alpha, which was measured separately on the 3 diet questions and the 3 activity questions. The coefficients for these questions were reasonably good at the level of 0.58 for the diet questions and 0.6 for the questions on activity. The component on stress has only 1 question and so cannot be assessed for Cronbach Alpha. The questions on smoking and alcohol consumption are structured such that they are mutually exclusive and would not be expected to be scored in the same direction.

Table 3: Test-retest reliability of SLIQ

Duration	Sample size	Component	Coefficient
1 month later	136	Vegetables	0.74
		Fruit	0.72
		Fibre	0.63
		Light exercise	0.64
		Moderate exercise	0.66
		Vigorous exercise	0.71
		Wine	0.88
		Beer	0.87
		Former smoking	0.89
		Stress	0.75

Source: Computed

A semi-structured interview schedule is used to collect data on personal profiles, family features, and suggestions for improving social support. A 5-point structured scale which was developed based on the studies of(John & Katherine (2008), Schwarze, Knoll & Rieckmann (2003), Dunst, Trivette & Cross (1986), Schaefer, Coyne & Lazarus (2002), Olsson et al. (2015), Curtona and Suhr (1992),

Chhangte (2017), Meral & Cavkaytar (2012), Lifshitz & Glaubman (2004), Teklu (2010), Parette et al. (2010), Mishra & Gupta (2006) & Lalmuanpuii (2016)was used to assess social support, measuring accessibility, quality, and adequacy across various dimensions such as basic needs, emotional support, physical health, mental health, life skills, financial support, and instrumental support.

Table 4: Reliability of Scales Constructed and Administered

Scale	Sample Size	Scales	Cronbach's Alpha	Guttman Split-Half Coefficient
Social Support	200	5 point scale; 1=Very Inaccessible/Very Poor/Very Inadequate 2=Inaccessible/Poor/Inadequate 3=Neither accessible nor inaccessible/Neither good nor poor/Neither adequate nor inadequate 4=Accessible/Good/Adequate 5=Very accessible/Very Good/Very adequate	.955	.875

Source: Computed

Qualitative methods such as case study, focus group discussion and participatory techniques such as impact diagram and daily activities schedule were also conducted. After preparation of the tool, the language was transcribed in Mizo and a pilot study was conducted so as to test the validity and reliability of the tool among women with hypertension. Necessary modifications and changes were made after the pilot study.

3.3. Data Processing and Analysis

The quantitative data was analyzed using Microsoft Excel and SPSS package. Descriptive statistics, simple frequency and means were used to present the quantitative data. Social support was analyzed based upon a tool constructed based on the studies of John & Katherine (2008), Schwarze, Knoll & Rieckmann (2003), Dunst, Trivette & Cross (1986), Schaefer, Coyne & Lazarus (2002), Olsson et al. (2015), Curtona and Suhr (1992), Chhangte (2017), Meral & Cavkaytar (2012), Lifshitz & Glaubman (2004), Teklu (2010), Parette et al. (2010), Mishra & Gupta

(2006) & Lalmuanpuii (2016) and lifestyle was analyzed based on SLIQ. T-test was used to find out the district wise differences in lifestyle and social support. Pearson's correlation co-efficient was used to find out the relationship of the lifestyle domains, lifestyles and problems faced by respondents, dimensions of social support, lifestyle and social support of women with hypertension. Case studies and focus group discussions were also highlighted to understand the lived experience of women with hypertension.

3.4. Ethical Consideration

Informed consent is taken from the respondents. Only those who are willing to give consent form the sample. The sample excludes those who are intellectually disabled or has any other infirmity that disrupts communication and meaning. Confidentiality is strictly adhered to.

Finally, the methodology used in this study was designed to rigorously meet the research objectives. The approach adopted was meticulously planned to ensure dependability, validity, and relevance to the study problems at hand. After laying a solid basis with an appropriate technique, the next chapter will provide a detail analysis of the data collected and explain the implications of our findings in relation to the research objectives.

3.5. Inclusion and Exclusion Criteria

In this study, Women with Hypertension referred only to women under the age of 70 who were registered in the NCD clinic viz. Aizawl and Lunglei.

3.6. Limitations of the study

- The study was conducted only among women with hypertension who came to the NCD Clinic in Aizawl and Lunglei for further check-up.
- As majority of the respondents who came to the clinic in both the districts were mostly from middle and lower income group it might not encompass the whole population.

Chapter IV

Results and Discussions

This chapter is divided into 8sections which include the socio demographic characteristics, diagnosis information, other co-morbidities, lifestyle, social support, case studies, Focus Group Discussion (FGD) and participatory techniques

4.1. Socio-demographic characteristics

Socio-demographic studies offer a valuable lens in examining the various social determinants of hypertension.

4.1.1. Age Group

Age is a crucial variable in hypertension prevalence where prevalence increases significantly among women as they age, particularly after menopause**.** Likewise, on the exploration on the age of women with hypertension across the districts, we also see relatively older age groups among the respondents. The age was categorized into 40 years and below, 40-50 years, 50-60 years and 60 years and above (see Table 6).

Table 6: Age Group

Sl.No	Group	Districts		Total N=200
		Aizawl n=100	Lunglei n=100	
1.	50-60 years	36 (36.0)	32 (32.0)	68 (34.0)
2.	40-50 years	36 (36.0)	31 (31.0)	67 (33.5)
3.	60 years and above	23 (23.0)	29 (29.0)	52 (26.0)
4.	40 years and below	5 (5.0)	8 (8.0)	13 (6.5)

Source: Computed Figures in parenthesis indicates percentages

The table highlights the distribution of respondents based on their age group. From the table we see that that more than one-third (36%) of women with hypertension from Aizawl district and nearly one-third (32%) of women with hypertension in Lunglei district were from the age group 50-60 years which was followed by more than another one-third (36%) in Aizawl district and almost a third (31%) in Lunglei district who were from the age group 40-50 years. Further, the age group 60 years and above covered 23 per cent of the respondents from Aizawl

district and 29 per cent from Lunglei district. Additionally, the youngest category 40 years and below comprised of 8 per cent from Aizawl district and 5 per cent from Lunglei district

Overall, there were more respondents (34%) from the age group 50-60 years followed by around one-third (33.5%) of the respondents who were within the age group of 40-50 years and 26 per cent from the age group 60 years and above. Finally, respondents, below 40 years of age comprised 6.5 per cent of the total respondents.

4.1.2. Marital status:

Marital status plays a crucial part in hypertension studies primarily because it is typically used as an agent for social support, stress, and overall social integration, all of which might influence an individual's risk of developing hypertension. The current study classified marital status into unmarried, married, divorced and widowed (see Table 7).

Table 7: Marital Status

Sl.No	Status	Districts		Total N=200
		Aizawl n=100	Lunglei n=100	
1	Married	56 (56.0)	57 (57.0)	113 (56.5)
2	Widowed	21 (21.0)	30 (30.0)	51 (25.5)
3	Divorced	15 (15.0)	8 (8.0)	23 (11.5)
4	Unmarried	8 (8.0)	5 (5.0)	13 (6.5)

Source: Computed Figures in parenthesis indicates percentages

From Table 6, we see that women who were married constitute more than half (56%) in Aizawl and a little more (57%) are found married in Lunglei and more than one-fifth (21%) were widowed from Aizawl while more than one-fourth (30%) were found to be widowed from Lunglei. Further, 15 per cent of the respondents from Aizawl were divorcess while less than a tenth (8%) from Lunglei were divorcees. Less than tenth (8%) of the respondents from Aizawl were unmarried whilea fewer (5%) were unmarried r from Lunglei district.

Overall, respondents who were married constitute more than half (56.5%) followed by those (25.5%) who were widowed and more than a tenth (11.5%) were divorcees. Lastly but not the least, there were less than a tenth (6.5%) of the respondents who were unmarried.

4.1.3. Educational Qualification

The educational background of an individual is an important determiner in any research findings. The study on education was classified into seven (7) categories, i.e., illiterate, primary, middle, high school, higher secondary, graduate and post-graduate (see Table 8).

Table 8: Educational Qualification

Sl.No.	Qualification	Districts		Total N=200
		Aizawl n=100	Lunglei n=100	
1	High school	35 (35.0)	33 (33.0)	68 (34.0)
2	Primary	20 (20.0)	29 (29.0)	49 (24.5)
3	Middle	20 (20.0)	20 (20.0)	40 (20.0)
4	Higher Secondary	12 (12.0)	9 (9.0)	21 (10.5)
5	Graduate	7 (7.0)	5 (5.0)	12 (6.0)
6	Post graduate	4 (4.0)	2 (2.0)	6 (3.0)
7	Illiterate	2 (2.0)	2 (2.0)	4 (2.0)

Source: Comupted Figures in parenthesis indicates percentages

The district-wise study on educational status of the respondents shows that 35 per cent from Aizawl had high school qualification while a close 33 per cent of the respondents from Lunglei were from the same category. There were one-fifth (20%) of the respondents from Aizawl who had only primary school qualification while nearly three-tenth (29%) of the respondents from Lunglei were from the same category. Further, a fifth (20%) each from both the district had middle school qualification. Then, more than a tenth (12%) of the respondents from Aizawl qualified till the higher secondary school while less than a tenth (9%) of the respondents from Lunglei were from the same category. Graduate respondents were

more (7%) in Aizawl as compared to respondents (5%) in Lunglei and post-graduate respondents (4%) in Aizawl were more than the respondents (2%) in Lunglei.
There were 2 per cent of the respondents in each district who were found to be illiterate.

Overall, the table also shows that 34 per cent of the respondents studied till high school, followed by those respondents(24.5%) who studied till primary level and one-fifth (20%) of them studied till middle school. Graduate and Post-graduate respondents covered less than a tenth (6%) and (3%) respectively of the total respondents. Lastly but not the least, 2 per cent of the total respondents constitutes the illiterate category.

4.1.4. Sub tribe

Here, sub-tribe is divided into four (4) categories viz., Lusei, Paihte, Hmar and Mara (See Table 9)

Table 9: Sub-tribe

Sl.No.	Tribe	Districts		Total N=200
		Aizawl n= 100	Lunglei n=100	
1	Lusei	88 (88.0)	99 (99.0)	187 (93.5)
2	Paihte	8 (8.0)	0 (0.0)	8 (4.0)
3	Hmar	4 (4.0)	0 (0.0)	4 (2.0)
4	Mara	0 (0.0)	1 (1.0)	1 (1.0)

Source: Computed Figures in parenthesis is indicates percentages

The table on sub-tribe of respondents depicted that majority (88%) of the respondent in Aizawl were Lusei, and almost all (99%) of the respondent in Lunglei were also from the same category. Less than a tenth (8%) of respondents in Aizawl were from the Paihte sub-tribe while there were no Paihte in Lunglei district. In Aizawl, there were few respondents (4%) belonging to the Hmar sub-tribe while for Lunfglei district, there were no respondents from the sub-tribe category. There were fewer (1%) from Mara from Lunglei while there were no respondents from this category found in Aizawl.

The study on the sub-tribe of the respondents as a whole depicted that majority (93.5%) of the respondents belonged to Lusei tribe, followed by less than a tenth (4%) who belonged to Paihte, and fewer (2%) from Hmar and only 1 per cent from Mara sub-tribe.

4.1.5. Religious status

The religions of the respondents were classified as under (See table 10).

Table 10: Religion

Sl.No	Religion	Particulars	Districts		Total N=200
			Aizawl n=100	Lunglei n=100	
1.	Religion	Christianity	100 (100.0)	96 (96.0)	196 (98.0)
		Hinduism	0 (0.0)	4 (2.0)	4 (2.0)
2.	Denomination	Presbyterian	68 (68.0)	11 (11.0)	79 (39.5)
		Baptist	6 (6.0)	56 (56.0)	62 (31.0)
		UPC	12 (4.0)	21 (21.0)	33 (16.5)
		Others	7 (7.0)	9 (9.0)	16 (8.0)
		Methodist	3 (3.0)	1 (1.0)	4 (2.0)

Source: Computed Figures in parenthesis is indicates percentages

The results on the religion of the respondents revealed that on the whole all of the respondents from Aizawl were Christians and almost all (96%) of the respondents from Lunglei were from the same category. Only a few (2%) of the respondent from Lunglei were Hindus while there were no Hundus among the respondents in Aizawl.

Overall, majority (98%) of the respondents belonged to Christianity and very few (2%) of the respondent as a whole were Hindus.

The outcome on the district wise study on denomination of the respondents highlights that more than two-third (68%) of the respondents in Aizawl belonged to Presbyterian denomination while more than a tenth (11%) of the respondents were Presbyterian from Lunglei. While respondents in Aizawl district who belonged to

Baptist denomination constitute less than a tenth (6%), more than half (56%) of the respondents in Lunglei were from the same category. Further, more than a tenth (12%) of the respondents in Aizawl belonged to the United Pentecostal Church (UPC) while a fourth (21%) of the respondents in Lunglei were from the same category. There were a few respondents (7%) in Aizawl who belonged to a number of small locally established denomination catergorized as 'other' while almost a tenth (9%) of respondents in Lunglei were from the same category. Lastly, but not the least, a very few (3%) of the respondents in Aizawl were from the Methodist denomination while fewer (1%) of them in Lunglei were from the same denomination.

Based on the overall study relating to denomination, 39.5 per cent of the respondents belonged to Presbyterian denomination, followed by respondents (31%) who belonged to Baptist denomination and less than a fifth (16.5 %) of the respondents who belonged to United Pentecostal Church (UPC) denomination. . Other category (a group of different locally established church) covered less than a tenth (8%) of the respondent and a few (2%) of the whole respondents belonged to the Methodist denomination.

4.1.6. Type of Family

The types of family were categorised as nuclear & joint family (see Table 11)

Table 11: Types of Family

Sl.No	Type	Districts		Total N=200
		Aizawl n=100	Lunglei n=100	
1.	Nuclear	88 (88.0)	98 (98.0)	186 (93.0)
2.	Joint	12 (12.0)	2 (2.0)	14 (7.0)

Source: Computed Figures in parenthesis is indicates percentages

Highlights from the study on forms of family depicted that majority (88%) of the respondents in Aizawl belonged to nuclear family while almost all (98%) of the respondents in Lunglei belonged to nuclear family. More than tenth (12%) of the respondents in Aizawl were from joint family whereas, very few (2%) of the respondents in Lunglei belonged to joint family.

The table shows that, overall, the respondents who were from the nuclear family constituted majority (93%) of the sample followed by less than a tenth (7%) of the respondents who belonged to joint family.

4.1.7. Socioeconomic Characteristic

The Socioeconomic Characteristics of the respondents were divided into three categories such as Priority Households (PHH), National Food Securtiy Act (NFSA) and Antodaya Anna Yojana (AAY) (See Table 12)

Table 12: Socio economic Characteristics

Sl. No	Characteristics	Districts		Total N=200
		Aizawl n=100	Lunglei n=100	
1	PHH	43 (43.0)	49 (49.0)	92 (46.0)
2	NFSA	47 (47.0)	44 (44.0)	91 (45.5)
3	AAY	10 (10.0)	7 (7.0)	17 (8.5)

Source: Computed Figures in parenthesis is indicates percentage

The table revealed that less than half (43%) of the respondents in Aizawl and almost half (49%) of the respondents in both districts were from PHH family. Respondents from NFSA family constituted 47 per cent in Aizawl whereas, it was 44 per cent in Lunglei. Lastly, tenth (10%) of the respondents were from AAY family in Aizawl while less than a tenth (7%) of the respondents were from AAY family.

The study on socio-economic characteristic highlighted that nearly half (46%) of the whole respondents were from PHH family while less than half (45.5%) of the respondents were from NFSA family and less than tenth (8.5%) of the respondents were member s of AAY family.

4.1.8. Primary occupation of family

Primary occupation of family was studied based on five (5) categories such as homemaker, agriculture, business, daily labour and government service (see Table 13).

Table 13: Family primary occupation & Monthly income

Sl.No	Occupation	Districts		Total N=200
		Aizawl n=100	Lunglei n=100	
1	Daily labour	33 (33.0)	36 (36.0)	69 (34.5)
2	Business	32 (32.0)	28 (28.0)	60 (30.0)
3	Agriculture	20 (20.0)	13 (13.0)	33 (16.5)
4	Homemaker	13 (13.0)	17 (17.0)	30 (15.0)
5	Government service	2 (2.0)	6 (6.0)	8 (4.0)

Source: Computed Figures in parenthesis is indicates percentages

The study on the primary occupation shows that one-third (33%) of the respondents' primary occupation in Aizawl was daily labour while more than one third (36%) of the respondents in Lunglei were from the same category. This was followed by 32 per cent of the respondents in Aizawl whose primary occupation was business and 28 per cent of the respondents in Lunglei were also from the same category. For families who depends on agriculture as their primary occupation, they constituted one-fifth (20%) of the respondents in Aizawl whereas more than tenth (13%) of respondents in Lunglei depended on agriculture as their primary source. In addition, 13 per cent of the respondents in Aizawl were home makers and 17 per cent of them in Lunglei were also from the same category. Finally, very few (2%) of respondents in Aizawl belonged to families whose primary occupation was government service while a little more (6%) of the respondents in Lunglei belonged to the same category.

Overall study showed that more than one-third (34.5%) depends on daily labour as their primary occupation followed by less than a third (30%) of the whole population whose primary occupation was business and more than a tenth (16.5%) of them relied on agriculture as their primary occupation. More than a tenth (15%) were home makers and lastly, but not the least, a few (4%) relied on government service as their primary occupation. family constituted the least (4%) of the population.

4.1.9. Family monthly income

The monthly family income was grouped into four (4) categories such asRs.10000 and below, Rs.10001-Rs.50000, Rs. 50001-Rs. 1lakh, Rs.1lakh and above (see table 14)

Table 14 Family monthly income

Sl.No	Income	Districts		Total N=200
		Aizawl n=100	Lunglei n=100	
1	Rs10001– 50000	76 (76.0)	68 (68.0)	144 (72.0)
2	Rs.10000 and below	10 (10.0)	18 (18.0)	28 (14.0)
3	Rs.50001- Rs. 1Lakh	10 (10.0)	7 (7.0)	17 (8.5)
4	Rs. 1 Lakh above	4 (4.0)	7 (7.0)	11 (5.5)

Source: Computed Figures in parenthesis is indicates percentages

The study on monthly family income highlighted that more than three-fourth (76%) of the respondents in Aizawl and more than one-third (68%) of them in Lunglei falls between Rs.10001-Rs.50000. There were a tenth (10%) of the respondents in Aizawl and almost a fifth (18%) of the respondents in Lunglei whose family monthly income was between Rs.10000 and below. Further, the table also reveals that a tenth (10%) of the respondents in Aizawl and less than tenth (7%) of the respondents in Lunglei came from families whose monthly income was betweenRs.50001- Rs. 1 Lakh category. There were a few (4%) of the respondents in Aizawl and less than a tenth (7%) of them in Lunglei whose family income was between Rs.1 Lakh and above.

Overall, the table shows that majority (72%) of the respondents were from families whose income was between Rs.10001-Rs.50000 followed by 28 per cent of the them whose family monthly income was between Rs.10000 and below. Less than a tenth (8.5%) were from families who earned an income of Rs. 50001 – Rs.1 Lakh while only 5.5 per cent of the respondents came from families whose income was between Rs. 1Lakh and above.

4.2. Diagnosis information

Diagnosis information was divided in two (2) categories namely Year of diagnosis and Registration in NCD (see Table 15)

Table 15: Diagnosis Information

Sl.No	Categories		Districts		Total N=200
			Aizawl n=100	Lunglei n=100	
1	Year of diagnosis	2021and above	46 (46.0)	49 (49.0)	95 (47.5)
		2016-2020	41 (41.0)	51 (51.0)	92 (46.0)
		2011-2015	10 (10.0)	0 (0.0)	10 (5.0)
		2006-2010	2 (2.0)	0 (0.0)	2 (1.0)
		2000-2005	1 (1.0)	0 (0.0)	1 (5)
2	Year of registration in NDC	2021 and above	94 (94.0)	94 (94.0)	188 (94.0)
		2015 – 2020	6 (6.0)	6 (6.0)	12 (6.0)

Source: Comupted Figures in parenthesis is indicates percentages

From the table, the study on year of diagnosis was divided into five (5) categories such as 2000-2005, 2006-2010, 2011-2015, 2016 -2020 and 2021 onwards wherein less than half (46%) of the respondents in Aizawl were diagnosed in the years 2021 and above while almost half (49%) of the respondents in Lunglei were diagnosed in the same year category. The table also shows that 41 per cent of the respondents from Aizawl were diagnosed between the years 2016-2020 while a little more than half (51%) of the respondents from Lunglei were diagnosed between the same year category. Further, a tenth (10%) of the respondents from Aizawl were diagnosed between the years 2011-2015 while there were no cases from Lunglei respondents.Then, very few (2%) of the respondents from Aizawl were diagnosed in the years 2006-2010 category while there were no cases from Lunglei diagnosed in the same years. Lastly but not the least, only a few (1%) in Aizawl was diagnosed between the years 2000-2005 while there were no cases found in Lunglei in the same years.

From the overall findings, nearly half (47.5%) of the respondents were diagnosed inthe years 2021 and above followed by a less than half (46%) who were diagnosed in the years 2016- 2020 and a tenth (10%) of the respondents were diagnosed between the years 2011-2015 . A very few (2%) were diagnosed in the years 2006-2010 and a fewer (1%) were diagnosed between the years 2000-2005.

Further, the study on the year of registration of respondents in NCD showed that, majority (94%) of the respondents from both districts registered in the years 2021 and above. Less than a tenth (6%) of the respondents from both districts in the years 2015 – 2020.

From the overall findings, it was clear from the study that majority (94%) of the respondents registered themselves in NCD in the years 2020 and above whilea little more than a tenth (12%) of the respondents registered in NCD in the years 2015-2020.

4.3. Co-morbidity

The study also found other co-morbidities of women with hypertension (see Table 16)

Table 16: Co-Morbidity

Sl.No	Problems	Districts		Total N=200
		Aizawl n=100	Lunglei n=100	
1	Diabetes	46 (46.0)	39 (39.0)	85 (42.5)
2	Nerve Problem	36 (36.0)	22 (22.0)	58 (29.0)
3	Thyroid	13 (13.0)	12 (12.0)	45 (22.5)
4	No other co-morbidities	16 (16.0)	24 (24.0)	40 (20.0)
5	Ulcer	11 (11.0)	12 (12.0)	32 (16.0)
6	Asthma	5 (5.0)	6 (6.0)	11 (5.5)
7	Heart Problem	1 (1.0)	10 (10.0)	11 (5.5)
8	Eye Problem	4 (4.0)	4 (4.0)	8 (4.0)

9	Menstrual Problem	3 (3.0)	1 (1.0)	4 (2.0)
10	Urinary Tract Infection	1 (1.0)	1 (1.0)	2 (1.0)
11	Body Cramp	1 (1.0)	1 (1.0)	2 (1.0)
12	Cancer	1 (1.0)	1 (1.0)	2 (1.0)
13	Allergy	1 (1.0)	1 (1.0)	2 (1.0)

Source: Computed Figures in the parenthesis indicates percentage

The table highlighted that nearly half (46.0%) of the respondents in Aizawl had diabetes and 39 per cent of the respondents in Lunglei were also diabetic patient. There were also 36 per cent of the respondents in Aizawl who had nerve problem while 22 per cent of the respondents in Lunglei had the same. Further, more than a tenth (13%) of the respondents in Aizawl suffered from Thyroid while a lesser (12%) number of them suffered from the same. The study also indicated that there were 16.0 per cent of the respondents from Aizawl who had no co-morbidities and 24.0 per cent of the respondents from Lunglei falling into the same category. It was also found that more than tenth (11.0%) of the respondents in Aizawl suffered from ulcer while a little more (12.0%) of the respondents from Lunglei were found to have suffered from the same. In addition, less than tenth (5.0%) of the respondents in Aizawl suffered from Asthma while a little more (6.0%) of the respondents in Lunglei had the same health problem. It was found that there were a very few (1.0%) of the respondents who suffered from heart problem in Aizawl while a tenth (10.0%) of the respondents in Lunglei had the same problem. A few (4.0% each) of the respondents from both Aizawl and Lunglei had eye problem. Also, few (3.0%) in of the respondents in Aizawl had menstrual problem while a fewer (1%) from Lunglei had the same. Other co-morbidity suffered by the respondents from both districts include urinary tract infection, body cramp, cancer and allergy.

The overall study indicated that nearly half (42.5%) of the respondents had diabetes, followed by 29 percent who had nerve problem, 22.5 per cent with thyroid, 20 per cent who had no co-morbidities, 16 per cent with ulcer, 5.5 percent who suffered from Asthma, 5.5 percent who had heart problem, 4 percent with eye

problem, 2 per cent having menstrual problem, 1 percent each who had urinary tract infection, body cramp, cancer and allergy.

4.4. Lifestyle and Women with Hypertension

Lifestyle plays a vital part in the management and prevention of hypertension, with numerous aspects such as nutrition, physical activity, stress management, and sleep habits influencing blood pressure levels. Herawati et al. (2023) states that lifestyle factors and the prevalence of hypertension, a non-communicable diseases is a major health concern and a leading cause of premature mortality. Physical activity is identified as the characteristic most associated with hypertension; unhealthy eating habits, smoking, and stress are all found to raise the risk of hypertension. Therefore, understanding the effects of lifestyle choices on hypertension is critical for devising effective therapies and improving patient outcomes.

For the assessment of lifestyle the Simple Lifestyle Indicator Questionnaire (SLIQ) which was developed by Godwin et al. (2008) was used. This questionnaire assesses lifestyle among the women with hypertension across the districts viz. Aizawl and Lunglei. The questionnaire consists of 12 items grouped into five dimensions viz three for Diet, three for exercise, three for Alcohol consumption, two for Tobacco use, and one for Life Stress. Each item from each dimension is scored separately on a scale (see Table 17).

Table 17: Lifestyle dimension

Sl.no.	Dimension	District		Total
		Aizawl	Lunglei	
		Mean	Mean	Mean
1	Diet	1	1	1
2	Exercise	1	1	1
3	Alcohol Consumption	2	2	2
4	Frequency of Smoking	1	1	1
5	Life stress	1	1	1

Source: Computed

4.4.1. Diet

An overall healthy dietary pattern, termed the Dietary Approaches to Stop Hypertension (DASH) diet, effectively lower BP. The DASH diet emphasizes fruits, vegetables, and low-fat dairy products and is reduced in fat and cholesterol (Appel,

2003).Therefore, diet intake of women with hypertension was studied across the districts using three dimensions viz. vegetables intake, fruit intake and fibre intake based on frequency of intake categorised as less than once a week which is scored as 0, once a week scored as 1, 2-3 times a week scored as 2, 4-6 times a week scored as 3, once a day scored as 4 and 2 or more time a day scored as 5. Therefore, the raw score of Diet intake assessment was based on a 6 point scale. The diet raw scores were summed and assigned a categorical score ranging from 0-2 where 0 is assigned if the total raw score is between the range of 0-5, 1, if the sum of raw score is between 6 – 10 and2, if it is between 11–15. Therefore, the final score was based on a 3 point scale 0-2 where0 indicates unhealthy, 1 indicates intermediate and 2 indicates healthy.

From Table 14, the study on diet showed that, the diet score of respondents in Aizawl and Lunglei had an intermediate score of 1 each.

The overall diet score (1) indicated that, the diet intake of the respondents was intermediate.

4.4.2. Exercise

Physical activity is identified as the characteristic most associated with hypertension (Herwati et al. 2003). So, the exercise pattern of hypertensive women respondents was studied based on three dimensions viz. light exercise, moderate exercise and vigorous exercise based on frequency of exercise where each dimensions have different scores**.** In the light exercise dimension, 0 in a week is scored as 0, 1-3 times a week is scored as 2, 4-7 times a week is scored as 3 and 8 or more times a week is scored as 4. In the moderate exercise dimension, 0 in a week is scored as 0, 1-3 times a week is scored as 4, 4-7 times a week is scored as 6 and 8 or more times a week is scored as 8. In the vigorous exercise dimension, 0 in a week is cored as 0, 1-3 times a week is scored as 6, 4-7 times a week is scored as 9 and 8 or more times a week is scored as 12.The activity category score is the highest level in which they do any activity. So if they only do light activity, they score 0 indicating unhealthy level of physical activity; if they do any moderate activity they score 1 indicating an intermediate lifestyle for physical activity; and if they do any vigorous activity they are given a category score of 2indicating a health level of physical activity.

From Table 14, the study on exercise activity of the respondents showed that, both Aizawl and Lunglei had the same score (1) which was intermediate exercise lifestyle.

The overall score on exercise score was also found to be intermediate (1).

4.4.3. Alcohol Consumption

Beilin (1999) mentioned that moderate alcohol use can all help lower blood pressure and enhance cardiovascular health. Consequently, the number of alcohol consumption of respondents is explored using three types of alcohol viz. wine, beer and spirit. For alcohol consumption, the respondent indicates the number of each type of alcohol (wine, beer, liquor) they drink in an average week. The number of drinks for wine is measured in 3-5 oz i.e. 3-5 pegs; for beer it is measured in 10-12 oz (10-12 pegs) or one bottle and for spirit, it is measured in 1-1/2 oz (1 -11/2 peg). The average numbers of drinks of all the types are added to give an alcohol raw score. The alcohol category score is calculated using the following formula: 14 or more drinks per week, the category score is zero for unhealthy; 8-13 drinks per week, the category score is 1for intermediately health; and 0-7 drinks per week, the category score is 2 for healthy.

From Table 14, the study on alcohol consumption highlighted that, the alcohol consumption of the respondents from both the districts, Aizawl and Lunglei was intermediate (2).

The overall study indicated that the average score2 of the respondents on alcohol consumption was intermediate health.

4.4.4. Smoking

People need to be educated in avoiding the risk factors of smoking for hypertension (Manhajan et. al., 2012). Likewise, smoking habit was studied among the respondents. For smoking, the raw score and category score are the same: 0 if current smoker; 1 if past smoker; 2 if never smoked.

From Table 14, the study on the smoking of the respondents depicted that, both respondents from Aizawl and Lunglei had an intermediate score of 1.

The overall score on the smoking of the respondents was intermediate (1).

4.4.5. Life Stress

Lifestyle therapies, such as stress management, and appropriate sleep have been demonstrated to be useful in preventing and treating hypertension (Valenzeula et. al., 2021).For life stress, the respondents indicated their self-perceived level of stress on a scale of 1 to 6 with6 being not at all stressful and 1 being very stressful. The stress category scores was scaled based on a 3 point scale 0-2 where those with raw score of 1or 2 were scored as 0 indicating unhealthy stress lifestyle; those with scores of 3 or 4 were scored as 1 indicating intermediate stress and those who scored 5 or 6 were scored as 2 indicating healthy lifestyle.

From Table 4, the study on Life Stress lifestyle of the respondents highlighted that the respondents from both the district, Aizawl and Lunglei had an intermediate score (1)

The overall lifestyle of the respondents were found to be intermediate (1) in the Stress dimension.

4.4.6. Overall SLIQ Score

The overall SLIQ score was determined by adding the 5 category raw scores (each category score is 0, 1, or 2) of the lifestyle dimensions such as diet, exercise, alcohol consumption, smoking and life stress. The range for the SLIQ score is 0 -10. The overall SLIQ lifestyle category score is 0 for unhealthy, if the overall SLIQ score is 0-4; 1 for intermediate, if the overall SLIQ score is 5-7; and 2 for healthy, if the overall SLIQ score is 8-10.

Table 18: Overall SLIQ Score

Sl.No.	Lifestyle	Districts		Total
		Aizawl	Lunglei	
1	Intermediate (5-7)	76 (76.0)	77 (77.0)	153 (76.5)
2	Unhealthy (0-4)	18 (18.0)	17 (17.0)	35 (17.5)
3	Healthy (8-10)	6 (6.0)	6 (6.0)	12 (6.0)

Source: Computed Figures in parenthesis indicated percentages

Table 18 shows the distribution of respondents according to their overall lifestyle. The table shows that majority (76%) of the respondents in Aizawl had intermediate lifestyle while a little more (77%) of the respondents in Lunglei were

found to have intermediate lifestyle. Further, 18 per cent of the respondents in Aizawl had unhealthy lifestyle while, 17 per cent of the respondent in Lunglei were in the same category. Last but not the least, less than a tenth (6% each) of the respondents from both Aizawl and Lunglei were found to have healthy lifestyle.

The overall findings indicated that majority (76%) of the respondents' had intermediate lifestyle, followed by less than a fifth (17.5%) of the respondents' who had unhealthy lifestyle and less than a tenth (6.5%) of the respondents' had healthy lifestyle.

4.4.7. Lifestyle by district (t-test)

Table 19 highlights the distribution of women with hypertension according to the differences in lifestyle by district across the five (5) dimension of lifestyle viz, diet, exercise, alcohol consumption, smoking and life stress.

Table 19: Lifestyle by District (t-test on dependent variables)

Sl.No	Dimension	Districts				T	Sig. (2-tailed)
		Aizawl		Lunglei			
		Mean	SD	Mean	SD		
1	Diet	.65	.56	.78	.44	1.83	0.07
2	Exercise	.61	.63	.57	.73	0.41	0.68
3	Alcohol	2.00	.20	2.00	.00	1.00	0.32
4	Smoking	1.24	.87	1.39	.79	1.28	0.20
5	Life stress	1.11	.47	.96	.32	**2.65**	0.01
6	SLIQ total	.89	.49	.89	.47	0.00	1.00

Source: Computed

The table shows that there were no differences found between the districts in diet, exercise, alcohol and smoking while there was a difference in life stress with a t -test score of 2.65 where life stress was found to be more in favour of Aizawl than Lunglei. Overall, there were no differences between the two districts in the lifestyle of the respondents.

4.4.8. Correlation of the domains of Lifestyle

Table 20 shows the correlation among the dimensions of lifestyle of the women. The *p* values were 0.01 and 0.05. Different dimensions of lifestyle include diet, exercise, alcohol consumption, and smoking, life stress and total SLIQ score.

Table 20: Correlation of the various domains of Lifestyle

Sl.no	Dimension	Diet	Exercise	Alcohol	Smoking	Life Stress	SLIQ total
1	Diet	1	.082	.101	.095	-.074	**.348****
2	Exercise	.082	1	**-.147***	-.099	.034	**.416****
3	Alcohol	.101	**-.147***	1	.113	.006	-.016
4	Smoking	.095	-.099	.113	1	-.093	**.530****
5	Life Stress	-.074	.034	.006	-.093	1	**.227****

Source: Computed ** Correlation is significant at the 0.01 level (2 – tailed)

* Correlation is significant at the 0.05 level (2 – tailed)

The study showed that diet had no correlation with exercise (.082), alcohol consumption (.101), smoking (.095) and life stress (-.074). However, there was a significant correlation between diet intake and overall SLIQ score (**.348****) at 0.1 level. This showed that diet intake did not have any relationship in the lifestyle of women in the domains of exercise, alcohol consumption, smoking and life stress. However, diet had a positive relationship with the overall SLIQ score; this showed that healthy diet lifestyle leads to healthy overall SLIQ score.

The exercise had no correlation with diet intake (.082) while exercise pattern had a negative correlation with alcohol consumption (**-.147***) at 0.5 level. Also, exercise pattern had no significant correlation with frequency of smoking (-.099) and life stress (.034). However, exercise pattern had a significant correlation with the overall SLIQ score (**.416****) at 0.1 level. This indicated that exercise pattern of women had no effect on diet intake, while exercise pattern had negative relationship with alcohol consumption lifestyle which means higher alcohol consumption, lower the exercise pattern. Further, life stress had no effect on smoking habits of women. However, exercise had positive relationship on the overall lifestyle of women, which indicated that healthier exercise lifestyle leads to overall healthy lifestyle.

The alcohol consumption domain had no correlation with diet intake (.101) while alcohol consumption had negative correlation with exercise pattern (**-.147***) at 0.5 level. Also, alcohol consumption had no significant correlation with smoking (.113), life stress (.006) and overall SLIQ score (-.016). This showed that alcohol consumption had no effect on diet intake of women with hypertension, while alcohol

consumption had a negative relationship on the exercise lifestyle of women, which means the higher alcohol consumption the lower exercise lifestyle. However, alcohol consumption had no effect on the smoking, life stress and overall lifestyle of women.

The smoking dimension had no correlation on the diet intake (.095), exercise (-.099), alcohol consumption (.113), life stress (-.093), while smoking had a significant correlation in the overall SLIQ score (.**530****) at 0.1 level. This depicted that smoking had no relationship on diet, exercise, alcohol consumption and life stress of women with hypertension. However, smoking had positive relationship on the overall SLIQ score which means higher the smoking habits, higher the overall SLIQ of women with hypertension.

The life stress dimension had no correlation with the diet intake (-.074), exercise pattern (.034), alcohol consumption (.006) and smoking frequency (-.093) while life stress had a significant correlation with the total SLIQ score (**227****) at 0.1 level. This depicted that life stress had no effect on the diet intake, exercise pattern, alcohol consumption and smoking habit of women. However, life stress had a positive relationship on the overall lifestyle of women.

4.5. Additional Food and Tobacco Intake

This section will highlight the additional food intake of the respondents and smokeless tobacco intake as well.

4.5.1 Food Intake

Table 21 shows the additional food intake of women with hypertension.

Table 21: Additional Food Intake

Sl.No	Dimension	Districts		Total
		Aizawl n=100	Lunglei n=100	
1	Table Salt Intake	67	66	133
		(67.0)	(66.0)	(66.5)
2	Oily Food Intake	57	55	112
		(57.0)	(55.0)	(56.0)
3	Sweets intake	7	49	56
		(7.0)	(49.0)	(28.0)
4	Self Control	7	6	13
		(7.0)	(6.0)	(6.5)

Source: Computed Figures in the parenthesis indicates percentages

The table depicted that more than half (67 %) of the respondent in Aizawl and a little less (66%) of the respondent in Lunglei consumed table salt. There were also 57 per cent of the respondents in Aizawl who could not control themselves from taking oily food while, 55 per cent of the respondents in Lunglei had the same habit. Further, less than a tenth (7%) of the respondents in Aizawl liked eating sweets whereas nearly half (49%) of the respondents in Lunglei were found to like the same. It was also highlighted that less than a tenth (7%) and (6%) of the respondents both in Aizawl and Lunglei respectively control their food intake.

Overall more than half (66.5%) of the respondents consumed table salt, followed by 56 per cent of the respondents who could not control themselves from taking oily food while 28 per cent of the respondents liked eating sweets and 6.5 per cent of the respondents who control their food intake.

4.5.2 Tobacco Intake

Mizo tribal women consume tobacco in both smoked and smokeless forms at a higher rate than the national average (Elizabeth, 2015). Table 22 shows the smokeless forms of tobacco consumed by the respondents.

Table 22: Tobacco intake

Sl.No	Types	District		Total
		Aizawl n=100	Lunglei n=100	
1	Sahdah/Khaini	61 (61.0)	62 (62.0)	112 (61.5)
2	Kuva (Betel nut)	59 (59.0)	45 (45.0)	104 (52.0)
3	Do not consume any smokeless forms of tobacco	22 (22.0)	20 (20.0)	42 (21.0)
4	Tuibur (liquefied tobacco)	20 (20.0)	19 (19.0)	39 (19.5)
6.	Shikhar	0 (0.0)	1 (1.0)	1 (0.5)

Source: Computed Figures in the parenthesis indicates percentages

The table highlighted that, more than half (61%) of the respondents in Aizawl consumed ‘Sahdah/Khaini’and a little more (62%) of the respondents in Lunglei consumed ‘Sahdah/Khaini’. More than half (59%) of the respondents in Aizawl consumed ‘Kuva’ (Betel nut) while less than half (45%) of the respondents in

Lunglei consumed ‘Kuva’ (Betel nut). Further, more than a fifth (22%) of the respondents in Aizawl did not consume any smokeless forms of tobacco while a fifth (20%) of the respondents in Lunglei were in the same category. There were 20 per cent of the respondents in Aizawl who consumed ‘tuibur’ (liquefied tobacco) while 19 per cent of the respondents in Lunglei consumed ‘tuibur’ (liquefied tobacco). Respondents in Aizawl were found to be free from Shikhar while 1 per cent of the respondents in Lunglei consumed Shikhar.

Overall, more than half (61.5%) of the total respondent consumed ‘Sahdah/Khaini’, followed by 52 per cent of the total respondent who consumed ‘Kuva’ (betel nut) and 21 per cent of the respondents who do not consume any smokeless forms of tobacco. There were 19.5 per cent of the respondents who consumed ‘Tuibur’ (liquefied tobacco) and 0.5 per cent of the respondents who consumed Shikhar.

4.6. Challenges and Coping Strategies of Women with Hypertension

This section will highlight the challenges faced by the respondents due to hypertension and their coping strategies in relation to hypertension.

4.6.1 Challenges

Table 23 shows the challenges faced by the respondents because of hypertension.

Table 23: Challenges

Sl.no.	Dimensions	Districts		Total N=100
		Aizawl n=100	Lunglei n=100	
1	Nuasea	54 (54.0)	78 (78.0)	132 (66.0)
2	No Challenges	22 (22.0)	8 (8.0)	30 (15)
3	Fatigue	12 (12.0)	16 (16.0)	28 (14.0)
4	Stroke	7 (7.0)	5 (5.0)	12 (6.0)
5	Headache	7 (7.0)	5 (5.0)	11 (5.5)
6	Blur Vision	5 (5.0)	4 (4.0)	9 (4.5)
7	Body Cramps	3 (3.0)	3 (3.0)	6 (3.0)

8	Breathing Problem	4 (4.0)	0 (0.0)	4 (2.0)
9	Over Sweating	2 (2.0)	0 (0.0)	2 (1.0)
10	Chest Pain	1 (1.0)	1 (1.0)	2 (1.0)
11	Loss of Appetite	1 (1.0)	0 (0.0)	1 (0.5)

Source: Computed Figures in the parenthesis indicates percentages

The table revealed that more than half (54%) of the respondents in Aizawl were nauseated due to hypertension while majority (78%) of the respondents in Lunglei suffered from the same due to hypertension. There were more than a fifth (22%) of the respondents in Aizawl who did not face any problem due to hypertension and less than a tenth (8%) of the respondents in Lunglei did not face a problem due to hypertension. It was also highlighted that 12 percent of the respondents in Aizawl felt fatigue due to hypertension and 16 percent of the respondents in Lunglei felt the same due to hypertension. From the study it was also found that less than a tenth (7%) and (5%) of the respondents in Aizawl and Lunglei respectively suffered from stroke due to hypertension. There were 7 per cent of the respondents in Aizawl and 5 per cent of the respondents in Lunglei who had headache due to hypertension. Further, 5 per cent of the respondents in Aizawl and 4 per cent of the respondents in Lunglei had blurred vision due to hypertension. A few (3% each) of the respondents in both the districts had body cramp and 4 per cent of the respondents in Aizawl had breathing problem while there were none among the respondents in Lunglei who had body cramps. There were2 per cent of the respondents in Aizawl who had problems with over sweating while there were none among the respondents in Lunglei. A few(1% each) of both the respondents in Lunglei and Aizawl had chest pain and there was 1 per cent of the respondents in Aizawl who suffered from loss of appetite while there were no one among the respondents in Lunglei.

Overall, more than half (66%) of the respondents had nausea followed by more than a tenth (15%) of the respondents who did not face any problem and 14 per cent of the respondents who were fatigued. Further, 6 per cent of the respondents

suffered from stroke while 5.5 per cent of them had headache. There were4.5 per cent of the total respondent who had blurred vision while 3 percent of the respondents had body cramp. This was followed by2 per cent of the respondents who had breathing problem while 1 per cent of the respondents had chest pain and over sweating respectively. A very few (0.5 %) of the total respondents suffered from loss of appetite.

4.6.2 Coping Strategies

Table 24 shows the coping strategies of the respondents.

Table 24: Coping Strategies

Sl.no.	Dimension	Districts		Total (N=200)
		Aizawl n = 100	Lunglei n = 100	
1	Doctor consultation	35 (35.0)	43 (43.0)	78 (56.5)
3	Resting completely	23 (23.0)	27 (27.0)	50 (25.0)
4	Taking medication	7 (7.0)	10 (10.0)	17 (8.5)
5.	Diet control	1 (1.0)	0 (0.0)	1 (0.5)

Source: Computed Figures in the parenthesis indicates percentage

The table highlighted that among those who had coping strategies, more than a third (35%) of the respondents in Aizawl coped by consulting a doctor while nearly half (43%) of the respondents in Lunglei did the same. It was also found that 23 per cent of the respondents in Aizawl and 27 percent of the respondents in Lunglei coped by resting completely. Further, it was found that less than a tenth (7%) of the respondents in Aizawl and a tenth (10%) of the respondents in Lunglei use medication as their coping strategy. Lastly, a very few (1%) of the respondents in Aizawl coped by controlling their diet while there were no cases found among the respondents in Lunglei who control their diet.

Overall, more than half (56.5%) of the respondents coped by consulting a doctor when they had problems due to hypertension followed by25 per cent of the respondents who coped by resting completely and 8.5 per cent who depend took

medication as their coping strategy. Very few (0.5%) of the respondents coped by controlling their diet intake.

4.7. Correlation of Lifestyle and Health problems due to Hypertension

Table 25 shows the correlation of lifestyle dimension and health problems due to hypertension. The *p* values were 0.01 and 0.05. The lifestyle dimension includes diet, exercise, smoking, alcohol consumption and life stress and health problems due to hypertension include stroke, body cramps, nausea, loss of appetite, breathing problem, fatigue, chest pain, over sweating, headache and blurred vision.

Table 25: Correlation of Problems caused by Hypertension and Lifestyle

Sl. No	Lifestyle	Problems									
		Stroke	**Body Cramps**	**Nausea**	**Appetite**	**Breathing Problem**	**Fatigue**	**Chest Pain**	**Over Sweating**	**Headache**	**Blurred vision**
1	Diet	.034	-.039	.008	.035	-.006	.045	.050	.050	.034	-.100
2	Exercise	.016	-.066	**.253****	-.089	.008	-.076	-.126	-.038	-.058	.066
3	Alcohol	.018	.012	-.051	.005	.010	**-.176***	.007	.007	.018	.015
4	Smoking	-.122	.110	**-.173***	.059	.076	-.014	-.038	.083	.082	-.024
5	Life stress	.134	.130	-.094	**-.181***	**-.190****	-.0671	-.009	-.009	.082	-.019
6.	Overall SLIQ	-.072	.043	-.086	.017	-.041	-.024	-.082	.025	.062	-.049

Source: Computed ** Correlation is significant at the 0.01 level (2 – tailed)

* Correlation is significant at the 0.05 level (2 – tailed)

The table highlighted that diet had no correlation with stroke (.034), body cramps (-.039), nausea (.008), appetite (.035), breathing problem (-.006), fatigue (.045), chest pain (.050), over sweating (-.038), headache (.034) and blurred vision (-.100).

It was also found that exercise had no correlation with stroke (.016), body cramps (-.066) while exercise had a significant correlation with nausea (**.253****) at 0.01 level, which further indicated that higher exercise lower nausea. However, diet

had no correlation with appetite (-.089), breathing problem (.008), fatigue (-.076), chest pain (-.126), over sweating (-.038), headache (-.058) and blurred vision (.066).

Alcohol had no correlation with stroke (.018), body cramps (.012), nausea (-.051), appetite (.005) and breathing problem (.010). Whereas, alcohol had a negative correlation with fatigue (**-.176***) at 0.05 level, which showed that the higher alcohol consumption lower fatigue. However, alcohol had no correlation with chest pain (.007), over sweating (.007), headache (.018) and blurred vision (.015).

Smoking had no correlation with stroke (-.122) and body cramps (.110), while smoking had negative correlation with nausea (**-.173***) at 0.05 level which further indicated that higher smoking lower nausea. Smoking had no significant correlation with appetite (.059), breathing problem (.076), fatigue (-.014), chest pain (-.038), over sweating (.083), headache (.082) and blurred vision (-.024).

Life stress had no correlation with stroke (.134), body cramps (.130), nausea (-.094), while it had negative correlation with appetite (**-.181***) at 0.05 level, which means that higher life stress lower loss of appetite and also had negative correlation with breathing problem (**-.190****) at 0.01 level, which further indicated that higher life stress lower breathing problem. However, life stress had no correlation with fatigue (-.071), chest pain (-.009), over sweating (-.009), headache (.082) and blurred vision (-.019).

The overall SLIQ had no correlation with any of the problems such as stroke (-.072), body cramps (.043), nausea (-.086), appetite (.017), fatigue (-.041), chest pain (-.024), over sweating (-.082), headache (025) and blurred vision (.062).

4.8. Social Support and Women with Hypertension

Gao et al (2022) stated that medication adherence of hypertension patients is directly/indirectly affected by health literacy and social support. Therefore, this section, delves into the findings related to social support according to the accessibility, adequacy and quality across various dimensions of social support systems in Mizoram in relation to hypertension.

The social support across various dimensions (Basic needs, emotional needs, Physical health, mental health, financial needs, life skills and instrumental) by different agents such as family, peers, church, YMA, MHIP, MUP, Local Councils, NGOs and Government was measured based upon accessibility, quality and

adequacy of support. The accessibility, quality and adequacy of the dimensions of social support were calculated based on a 5 point scale. The scale used for scoring accessibility was 1 for very inaccessible, 2 for inaccessible, 3 for neither accessible nor inaccessible, 4 for accessible and 5 for very accessible. The scale use for scoring quality is 1 for very poor, 2 for poor, 3 for neither good nor poor, 4 for good and 5 for very good and the scale used for measuring the adequacy of social support is 1 for very inadequate, 2 for inadequate, 3 for neither adequate nor inadequate, 4 for adequate and 5 for very adequate.

4.8.1. Family Social Support

Table 26 highlighted the distribution of hypertensive women according to the dimensions of social support provided by family.

Table 26: Social Support of Family across Dimensions

Sl.no.	Dimension	Districts	Accessibility	Quality	Adequacy
1	Basic needs	Aizawl	3.89	3.89	3.85
		Lunglei	3.93	3.93	3.93
2	Emotional	Aizawl	3.91	3.90	3.89
		Lunglei	3.97	3.94	3.94
3	Physical Health	Aizawl	3.82	3.82	3.80
		Lunglei	3.96	3.94	3.94
4	Mental Health	Aizawl	3.82	3.81	3.81
		Lunglei	3.96	3.94	3.94
5	Life Skills	Aizawl	3.82	3.82	3.79
		Lunglei	3.98	3.96	3.96
6	Financial	Aizawl	3.80	3.81	3.77
		Lunglei	3.95	3.94	3.94
7	Instrumental	Aizawl	3.06	3.06	3.05
		Lunglei	3.01	3.02	3.02
	Total Average Mean		3.78	3.77	3.76

Source: Computed

The table showed that the basic needs support from family were found to be accessible (3.89) in accessibility, good (3.89) in quality and adequate (3.85) inadequacy among the respondents in Aizawl. Similarly, we see that the support in this dimension were also accessible (3.93) in accessibility, good (3.93) in quality and adequate (3.93) in adequacy among the respondents in Lunglei.

It was observed that emotional support provided by the family was accessible (3.91) in accessibility, good (3.90) in quality and adequate (3.89) in adequacy among the respondents in Aizawl. Likewise, emotional support from family was found to be

accessible (3.97) in accessibility, good (3.94) in quality and adequate (3.94) in adequacy among the respondents in Lunglei.

The physical health support from family was accessible (3.82) in accessibility, good (3.82) in quality and adequate (3.80) in adequacy among the respondents in Aizawl. Also, physical health support from family was accessible (3.96) in accessibility, good (3.94) in quality and adequate (3.94) in adequacy among the respondents in Lunglei.

The mental health support received from family was found to be accessible (3.82) in accessibility, good (3.81) in quality and adequate (3.81) in adequacy among the respondents in Aizawl. Similarly, the mental health support received from family by the respondents in Lunglei was accessible (3.96) in accessibility, good (3.94) in quality and adequate (3.94) in adequacy.

The life skills support given by family among the respondents in Aizawl was accessible (3.82) in accessibility, good (3.82) in quality and adequate (3.79) in adequacy. Also, family support in life skills among the respondents in Lunglei was accessible (3.98) in accessibility, good (3.96)in quality and adequate (3.96) in adequacy.

In the financial support given by the family, it was seen that it was accessible (3.80) in accessibility, good (3.81) in quality and adequate (3.77) in adequacy among the respondents in Aizawl. Likewise, financial support given by family was accessible (3.82) in accessibility, good (3.82) in quality and adequate (3.79) in adequacy among the respondents in Lunglei.

Instrumental support by family was found to be neither accessible nor inaccessible (3.06) in accessibility, neither poor nor good (3.06) in quality and neither adequate nor inadequate (3.05) in adequacy among the respondents in Aizawl. Also, instrumental support by family were neither inaccessible nor accessible (3.01) in accessibility, neither poor nor good (3.02) in quality and neither inadequate nor adequate (3.02) in adequacy among the respondents in Lunglei.

The overall support from family of the respondents was accessible (3.78) in accessibility, good (3.77) in quality and adequate (3.76) in adequacy. This was related to the findings of Adisa (2017) & Oktaviani et al. (2019).

4.8.2. Social Support from Peers

Table 27 shows the distribution of hypertensive women according the dimensions of social support given by peers.

Table 27: Social Support of Peers across Dimensions

Sl.no.	Dimension	Districts	Accessibility	Quality	Adequacy
1	Basic needs	Aizawl	2.40	2.40	2.28
		Lunglei	2.13	2.13	2.13
2	Emotional	Aizawl	3.53	3.49	3.28
		Lunglei	3.25	3.26	3.26
3	Physical Health	Aizawl	3.44	3.41	3.19
		Lunglei	3.42	3.42	3.42
4	Mental Health	Aizawl	3.62	3.57	3.35
		Lunglei	3.76	3.76	3.75
5	Life Skills	Aizawl	3.57	3.55	3.33
		Lunglei	3.81	3.81	3.81
6	Financial	Aizawl	2.60	2.58	2.50
		Lunglei	3.00	2.99	2.99
7	Instrumental	Aizawl	2.15	2.15	2.19
		Lunglei	2.13	2.12	2.14
	Total Average Mean		3.06	3.05	2.97

Source: Computed

The table highlighted that, the basic needs support provided by peers in accessibility was inaccessible (2.40), poor (2.40) in quality and inadequate (2.28) in adequacy among respondents in Aizawl. Similarly we see that the basic needs support from peers was inaccessible (2.13) in accessibility, poor (2.13) in quality and inadequate (2.13) in adequacy among the respondents in Lunglei.

In the emotional support from peers we were able to see that it was accessible (3.53) in accessibility, good (3.49) in quality and adequate (3.28) inadequacy among the respondents in Aizawl. Likewise, we see that the support in the same dimension was found to be neither inaccessible nor accessible (3.25) in accessibility, quality was neither poor nor good (3.26) and adequacy was neither inadequate nor adequate (3.26) of the respondents in Lunglei.

We observed that the physical health support from peers was neither inaccessible nor accessible (3.44) in accessibility, quality was neither poor nor good (3.41) and adequacy was neither inadequate nor adequate (3.19) among the respondents in Aizawl. Similarly, among the respondents in Lunglei, physical health support from peers was neither accessible nor inaccessible (3.42)in accessibility,

neither poor nor good (3.42) in quality and neither adequate nor inadequate(3.42) in adequacy.

In the mental health support by peers, it was accessible (3.62) in accessibility, good (3.57) in quality while it was neither inadequate nor adequate (3.35) inadequacy among the respondents in Aizawl. Also mental health support from peers was accessible (3.76) in accessibility, good (3.76) in quality and adequate (3.75) in adequacy among the respondents in Lunglei.

Life skills support provided by peers was accessible (3.57) in accessibility and good (3.55) in quality while it was neither inadequate nor adequate (3.33) inadequacy among the respondents in Aizawl. Similarly, life skills support provided by peers in accessibility was accessible (3.81), quality was good (3.81) and was adequate (3.81) among the respondents in Lunglei.

In the financial support received from peers, we are able to see that the accessibility was neither inaccessible nor accessible (2.60), quality was neither poor nor good (2.58) and adequacy was neither inadequate nor adequate (2.50) among the respondents in Aizawl. Also financial support provided by peers was neither accessible nor inaccessible (3.00) inaccessibility, neither good nor poor (2.99) in quality and neither inadequate nor adequate (2.99) in adequacy among the respondents in Lunglei.

Instrumental support provided by peers was inaccessible (2.15) in accessibility, poor (2.15) in quality and inadequate (2.19) in adequacy among the respondents in Aizawl. Likewise, peers instrumental support was inaccessible (2.13) in accessibility, quality was poor (2.12) and adequacy was inadequate (2.14) among the respondents in Lunglei.

Overall, the social support of peers was neither accessible nor inaccessible (3.06) in accessibility, was neither poor nor good (3.05) in quality and was neither inadequate nor adequate (2.97)in adequacy among the respondents.

4.8.3. Social Support from Church

Table 28 shows the distribution of hypertensive women according the dimensions of social support given by church.

Table 28: Social Support of Church across Dimensions

Sl.no.	Dimension	Districts	Accessibility	Quality	Adequacy
1	Basic needs	Aizawl	2.09	2.10	2.05
		Lunglei	2.21	2.21	2.20
2	Emotional	Aizawl	2.53	2.48	2.19
		Lunglei	2.37	2.38	2.36
3	Physical Health	Aizawl	2.45	2.40	2.16
		Lunglei	2.35	2.35	2.36
4	Mental Health	Aizawl	2.61	2.59	2.24
		Lunglei	2.58	2.53	2.53
5	Life Skills	Aizawl	2.73	2.70	2.30
		Lunglei	2.67	2.59	2.58
6	Financial	Aizawl	2.44	2.40	2.12
		Lunglei	2.33	2.34	2.33
7	Instrumental	Aizawl	2.05	2.07	2.08
		Lunglei	2.18	2.22	2.20
	Total Average Mean		2.40	2.38	2.26

Source: Computed

The table highlighted that the basic need support from church was inaccessible (2.09) in accessibility, poor (2.10) in quality and inadequate (2.05) in adequacy among the respondents in Aizawl. Also, in basic needs support from church was inaccessible (2.21) in accessibility, poor (2.20) in quality and inadequate (2.20)in adequacy among the respondents in Lunglei.

The emotional support from church was neither inaccessible nor accessible (2.53) inaccessibility and poor nor good (2.48) in quality while it was inadequate (2.19)in adequacy among the respondents in Aizawl. Emotional support from church was inaccessible (2.37) in accessibility and poor (2.38) in quality while it was neither inadequate nor adequate (2.93) in adequacy among the respondents in Lunglei.

The physical health support received from church was neither inaccessible nor accessible (2.45) in accessibility while poor (2.40) in quality and inadequate (2.16) in terms of adequacy among the respondents in Aizawl. Physical health support from church was inaccessible (2.35) in accessibility, poor (2.35) in quality and inadequate (2.36) in adequacy among the respondents in Lunglei.

The mental health support provided by the church was neither inaccessible nor accessible (2.61) in accessibility and neither poor nor good (2.59) in quality while it was inadequate (2.24) in adequacy among the respondents in Aizawl. Respondents in Lunglei also receive mental health support from church was neither

inaccessible nor accessible (2.58) in accessibility, neither poor nor good (2.53) in quality and neither inadequate nor adequate (2.53) in adequacy.

The life skills support given by the church was neither inaccessible nor accessible (2.73) in accessibility and neither poor nor good (2.70) in quality while it was inadequate (2.30) in adequacy among the respondents in Aizawl. Church support in life skills was neither inaccessible nor accessible (2.67) in accessibility, was neither poor nor good (2.59) in quality and was neither inadequate nor inadequate (2.58) in adequacy among the respondents in Lunglei.

Financial support given by church was inaccessible (2.44) in accessibility, poor (2.40) in quality and inadequate (2.12) in adequacy among the respondents in Aizawl. Financial support given by church was inaccessible (2.33) in accessibility, poor (2.34) in quality and inadequate (2.33) in adequacy among the respondents in Lunglei.

In the instrumental support provided by the church was inaccessible (2.05), poor (2.07) in quality and inadequate (2.08) in adequacy among the respondents in Aizawl. Also, the instrumental support by church was inaccessible (2.18) in accessibility, poor (2.22) in quality and inadequate (2.20) in adequacy among the respondents in Lunglei.

Overall social support from church was inaccessible (2.40) in accessibility, poor (2.38) in quality and inadequate (2.26) in adequacy among the respondents.

4.8.4. Social Support from YMA

Table 29 shows the distribution of hypertensive women according the dimensions of social support provided by YMA.

Table 29: Social Support of YMA across Dimensions

Sl.no.	Dimension	Districts	Accessibility	Quality	Adequacy
1	Basic needs	Aizawl	2.14	2.13	2.09
		Lunglei	2.15	2.14	2.14
2	Emotional	Aizawl	2.34	2.31	2.09
		Lunglei	2.19	2.18	2.18
3	Physical Health	Aizawl	2.38	2.35	2.11
		Lunglei	2.19	2.18	2.18
4	Mental Health	Aizawl	2.49	2.49	2.16
		Lunglei	2.29	2.25	2.25
5	Life Skills	Aizawl	2.54	2.53	2.18
		Lunglei	2.38	2.33	2.30

6	Financial	Aizawl	2.31	2.26	2.10
		Lunglei	2.20	2.19	2.18
7	Instrumental	Aizawl	2.11	2.10	2.09
		Lunglei	2.14	2.14	2.14
	Total Average Mean		2.28	2.26	2.16

Source: Computed

The table highlighted that the basic needs support by YMA was inaccessible (2.14) in accessibility, poor (2.13) in quality and inadequate (2.09) in adequacy among the respondents in Aizawl. Also, basic needs support from YMA was inaccessible (2.15) in accessibility, poor (2.14) in quality and inadequate (2.14) in adequacy among the respondents in Lunglei.

Emotional support from YMA was inaccessible (2.34) in accessibility, poor (2.31) in quality and inadequate (2.09) in adequacy among the respondents in Aizawl. Likewise, the emotional support was inaccessible (2.19) in accessibility, poor (2.18) in quality and inadequate (2.18) in adequacy from YMA among the respondents in Lunglei.

In the physical health support provided by YMA we were able to see that it was inaccessible (2.38) in accessibility, poor (2.35) in quality and inadequate (2.11) in adequacy among the respondents in Aizawl. Similarly, physical health support from YMA was inaccessible (2.19) in accessibility, poor (2.18) in quality and inadequate (2.18) in adequacy among the respondents in Lunglei.

Mental health support by YMA was neither inaccessible nor accessible (2.49)in accessibility and neither poor nor good (2.49) in quality while it was inadequate (2.16)in adequacy among the respondents in Aizawl. Also mental health support from YMA was inaccessible (2.29) in accessibility, poor (2.25) in quality and inadequate (2.25) in adequacy among the respondents in Lunglei.

In the life skills support provided by YMA was neither inaccessible nor accessible (2.54) in accessibility and quality was neither good nor poor (2.53) while it was inadequate (2.18) in adequacy among the respondents in Aizawl. Likewise, the life skills support provided by YMA was inaccessible (2.38) in accessibility, poor (2.33) in quality and inadequate (2.30) in adequacy among the respondents in Lunglei.

In the financial support provided by YMA, we were able to see that it was inaccessible (2.31) in accessibility, poor (2.26) in quality and inadequate (2.10) in adequacy among the respondents in Aizawl. Also financial support provided by YMA was inaccessible (2.20) in accessibility, poor (2.19) in quality and inadequate (2.18) in adequacy among the respondents in Lunglei.

Instrumental support provided by YMA was inaccessible (2.11) in accessibility, poor (2.10) in quality and inadequate (2.09) in adequacy among the respondents in Aizawl. Likewise, YMA instrumental support was inaccessible (2.14) in accessibility, poor (2.14) in quality and inadequate (2.14) in adequacy among the respondents in Lunglei.

The overall support from YMA was inaccessible (2.28) in accessibility, poor (2.26) in quality and was inadequate (2.16) in adequacy among the respondents.

4.8.5. Social Support on MHIP

Table 30 highlights the distribution of hypertensive women according the dimensions of social support given by MHIP.

Table 30: Social Support of MHIP across Dimensions

Sl.no.	Dimension	Districts	Accessibility	Quality	Adequacy
1	Basic needs	Aizawl	2.06	2.09	2.05
		Lunglei	2.16	2.17	2.17
2	Emotional	Aizawl	2.25	2.26	2.11
		Lunglei	2.22	2.21	2.22
3	Physical Health	Aizawl	2.30	2.32	2.12
		Lunglei	2.23	2.22	2.24
4	Mental Health	Aizawl	2.39	2.40	2.17
		Lunglei	2.35	2.35	2.33
5	Life Skills	Aizawl	2.48	2.47	2.20
		Lunglei	2.45	2.45	2.41
6	Financial	Aizawl	2.18	2.18	2.10
		Lunglei	2.23	2.22	2.26
7	Instrumental	Aizawl	2.05	2.07	2.05
		Lunglei	2.16	2.15	2.15
	Total Average Mean		2.25	2.25	2.18

Source: Computed

The table showed that, MHIP support on basic needs support was inaccessible (2.06) in accessibility, poor (2.09) in quality and inadequate (2.05) in adequacy among the respondents in Aizawl. Also MHIP support on basic needs was

inaccessible (2.16) in accessibility, poor (2.17) in quality and inadequate (2.17) in adequacy among the respondents in Lunglei.

The emotional support provided by MHIP was inaccessible (2.25) in accessibility, poor (2.26) in quality and inadequate (2.11) in adequacy among the respondents in Aizawl. Similarly, the emotional support provided by MHIP was inaccessible (2.22) in accessibility, poor (2.21) in quality and inadequate (2.22) in adequacy among the respondents in Lunglei.

The physical health support of MHIP was inaccessible (2.30) in accessibility, poor (2.32) in quality and inadequate (2.12) in adequacy among the respondents in Aizawl. At the same time the physical health support of MHIP was also inaccessible (2.23) in accessibility, poor (2.22) in quality and inadequate (2.24) in adequacy among the respondents in Lunglei.

Mental health support from MHIP was inaccessible (2.39) in accessibility, poor (2.40) in quality and inadequate (2.17) in adequacy among the respondents in Aizawl. Also mental health support provided by MHIP was inaccessible (2.35) in accessibility, was poor (2.35) in quality and was inadequate (2.33) in adequacy among the respondents in Lunglei.

Life skills support provided by MHIP was neither inaccessible nor accessible (2.48) in accessibility and neither poor nor good (2.47) in quality while it was inadequate (2.20) in adequacy among the respondents in Aizawl. Further, was neither inaccessible nor accessible (2.45) in accessibility and was neither poor nor good (2.45) in quality while it was inadequate (2.41) in adequacy on life skills support received from MHIP among the respondents in Lunglei.

Financial support from MHIP was inaccessible (2.18) in accessible, poor (2.18) in quality and inadequate (2.10) in adequacy among the respondents in Aizawl. Also, financial support from MHIP was inaccessible (2.23) in accessibility, poor (2.22) in quality and inadequate (2.26) in adequacy among the respondents in Lunglei.

Instrumental support provided by MHIP was inaccessible (2.05) in accessibility, poor (2.07) in quality and inadequate (2.05) in adequacy among the respondents in Aizawl. Similarly, instrumental support provided by MHIP was

inaccessible (2.16) in accessibility, poor (2.15) in quality and inadequate (2.15) in adequacy among the respondents in Lunglei.

Overall, the support from MHIP across the dimensions was inaccessible (2.25) in accessibility, poor (2.25) in quality and inadequate (2.18) in adequacy.

4.8.6. Social Support from MUP

Table 31 highlights the distribution of hypertensive women according the dimensions of social support given by MUP.

Table 31: Social Support of MUP across Dimensions

Sl.no.	Dimension	Districts	Accessibility	Quality	Adequacy
1	Basic needs	Aizawl	2.09	2.08	2.08
		Lunglei	2.06	2.03	2.03
2	Emotional	Aizawl	2.14	2.13	2.09
		Lunglei	2.09	2.08	2.07
3	Physical Health	Aizawl	2.15	2.13	2.09
		Lunglei	2.10	2.09	2.08
4	Mental Health	Aizawl	2.19	2.18	2.10
		Lunglei	2.15	2.14	2.12
5	Life Skills	Aizawl	2.22	2.20	2.10
		Lunglei	2.19	2.17	2.17
6	Financial	Aizawl	2.12	2.12	2.09
		Lunglei	2.07	2.06	2.05
7	Instrumental	Aizawl	2.08	2.08	2.08
		Lunglei	2.04	2.03	2.03
	Total Average Mean		2.12	2.11	2.08

Source: Computed

The table showed that the basic needs support form MUP was inaccessible (2.09) in accessibility, poor (2.08) in quality and inadequate (2.08) in adequacy among the respondents in Aizawl. Also, the basic need support from MUP among the respondents in Lunglei was inaccessible (2.06) in accessibility, quality was poor (2.03) and inadequate (2.03) in adequacy.

The emotional support provided by MUP was inaccessible (2.14) in accessibility, quality was poor (2.13) and inadequate (2.09) in adequacy among the respondents in Aizawl. Similarly, the emotional support received from MUP among the respondents in Lunglei was inaccessible (2.09) in accessibility, poor (2.08) in quality and inadequate (2.07) in adequacy.

Physical health support given by MUP was inaccessible (2.15) in accessibility, poor (2.13) in quality and inadequate (2.09) in adequacy among the

respondents in Aizawl. Likewise, we were able to see that the physical health support provided by MUP was inaccessible (2.10) in accessibility, quality was poor (2.09) and inadequate (2.08) in adequacy among the respondents in Lunglei.

The mental health support provided by MUP was inaccessible (2.19)in accessibility, poor(2.18) in quality and inadequate(2.10) in adequacy among the respondents in Aizawl. In line with that, the mental health support provided by MUP was inaccessible (2.15) in accessibility, poor (2.14) in quality and inadequate (2.12) in adequacy among the respondents in Lunglei.

Life skills support provided by MUP was the inaccessible (2.22) in accessibility, poor (2.20) in quality and inadequate (2.10) in adequacy among the respondents in Aizawl. Likewise, the life skills support provided by MUP was inaccessible (2.19) in accessibility, poor (2.17) in quality and inadequate (2.17)in adequacy among the respondents in Lunglei.

In the financial support given by MUP was inaccessible (2.12) in accessibility, quality was poor (2.12) and inadequate (2.09) in adequacy among the respondents in Aizawl. Also, financial support given by MUP was inaccessible (2.07) in accessibility, poor (2.06)in quality and inadequate(2.09) in adequacy among the respondents in Lunglei.

The instrumental support provided by MUP was inaccessible (2.08) in accessibility, was poor (2.08) in quality and inadequate (2.08) in adequacy among the respondents in Aizawl. Further, instrumental support provided by MUP was inaccessible (2.12) in accessibility, was poor (2.11) in quality and was inadequate (2.08) in adequacy among the respondents in Lunglei.

This shows that the overall support from MUP across the dimensions was inaccessible (2.12) in accessibility, was poor (2.11) in quality and inadequate (2.08) in adequacy.

4.8.7. Social Support from Local Council

Table 32 shows the distribution of hypertensive women according the dimensions of social support given by Local Council.

Table 32: Social Support of Local Council across Dimensions

Sl.no.	Dimension	Districts	Accessibility	Quality	Adequacy
1	Basic needs	Aizawl	2.10	2.10	2.06
		Lunglei	2.04	2.03	2.03
2	Emotional	Aizawl	2.15	2.15	2.09
		Lunglei	2.06	2.06	2.06
3	Physical Health	Aizawl	2.17	2.14	2.08
		Lunglei	2.07	2.07	2.07
4	Mental Health	Aizawl	2.20	2.17	2.10
		Lunglei	2.09	2.08	2.08
5	Life Skills	Aizawl	2.22	2.19	2.11
		Lunglei	2.12	2.12	2.11
6	Financial	Aizawl	2.12	2.12	2.07
		Lunglei	2.05	2.05	2.05
7	Instrumental	Aizawl	2.05	2.07	2.05
		Lunglei	2.03	2.03	2.03
	Total Average Mean		2.11	2.10	2.07

Source: Computed

The table indicated that the basic needs support provided by Local Council was inaccessible (2.10) in accessibility, was poor (2.10) in quality and was inadequate (2.06) in adequacy among the respondents in Aizawl. Similarly, local council support among the respondents in Lunglei was inaccessible (2.04) in accessibility, was poor (2.03) in quality and inadequate (2.03) in adequacy.

Emotional support received from local council was inaccessible (2.15) in accessibility, quality was poor (2.15) and adequacy (2.09) was inadequate among the respondents in Aizawl. Furthermore, emotional support provided by Local Council among the respondents in Lunglei was inaccessible (2.06) in accessibility, quality was poor (2.06) and adequacy was inadequate (2.06).

The physical health support provided by Local Council was inaccessible (2.17) in accessibility, quality was poor (2.14) and adequacy was inadequate (2.08) among the respondents in Aizawl. Moreover, physical health support provided by Local Council was inaccessible (2.07) in accessibility, quality was poor (2.07) and was inadequate (2.07) in adequacy among the respondents in Lunglei.

With reference to mental health support given by Local Council, it was inaccessible (2.20) in accessibility, quality was poor (2.17) and adequacy was inadequate(2.10) among the respondents in Aizawl. Likewise mental health support

provided by Local Council was inaccessible (2.09) in accessibility, poor (2.08) in quality and inadequate (2.08) in adequacy among the respondents in Lunglei.

Life skills support provided by Local Council was inaccessible (2.22) in accessibility, quality was poor (2.19) and adequacy was inadequate (2.11) among the respondents in Aizawl. Also, life skills support provided by Local Council was inaccessible (2.12) in accessibility, quality was poor(2.12) and adequacy was inadequate (2.11)among the respondents in Lunglei.

Financial support provided by Local Council was inaccessible (2.12) in accessibility, quality was poor (2.12) and adequacy was inadequate (2.07) among the respondents in Aizawl. Also, financial support given by Local Council was inaccessible (2.05) in accessibility, was poor (2.05) in quality was inadequate (2.05) in adequacy among the respondent in Lunglei.

Instrumental support provided by Local Council was inaccessible (2.05) in accessibility, quality was poor (2.07) and adequacy was inadequate (2.05) among the respondents in Aizawl. Also, instrumental support provided by Local Council was inaccessible (2.03) in accessibility, quality was poor (2.03) and adequacy was inadequate (2.03) among the respondents in Lunglei.

Overall, the instrumental support provided by local council across dimensions was inaccessible (2.11) in accessibility, poor (2.10) in quality and was inadequate (2.07) in adequacy score among the respondents.

4.8.8. Social Support from NGOs

Table 33 shows the distribution of hypertensive women according the dimensions of social support given by NGOs.

Table 33: Social Support of NGOs across Dimensions

Sl.no.	Dimension	Districts	Accessibility	Quality	Adequacy
1	Basic needs	Aizawl	2.07	2.06	2.07
		Lunglei	2.04	2.04	2.04
2	Emotional	Aizawl	2.08	2.08	2.10
		Lunglei	2.04	2.04	2.04
3	Physical Health	Aizawl	2.08	2.08	2.10
		Lunglei	2.06	2.25	2.25
4	Mental Health	Aizawl	2.10	2.10	2.11
		Lunglei	2.05	2.05	2.25
5	Life Skills	Aizawl	2.10	2.10	2.11
		Lunglei	2.07	2.08	2.07

6	Financial	Aizawl	2.07	2.07	2.07
		Lunglei	2.05	2.06	2.05
7	Instrumental	Aizawl	2.06	2.06	2.09
		Lunglei	2.04	2.05	2.06
	Total Average Mean		2.07	2.08	2.10

Source: Computed

The table highlighted that basic needs support received from NGOs was inaccessible (2.07) in accessibility, was poor (2.06) in quality and was inadequate (2.07) in adequacy among the respondents in Aizawl. Similarly, the basic needs support by NGOs was inaccessible (2.02) in accessibility, was poor (2.02) in quality and was inadequate (2.02) in adequacy among the respondents in Lunglei.

The emotional support from NGOs was inaccessible (2.08) in accessibility, was poor (2.08) in quality and was inadequate (2.10) in adequacy among the respondents in Aizawl. Also, the emotional support provided by NGOs was inaccessible (2.04) in accessibility, was poor (2.04)in quality and was inadequate (2.04) in adequacy among the respondents in Lunglei.

The support on physical health provided by NGOs was inaccessible (2.08) in accessibility, was poor (2.08) in quality and was inadequate (2.10) in adequacy among the respondents in Aizawl. Likewise, the support on physical health given by NGOs was inaccessible (2.06) in accessibility, was poor (2.25) in quality and was inadequate (2.25) in adequacy among the respondents in Lunglei.

The mental health support received from NGOs was inaccessible (2.10) in accessibility, poor (2.10) in quality and inadequate (2.11) in adequacy among the respondents in Aizawl. Similarly, the mental health support received from NGOs in Lunglei was inaccessible (2.05) in accessibility, quality was poor (2.05) and inadequate (2.25) in adequacy among the respondents in Lunglei.

In the life skills support provided by NGOs was inaccessible (2.10) in accessibility; quality was poor (2.10) and was inadequate (2.11) in adequacy among the respondents in Aizawl. Also, the support on life skills contributed by NGOs among the respondents in Lunglei was inaccessible (2.07) in accessibility, poor (2.08) in quality and in adequate (2.07) in adequacy.

The financial support provided by NGOs was inaccessible (2.07) in accessibility, was poor (2.07) in quality and was inadequate (2.07) in adequacy

among the respondents in Aizawl. Similarly, financial support provided by NGOs was inaccessible (2.05) in accessibility, quality was poor (2.06) and adequacy was inadequate (2.05) on financial support contributed by NGOs among the respondents in Lunglei.

Instrumental support provided by NGOs was inaccessible (2.06) in accessibility, quality was poor (2.06) and adequacy was inadequate (2.09) among the respondents in Aizawl. In addition, the instrumental support provided by NGOs was inaccessible (2.04) in accessibility, quality was poor (2.05) and adequacy was inadequate (2.06) among the respondents in Lunglei.

Overall the support contributed by NGOs was inaccessible (2.07) in accessibility, was poor (2.08) in quality and was inadequate (2.10) in adequacy among the respondents.

4.8.9. Social Support from Government

Table 34 shows the distribution of hypertensive women according the dimensions of social support given by Government.

Table 34: Social Support of Government across Dimension

Sl.no.	Dimension	Districts	Accessibility	Quality	Adequacy
1	Basic needs	Aizawl	2.03	2.03	2.02
		Lunglei	2.00	2.00	2.02
2	Emotional	Aizawl	3.14	3.13	2.86
		Lunglei	3.04	3.09	3.07
3	Physical Health	Aizawl	3.92	3.92	3.48
		Lunglei	3.96	3.89	3.47
4	Mental Health	Aizawl	3.44	3.43	3.09
		Lunglei	3.83	3.78	3.37
5	Life Skills	Aizawl	3.65	3.64	3.22
		Lunglei	3.91	3.83	3.41
6	Financial	Aizawl	2.89	2.87	2.67
		Lunglei	2.81	2.80	2.80
7	Instrumental	Aizawl	3.76	3.73	3.41
		Lunglei	3.86	3.79	3.42
	Total Average Mean		3.30	3.28	3.02

Source: Computed

The study highlighted that the support on basic needs contributed by Government was inaccessible (2.03) in accessibility, was poor (2.03) in quality and was inadequate (2.02) in adequacy among the respondents in Aizawl. The basic needs received from Government were inaccessible (2.00) in accessibility, quality

was poor (2.00) and adequacy was inadequate (2.02) among the respondents in Lunglei.

In the emotional support provided by the government it was neither inaccessible nor accessible (3.14) in accessibility, was neither poor nor good (3.13) in quality and was neither inadequate nor adequate (2.86) in adequacy among the respondents in Aizawl. Emotional support provided by government was neither inaccessible nor accessible (3.04) in accessibility, quality was neither poor nor good (3.09) and neither inadequate nor adequate (3.07) in adequacy among the respondents in Lunglei.

The support on physical health given by the government was accessible in (3.92) in accessibility and was good (3.92) in quality and it was adequate (3.48) in adequacy among the respondents in Aizawl. In addition, the physical health support given by the government was accessible (3.96) in accessibility, quality was good (3.89) and adequate (3.47) in adequacy among the respondents in Lunglei.

The support on mental health provided by government was neither inaccessible nor accessible (3.44) in accessibility, quality was neither poor nor good (3.43) and adequacy was neither inadequate nor adequate (3.09) among the respondents in Aizawl. Also, in the support on mental health contributed by government it was accessible (3.83) in accessibility while neither poor nor good (3.43) in quality and neither inadequate nor adequate (3.37) in adequacy among the respondents in Lunglei.

In the life skills support received by government it was accessible (3.65) in accessibility and good (3.64) in quality while it was neither inadequate nor adequate (3.22) in adequacy among the respondents in Aizawl. In addition, the life skills support given by government was accessible (3.91) in accessibility and quality was good (3.83) while it was neither inadequate nor adequate (3.41) in adequacy among the respondents in Lunglei.

Financial support provided by government in terms of accessibility was neither inaccessible nor accessible (2.89), was neither poor nor good (2.87) in quality and neither inadequate nor adequate (2.67) in adequacy among the respondents in Aizawl. The financial support provided by the Government was neither inaccessible nor accessible (2.89) in accessibility, quality was neither poor nor good (2.87) and

neither inadequate nor adequate (2.67) in adequacy among the respondents in Lunglei.

Instrumental support received from government was accessible (3.76) in accessibility and quality was good (3.73) while it was neither inadequate nor adequate (3.41) in adequacy among the respondents in Aizawl. Similarly, instrumental support received from the government was accessible (3.86) in accessibility and quality was good (3.73) while it was neither inadequate nor adequate (3.41) in adequacy among the respondents in Lunglei.

Overall, the support received from government among the respondents was neither inaccessible nor accessible (3.30) in accessibility, neither poor nor good (3.28) in quality and it was neither inadequate nor adequate (3.02) in adequacy.

4.8.10. Social Support across Agents

Table 35 highlights the distribution of women based on the social support provided by various agents (Family, Peers, Church, YMA, MHIP, MUP, Local Council, NGOs, and Government.

Table 35: Social Support across Agents

Sl. no	Agents	Districts	Accessibility	Quality	Adequacy
1	Family	Aizawl	3.72	3.73	3.71
		Lunglei	3.82	3.81	3.81
2	Peers	Aizawl	3.04	3.02	2.16
		Lunglei	3.07	3.07	2.37
3	Church	Aizawl	2.41	3.02	2.16
		Lunglei	2.38	3.07	2.37
4	YMA	Aizawl	2.33	2.31	2.12
		Lunglei	2.22	2.20	2.20
5	MHIP	Aizawl	2.26	2.26	2.11
		Lunglei	2.25	2.25	2.25
6	MUP	Aizawl	2.14	2.13	2.09
		Lunglei	2.10	2.09	2.08
7	Local Council	Aizawl	2.14	2.13	2.08
		Lunglei	2.07	2.06	2.06
8	NGOs	Aizawl	2.08	2.08	2.09
		Lunglei	2.05	2.08	2.11
9	Government	Aizawl	3.26	3.25	2.96
		Lunglei	3.34	3.31	3.08
	Total Average Mean		**2.59**	**2.66**	**2.43**

Source: Computed

The table depicted that the support received from family was accessible (3.72), good (3.73) in quality and it was adequate (3.71) in terms of adequacy among the respondents in Aizawl. Similarly, the support received from the same agent was found to be accessible (3.82) in accessibility, good (3.81) in quality and adequate (3.81) in adequacy among the respondents in Lunglei.

The support received from peers was neither inaccessible nor accessible (3.04) in accessibility and neither poor nor good (3.02) in quality while it was inadequate (2.16) in adequacy among the respondents in Aizawl. Also, the support received from peers among the respondents in Lunglei was neither inaccessible nor accessible (3.07), neither poor nor good (3.07) in quality while it was inadequate (2.37) in adequacy.

In the church support we were able to see that it was inaccessible (2.41) in accessibility while it was neither poor nor good (3.02) in quality and inadequate (2.16) in adequacy among the respondents in Aizawl. Likewise, support received from church was inaccessible (2.38) in accessibility while it was neither poor nor good (3.07) in quality and inadequate (2.37) in adequacy among the respondents in Lunglei.

In the support provided by the YMA we observed that it was inaccessible (2.33) in accessibility, in terms of quality it was poor (2.31) and in terms of adequacy it was inadequate (2.12) among the respondents in Aizawl. Also, support provided by YMA was inaccessible (2.22) in accessibility, poor (2.20) in quality and inadequate (2.20) in adequacy among the respondents in Lunglei.

The support provided by MHIP among the respondents in Aizawl was inaccessible (2.26) in accessibility, poor (2.26) in quality and inadequate (2.11) in adequacy. Similarly, support provided by MHIP among the respondents in Lunglei was inaccessible (2.25) in accessibility, poor (2.25) in quality and inadequate (2.25) in adequacy.

In the support received from MUP we were able to see that it was inaccessible (2.14) in accessibility; it was poor (2.13) in quality and was inadequate (2.09) in adequacy among the respondents in Aizawl. Likewise, support received from MUP was inaccessible (2.10) in accessibility, poor (2.09) in quality and inadequate (2.08) in adequacy among the respondents in Lunglei.

Local Council support was found to be inaccessible (2.14) in accessibility, poor (2.13) in quality and inadequate (2.08) in adequacy among the respondents in Aizawl. Also, support from the same agent was found to be inaccessible (2.07) in accessibility, poor (2.06) in quality and inadequate (2.06) in adequacy among the respondents in Lunglei.

Support provided by NGOs was observed to be inaccessible (2.08) in accessibility, poor in quality (2.08) and inadequate (2.09) in adequacy among the respondents in Aizawl. Likewise, it was also found that support provided by NGOs was inaccessible (2.05) in accessibility, poor (2.08) in quality and inadequate (2.11) in adequacy among the respondents in Lunglei.

The government support was neither inaccessible nor accessible (3.26) in accessibility, neither poor nor good (3.25) in quality and neither inadequate nor adequate (2.96) in accessibility among the respondents in Aizawl. Similarly, it was found that government support was neither inaccessible nor accessible (3.34), neither poor nor good (3.31) in quality and neither inadequate nor adequate (3.08) in adequacy among the respondents in Lunglei.

Overall, the study highlighted that social support provided by various agents were found to be neither inaccessible nor accessible (2.59) in accessibility and neither poor nor good (2.66) in quality while it was inadequate (2.43) in adequacy among the respondent.

4.8.11. Social Support across Dimensions

Table 36 shows the distribution of women based on the various dimensions of Social Support such as basic needs, emotional, physical health, mental health, life skills, finance, and instrumental.

Table 36: Social Support across Dimensions

Sl. no	Dimension	Districts	Accessibility	Quality	Adequacy
1	Basic needs	Aizawl	2.31	2.32	2.28
		Lunglei	2.30	2.30	2.30
2	Emotional	Aizawl	2.67	2.66	2.52
		Lunglei	2.58	2.58	2.58
3	Physical health	Aizawl	2.75	2.73	2.57
		Lunglei	2.70	2.71	2.67
4	Mental health	Aizawl	2.76	2.75	2.57
		Lunglei	2.78	2.76	2.74

5	Life skills	Aizawl	2.81	2.80	2.59
		Lunglei	2.84	2.82	2.76
6	Finance	Aizawl	2.49	2.49	2.39
		Lunglei	2.46	2.52	2.52
7	Instrumental	Aizawl	2.37	2.38	2.34
		Lunglei	2.40	2.39	2.35
	Total Average Mean		**2.59**	**2.59**	**2.51**

Source: Computed

The table indicated that the basic needs support score was inaccessible (2.31) in accessibility, was poor (2.32) in quality and inadequate (2.28) in adequacy among the respondents in Aizawl andthe basic needs support in terms of accessibility was inaccessible (2.31), quality was poor (2.30) and in terms of adequacy it was inadequate (2.30) among the respondents in Lunglei.

However, study indicated that the emotional support in terms of accessibility was neither inaccessible nor accessible (2.67), in terms of quality it was neither poor nor good (2.66) and in terms of adequacy it was neither inadequate nor adequate (2.52) among the respondents in Aizawl. Likewise, the emotional support in terms of accessibility was neither inaccessible nor accessible (2.58), in quality it was neither poor nor good (2.58) and in adequacy it was neither inadequate nor adequate (2.58) among the respondents in Lunglei.

Likewise, the study highlighted that the physical health support in accessibility was neither inaccessible nor accessible (2.75), in quality it was neither poor nor good (2.73) and in adequacy it was neither inadequate nor adequate (2.57) among the respondents in Aizawl. Similarly, the physical health support among the respondents was neither inaccessible nor accessible (2.70) in accessibility, was neither poor nor good (2.71) in quality and it was neither inadequate nor adequate (2.67) in adequacy among the respondents in Lunglei.

The study showed the mental health support was neither inaccessible nor accessible (2.76) in accessibility, it was neither poor nor good (2.75) in quality and neither inadequate nor adequate (2.57) in adequacy among the respondents in Aizawl. Likewise, among the respondents in Lunglei the mental health support was neither inaccessible nor accessible (2.78) in accessibility, it was neither poor nor good (2.76) in quality and it was neither inadequate nor adequate (2.74) in adequacy.

The study depicted life skills support was neither inaccessible nor accessible (2.81) in accessibility, in terms of quality it was neither poor nor good (2.80) and it was neither inadequate nor adequate (2.59) in adequacy among the respondents in Aizawl. Among the respondents in Lungei, the life skills support was neither inaccessible nor accessible (2.84) in accessibility, it was neither poor nor good (2.82) in quality and it was neither inadequate nor adequate (2.76) in adequacy.

Exploration highlighted financial support was neither inaccessible nor accessible (2.49) in accessibility; it was neither poor nor good (2.49) in quality while it was inadequate (2.49) in adequacy among the respondents in Aizawl. In the financial support among the respondents in Lunglei,it was neither inaccessible nor accessible (2.46) in accessibility while it was poor (2.38) in quality and in terms of adequacy it was inadequate (2.34).

Exploration highlighted instrumental support it was inaccessible (2.37) in accessibility, it was poor (2.38) in quality and in terms of adequacy it was inadequate (2.34) among the respondents in Aizawl. Likewise, the instrumental support in terms it was neither inaccessible nor accessible (2.40) in accessibility, it was neither poor nor good (2.39) in quality and it was neither inadequate nor adequate (2.35) in adequacy among the respondents in Lunglei.

Overall, the social support across dimension in terms of accessibility was neither inaccessible nor accessible (2.59) in accessibility score, and it was neither poor nor good (2.59) in the quality score and in adequacy, it was neither inadequate nor adequate (2.51).

4.8.12. Primary Social Support Agents (t-test)

Table 37 highlights the distribution of women with hypertension according to the differences by districts in accessibility, quality and adequacy across primary social support agents, viz. family and peers.

Table 37:District-wise Differences (t-test) across primary social support agents

Sl.No	Social Support	Districts				T	Sig. (2-tailed)
		Aizawl		Lunglei			
		Mean	SD	Mean	SD		
I	**Family Support**						
	Accessibility	3.7	.32	3.8	.21	**2.64**	0.01
	Quality	3.7	.32	3.8	.24	**2.01**	0.05
	Adequacy	3.7	.37	3.8	.24	**2.30**	0.02
II	**Peer Support**						
	Accessibility	3.0	.44	3.1	.28	0.52	0.61
	Quality	3.0	.44	3.1	.28	0.93	0.36
	Adequacy	2.2	.34	2.4	.50	**3.36**	0.00

Source: Computed

The table highlighted that there was district wise difference in the accessibility, quality and adequacy of family support with a t-test score 2.64, 2.01 and 2.30 respectively where accessibility, quality and adequacy of family support was found lesser among the respondents in Aizawl than the respondents in Lunglei.

Further, it was found that, there were no differences found between the districts in the accessibility and quality of peer support among the respondents while there was a difference in adequacy of peer support with a t -test score of 3.36 where adequacy of peer support was found lesser among the respondents in Aizawl than the respondents in Lunglei.

4.8.13. Secondary social support agents (t-test)

Table 38 shows the distribution of women with hypertension according to the differences by districts in accessibility, quality and adequacy across secondary social support agents, viz. Church, YMA, MHIP, MUP and NGOs.

Table38: District wise Differences (t-test) across secondary social support agents

Sl.No	Social Support	Districts				T	Sig. (2-tailed)
		Aizawl		Lunglei			
		Mean	SD	Mean	SD		
I	**Church**						
	Accessibility	2.4	.50	2.4	.51	0.42	0.67
	Quality	3.0	.44	3.1	.28	0.93	0.36
	Adequacy	2.2	.34	2.4	.50	**3.36**	0.00
II	**YMA**						

	Accessibility	2.3	.48	2.2	.43	1.69	0.09
	Quality	2.3	.46	2.2	.42	1.74	0.08
	Adequacy	2.1	.30	2.2	.41	1.55	0.12
III	**MHIP**						
	Accessibility	2.3	.43	2.3	.45	0.05	0.96
	Quality	2.3	.43	2.3	.45	0.05	0.96
	Adequacy	2.1	.32	2.3	.44	**2.58**	0.01
IV	**MUP**						
	Accessibility	2.1	.33	2.10	.28	0.95	0.34
	Quality	2.1	.33	2.09	.26	1.07	0.28
	Adequacy	2.1	.29	2.08	.25	0.30	0.76
V	**NGOs**						
	Accessibility	2.1	.27	2.05	.22	0.87	0.38
	Quality	2.1	.27	2.08	.35	0.06	0.95
	Adequacy	2.1	.29	2.11	.45	0.29	0.77

Source: Computed

The table highlighted there were no differences found between the districts in the accessibility and quality of church support among the respondents while there was a difference in adequacy of church support with a t -test score of 3.36 where adequacy of church support was found lesser among the respondents in Aizawl than the respondents in Lunglei.

There were no differences found between the districts in the accessibility, quality and adequacy of YMA support among the respondents in Aizawl and Lunglei.

It was found that there were no differences found between the districts in the accessibility and quality of MHIP support among the respondents in Aizawl and Lunglei while there was a difference in adequacy of MHIP support with a t-test score of 2.58 where adequacy of MHIP support was found lesser support among the respondents in Aizawl than the respondents in Lunglei.

Further, there were no differences found between the districts in the accessibility, quality and adequacy of MUP and NGOs support among the respondents in Aizawl and Lunglei.

4.8.14. Tertiary Social Support Agents (t-test)

Table 39 shows the distribution of women with hypertension according to the differences by districts in accessibility, quality and adequacy across tertiary social support agents, viz. Local Council and Government.

Table 39: District-wise differences (t-test) Across Tertiary Social Support Agents

Sl. No	Social Support	Districts				T	Sig. (2-tailed)
		Aizawl		Lunglei			
		Mean	SD	Mean	SD		
I	**Local Council**						
	Accessibility	2.1	.34	2.07	.24	1.90	0.06
	Quality	2.1	.32	2.06	.23	1.79	0.08
	Adequacy	2.1	.26	2.06	.23	0.53	0.59
II	**Government Agencies**						
	Accessibility	3.3	.24	3.34	.18	**2.81**	0.01
	Quality	3.3	.27	3.31	.26	1.64	0.10
	Adequacy	3.0	.55	3.08	.42	1.67	0.10

Source: Computed

The table highlighted there were no differences found between the districts in the accessibility, quality and adequacy of Local Council support among the respondents.

It was also found that there was a difference in accessibility of Government support with a t -test score of 2.81 where accessibility of Government support was found higher among the respondents in Aizawl than the respondents in Lunglei. There was no difference found in quality and adequacy of Government support among the respondents in Aizawl and Lunglei.

4.9. Correlation of Lifestyle and Social support

This portion provides the findings related to the relationship between Social Support and Lifestyle of Women with Hypertension according to social support agents. This section shall highlight the correlation of primary, secondary and tertiary social support and lifestyles of the respondents. The *p* values 0.01 and 0.05 which was tested in two directions (2-tailed). The social support across the dimensions were

scored according to accessibility, quality and adequacy. The lifestyle included diet dimension, exercise dimension, alcohol consumption dimension, smoking dimension and SLIQ total dimension.

4.9.1. Primary Social Support and Lifestyle

This section shall highlight the correlation between primary social support such as family and peers and the dimensions of lifestyle (See Table 40).

Table 40: Correlation of Primary Social Support and Lifestyle

Sl. No	Agents	Diet	Exercise	Alcohol	Smoking	Life Stress	SLIQ total
I	**Family Support**						
	Accessibility	.096	.014	.051	**.197****	.027	**.210****
	Quality	.096	-.008	.050	**.187****	.089	**.209****
	Adequacy	.067	-.031	.042	**.151***	**.139***	**.176***
II	**Peer Support**						
	Accessibility	.065	-.022	.066	.048	.129	.032
	Quality	.070	-.042	.064	.030	.090	-.004
	Adequacy	.011	.117	.043	.042	-.028	-.001

Source: Computed ** Correlation is significant at the 0.01 level (2 – tailed)

* Correlation is significant at the 0.05 level (2 – tailed)

The study showed that the accessibility of family support did not have correlation with diet (.096), exercise (.014), alcohol consumption (.051) and life stress (0.27) while the accessibility of family support had a significant correlation with smoking (**.197**) at 0.1 level. It was also found that the accessibility of family support had a significant relation with the overall lifestyle (**.210**) of the respondents at 0.1 level.

The findings suggested that accessibility of family support had a positive relationship with smoking, which indicated that higher accessibility to family support was associated with higher level of smoking. Further, the accessibility to family support had a positive relationship with the overall lifestyle which means that, higher the accessibility to family support, healthier the overall lifestyle.

It was also observed from the table that there was no correlation between quality of family support and diet (.096), exercise (-.008), alcohol consumption (.050) and life stress (.089) while quality of family support had a significant

correlation with smoking (**.187****) at 0.1 level. It was also found that quality of family support had a significant correlation with the overall lifestyle (**.209****) at 0.1 level.

This showed that quality of family support had a positive relationship with smoking which means, higher quality of family support was associated with higher level of smoking. Also, quality of family support had a positive relationship with the overall lifestyle which indicated that, higher the quality of family support, healthier the overall lifestyle.

The adequacy of family support did not had any correlation with the diet (.067), exercise (-.031), alcohol consumption (.042). However, adequacy of family support had a significant correlation with smoking (**.151***) at 0.5 level, life stress (**.139***) at 0.5 level and overall lifestyle (**.176***) at 0.5 level. This indicated that adequacy of family support had a positive relationship with smoking, life stress and overall lifestyle of women with hypertension. This means that, higher adequacy of family support was associated with higher level of smoking and life stress. Further, higher the adequacy of family support, healthier the overall lifestyle. This finding is similar to the findings of Yang et al. (2022), where family support significantly predicted mental health.

Further, we could also see that the accessibility of peers support did not have any correlation with the entire dimension of diet (.065), exercise (.-.022), alcohol consumption (066), smoking (.048), life stress (.129) and overall lifestyle (.032)..

Also quality of peer support did not have any correlation with the dimension of diet (070), exercise (-.042), alcohol consumption (.064), smoking (.030), life stress (.090) and overall lifestyle (-.004).

Likewise, adequacy of peer support did not have a correlation with diet (.011), exercise (.117), alcohol consumption (.043), smoking (.042), life stress (-.028) and overall lifestyle (-.001).

4.9.2. Correlation of Secondary Social Support and Lifestyle

This section shall highlight the correlation between secondary social support such as church, YMA, MHIP, MUP and NGOs and the dimensions of lifestyle (See Table 41).

Table 41: Correlation of Secondary Social Support and Lifestyle

Sl.No	Agents	Diet	Exercise	Alcohol	Smoking	Life Stress	SLIQ total
I	**Church**						
	Accessibility	-.041	.057	-.065	.010	.058	-.040
	Quality	.070	-.042	.064	.030	.090	-.004
	Adequacy	.011	.117	.043	.042	-.028	-.001
II	**YMA**						
	Accessibility	-.032	.020	.020	-.066	-.090	-.067
	Quality	.007	.030	.041	-.013	-.062	-.005
	Adequacy	.029	.087	.031	.029	-.067	.017
III	**MHIP**						
	Accessibility	.040	.010	.041	.029	-.079	-.051
	Quality	.040	.010	.041	.029	-.079	-.051
	Adequacy	.013	.094	.034	.062	**-.155***	.013
IV	**MUP**						
	Accessibility	.001	**.141***	.028	-.113	-.045	-.080
	Quality	.030	**.159***	.026	-.123	-.014	-.046
	Adequacy	.030	**.221****	.022	-.126	.019	-.006
V	**NGOs**						
	Accessibility	-.018	**.162***	.019	-.056	-.016	-.025
	Quality	.018	**.225****	.018	-.106	-.017	-.003
	Adequacy	-.063	.047	.019	**-.159***	-.089	**-.181***

Source: Computed ** Correlation is significant at the 0.01 level (2 – tailed)

* Correlation is significant at the 0.05 level (2 – tailed)

The study indicated that the accessibility of church support did not have any correlation with the entire dimension of diet (-.041), exercise (.057), alcohol consumption (-.065), smoking (.010), life stress (.058) and overall lifestyle (-.040).

Also quality of church support did not have any correlation with the entire dimension of diet (.070), exercise (-.042), alcohol consumption (.064), smoking (.030), life stress (.090) and overall lifestyle (-.004).

Likewise, adequacy of church support did not have a significant correlation with all dimensions of diet (.011), exercise (.117), alcohol consumption (.043), smoking (.042), life stress (-.028) and overall lifestyle (-.001).

The study indicated that the accessibility of YMA support did not have any correlation with the entire dimension of diet (-.032), exercise (.020), alcohol consumption (.020), smoking (-.066), life stress (-.090) and overall lifestyle (-.067).

Also quality of YMA support did not have any correlation with all the dimension of diet (.007), exercise (.030), alcohol consumption (.041), smoking (-.013), life stress (-.062) and overall lifestyle (-.005).

Likewise, adequacy of YMA support did not have a significant correlation with all dimensions of diet (.029), exercise (.087), alcohol consumption (.031), smoking (.029), life stress (-.067) and overall lifestyle (.017).

The study indicated that the accessibility of MHIP support did not have any correlation with all the dimension of diet (.040), exercise (.010), alcohol consumption (.041), smoking (.029), life stress (-.079) and overall lifestyle (-.051).

Also quality of MHIP support did not have any correlation with all the dimension of diet (.040), exercise(.010), alcohol consumption (.041), smoking (.029), life stress (-.079) and overall lifestyle (-.051).

Likewise, adequacy of MHIP support did not have a significant correlation with dimensions of diet (.013), exercise (.094), alcohol consumption (.034), smoking (.062) and overall lifestyle (.013), however adequacy of social support of MHIP had a significant correlation on the life stress (**-.155***) at 0.5 level.

This depicted that adequacy of MHIP support had a negative relationship with life stress which showed that, higher the adequacy of MHIP support,lower the life stress.

The study indicated that the accessibility of MUP support did not have any correlation with the dimension of diet (.001), alcohol consumption (.028), smoking (-.113), life stress (-.045) and overall lifestyle. However, accessibility of MUP support had a significant correlation with exercise (**.141***) at 0.5 level.

This showed that accessibility of MUP support had a positive relationship with exercise which means that higher the accessibility of MUP support, more vigorous the exercise.

Also quality of MUP support did not have any correlation with all the dimension of diet (.030), alcohol consumption (.026), smoking (-.123), life stress (-.014) and overall lifestyle (-.046).However, quality of MUP support had significant correlation to exercise (**.159***) at 0.5 level.

This depicted that quality of MUP support had a positive relationship with exercise which showed that, higher the quality of MUP support, more vigorous the exercise.

Further, adequacy of MUP support did not have a significant correlation with dimensions of diet (.030), alcohol consumption (.022), smoking (-.126), life stress (.019) and overall lifestyle (-.006). However, adequacy of MUP support had a significant relationship on exercise (**.221****) at 0.1 level.

This depicted that, adequacy of MUP support had a positive relationship with exercise which means that, higher the adequacy of MUP support, more vigorous the exercise.

The study highlighted that the accessibility of NGO support did not have any correlation with the dimension of diet (-.018), alcohol consumption (.019), smoking (-.056), life stress (-.016) and overall lifestyle (-.025). However, accessibility of NGO support have a significant correlation with exercise (**.162***) at 0.5 level.

This showed that accessibility of NGO support had a positive relationship with exercise which means that higher the accessibility of NGO support, more vigorous the exercise.

Also quality of NGO support did not have any correlation with the dimension of diet (.018), alcohol consumption (.018), smoking (-.106), life stress (-.017) and overall lifestyle (-.003). However, quality of NGO support have significant correlation on exercise (**.225****) at 0.1 level.

This depicted that, quality of NGO support had a positive relationship with exercise this means that, higher the quality of NGO supports, more vigorous the exercise.

Likewise, adequacy of NGO support did not have a significant correlation with dimensions of diet (-.063), exercise (.047, alcohol consumption (.019) and life stress (-.089) while had negative correlation with smoking (**-.159***), and overall lifestyle (**-.181***) at 0.5 level.

This depicted that adequacy of NGO support had a negative relationship with smoking. This means that higher adequacy of NGO support was associated with higher level of smoking. Likewise, adequacy of NGO support had a negative

relationship on the overall lifestyle. This means that, higher the adequacy of NGO support, more unhealthy the overall lifestyle.

4.9.3. Correlation of Tertiary Social Support and Lifestyle

This section shall highlight the correlation between primary social support such as Local Council and Government and the dimensions of lifestyle (See Table 42).

Table 42: Correlation of Tertiary Social Support and Lifestyle

Sl. No	Social Support	Diet	Exercise	Alcohol	Smoking	Life Stress	SLIQ total
I	**Local Council**						
	Accessibility	-.029	.044	.025	**-.180***	-.043	-.121
	Quality	.002	.073	.025	**-.211****	-.043	-.126
	Adequacy	-.005	**.170***	.020	**-.159***	-.068	-.074
II	**Government**						
	Accessibility	.012	-.090	.006	-.023	-.115	-.045
	Quality	.019	-.006	-.001	-.039	-.032	.039
	Adequacy	-.015	-.035	**.147***	.053	.050	.041

Source: Computed ** Correlation is significant at the 0.01 level (2 – tailed)

* Correlation is significant at the 0.05 level (2 – tailed)

The study highlighted the accessibility of local council support did not had a significant correlation with the diet (-.029), exercise (.044), alcohol consumption (.025), life stress (-.043) and over all lifestyle (-.121) dimension, it had a negative correlation with the smoking pattern (**-.180***) at 0.5.

This means that accessibility of local council support had a negative relationship on smoking. This means that, higher the accessibility of Local council support, lower the level of smoking.

The quality of support from local council did not have a significant correlation with the dimension of diet (.002), exercise (.073), alcohol consumption (.025), life stress (-.043) and overall lifestyle (-.126) dimension. On the other hand, quality of NGO support had a significant relationship with smoking dimensions (**-.211****) at 0.1 level.

This showed that quality of local council support had a negative relationship with the smoking which indicated that, higher the quality of local council support, lower the level of smoking.

Further, the adequacy of support from local council did not had correlation with the domain of diet (-.005), alcohol consumption, life stress (-.068) and overall lifestyle (-.074) while had positive correlation on exercise (**.170**[*]) at 0.5 level and also had negative correlation on smoking (**-.159**[*]) at 0.5.

This indicated that adequacy of local council support had a positive relationship with exercise which signifies that higher the adequacy of local council support, more vigorous the exercise. It was also highlighted that, adequacy of support from local council had a negative relationship with smoking, which indicated that, higher adequacy of local council support was associated with lower level of smoking.

The study highlighted the accessibility of government support did not had a significant correlation on all the dimension of diet (.012), exercise (-.090), alcohol consumption (.006), smoking (-.023), life stress (-.115) and overall lifestyle (-.045).

The quality of support from government support did not have a significant correlation on all the dimension of diet (.019), exercise (-.006), alcohol consumption (-.001), smoking (-.039), life stress (-.032) and overall lifestyle (.039).

Further, the adequacy of support from government did not have correlation with the domain of diet (-.015), exercise (-.035), smoking (.053), life stress (.050) and overall lifestyle (.041). However, it had significant correlation on alcohol consumption (.**147**[*]) at 0.5 level.

This indicated that adequacy of government support had a positive relationship on alcohol consumption which this indicated that, higher adequacy of government support was associated with higher level of alcohol consumption.

4.9.4. Correlation of Social Support Dimension and Lifestyle

The study also shows the correlation of social support dimension (accessibility, quality and adequacy of basic needs, emotional, physical health, mental health, life skills, financial and instrumental) and the dimension of lifestyle (diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle) (see table 43)

Table 43 : Correlation of Social Support Dimension and Lifestyle

Sl. no.	Social Support	Diet	Exercise	Alcohol	Smoking	Life stress	SLIQ total
1	**Accessibility**						
	Basic needs	-.104	.088	-.012	.011	-.010	-.040
	Emotional	-.029	.019	.023	-.042	.009	-.061
	Physical Health	.035	.026	.055	-.058	.027	-.050
	Mental Health	.049	.057	.054	.015	-.081	-.041
	Like skills	.054	.073	.012	-.034	-.059	-.045
	Financial	-.022	.107	-.008	-.104	-.019	-.073
	Instrumental	-.038	.057	.020	.048	-.024	.040
2	**Quality**						
	Basic needs	-.032	.111	-.011	.034	.058	.054
	Emotional	-.003	.034	.057	-.030	.025	-.043
	Physical Health	.076	.133	.076	-.095	.056	.012
	Mental Health	.076	.086	.079	.009	-.077	-.017
	Like skills	.067	.078	.033	-.046	-.054	-.042
	Financial	.082	.058	.097	-.047	.009	-.059
	Instrumental	.004	.075	.057	.038	.018	.082
3	**Adequacy**						
	Basic needs	-.048	.096	.032	.066	.024	.036
	Emotional	.012	.096	.079	.073	-.096	.041
	Physical Health	-.011	.050	.110	-.008	-.011	-.029
	Mental Health	.091	.089	.049	-.009	-.101	-.045
	Like skills	.089	.136	.056	.023	-.111	.019
	Financial	.084	.105	.116	.028	-.049	.003
	Instrumental	-.025	.057	.111	.058	.025	.053

Source: Computed ** Correlation is significant at the 0.01 level (2 – tailed)

* Correlation is significant at the 0.05 level (2 – tailed)

The study highlighted that the accessibility of basic needs did not have a significant correlations with the entire dimension of diet (-.104), exercise (.088), alcohol consumption (-.012), smoking (.011), life stress (-.010) and overall lifestyle (-.040) of women with hypertension. This means that accessibility of basic needs had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

Accessibility of emotional needs did not have a significant correlations with the dimension of diet (-.029), exercise (.019), alcohol consumption (.023), smoking (-.042), life stress (.009) and overall lifestyle (-.061) of women with hypertension. This means that accessibility of emotional had no relationship with diet, exercise,

alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

Accessibility of physical health support did not have a significant correlations with the dimension of diet (.035), exercise (.026), alcohol consumption (.055), smoking (-.058), life stress (.027) and overall lifestyle (-.050) of women with hypertension. This means that accessibility of physical health support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The study highlighted that the accessibility of mental health support did not have a significant correlations with the dimension of diet (.049), exercise (.057), alcohol consumption (.054), smoking (.015), life stress (-.081) and overall lifestyle (-.041) of women with hypertension. This means that accessibility of mental health support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The accessibility of life skills support did not have a significant correlations with the dimension of diet (.054), exercise (.073), alcohol consumption (.012), smoking (-.034), life stress (-.059) and overall lifestyle (-.045) of women with hypertension. This means that accessibility of like skills support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The accessibility of financial support did not have a significant correlations with the dimension of diet (-.022), exercise (.107), alcohol consumption (-.008), smoking (-.104), life stress (-.019) and overall lifestyle (-.073) of women with hypertension. This means that accessibility of financial support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The accessibility of mental health support did not have a significant correlations with the dimension of diet (-.038), exercise (.057), alcohol consumption (.020), smoking (.048), life stress (-.024) and overall lifestyle (.040) of women with hypertension. This means that accessibility of mental health support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The exploration depicted that the quality of basic needs supportdid not have a significant correlations with the entire dimension of diet (-.032), exercise (.111), alcohol consumption (-.011), smoking (.034), life stress (.058) and overall lifestyle (.054) of women with hypertension. This means that quality of basic needs support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The exploration depicted that the quality of emotional support did not have a significant correlations with the dimension of diet (-.003), exercise (.034), alcohol consumption (.057), smoking (-.030), life stress (.025) and overall lifestyle (-.043) of women with hypertension. This means that quality of emotional support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The quality of physical health support did not have a significant correlations with the dimension of diet (.076), exercise (.133), alcohol consumption (.076), smoking (-.095), life stress (.056) and overall lifestyle (.012) of women with hypertension. This means that quality of physical health support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The quality of mental health support did not have a significant correlations with the dimension of diet (.076), exercise (.086), alcohol consumption (.079), smoking (.009), life stress (-.077) and overall lifestyle (-.017) of women with hypertension. This means that quality of mental health support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The quality of life skills support did not have a significant correlations with the dimension of diet (.067), exercise (.078), alcohol consumption (.033), smoking (-.046), life stress (-.054) and overall lifestyle (-.042) of women with hypertension. This means that quality of life skills support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The quality of financial support did not have a significant correlations with the dimension of diet (.082), exercise (.058), alcohol consumption (.097), smoking (-

.047), life stress (.009) and overall lifestyle (-.059) of women with hypertension. This means that quality of financial support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The quality of instrumental support did not have significant correlation with the dimension of diet (.004), exercise (.075), alcohol consumption (.057), smoking (.038), life stress (.018) and overall lifestyle (.082) of women with hypertension. This means that quality of instrumental support had no relationship with diet, exercise pattern, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The investigation signified depicted that the adequacy of basic needs support did not have a significant correlations with the dimension of diet (-.048), exercise (.096), alcohol consumption (.032), smoking (.066), life stress (.024) and overall lifestyle (.036) of women with hypertension. This means that adequacy of basic needs support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The adequacy of emotional support did not have a significant correlations with the dimension of diet (.012), exercise (.096), alcohol consumption (.079), smoking (.073), life stress (-.096) and overall lifestyle (.041) of women with hypertension. This means that adequacy of emotional support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The adequacy of physical health support did not have a significant correlations with the dimension of diet (-.011), exercise (.050), alcohol consumption (.110), smoking (-.008), life stress (-.011) and overall lifestyle (-.029) of women with hypertension. This means that adequacy of physical health support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The adequacy of mental health support did not have a significant correlations with the dimension of diet (.091), exercise (.089), alcohol consumption (.049), smoking pattern (-.009), life stress (-.101) and overall lifestyle (-.045) of women with hypertension. This means that adequacy of mental health support had no

relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The adequacy of life skills support did not have a significant correlations with the dimension of diet (.089), exercise (.136), alcohol consumption (.056), smoking (.023), life stress (-.111) and overall lifestyle (.019) of women with hypertension. This means that adequacy of life skills support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The adequacy of financial support did not have a significant correlations with the dimension of diet (.084), exercise (.105), alcohol consumption (.116), smoking (.028), life stress (-.049) and overall lifestyle (.003) of women with hypertension. This means that adequacy of financial support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

The adequacy of instrumental support did not have a significant correlations with the dimension of diet (-.025), exercise (.057), alcohol consumption (.111), smoking (.058), life stress (.025) and overall lifestyle (.053) of women with hypertension. This means that adequacy of instrumental support had no relationship with diet, exercise, alcohol consumption, smoking, life stress and overall lifestyle of women with hypertension.

4.10. Suggestions

This section will provide information on the various suggestions made by the respondents to prevent hypertension and suggestions to improve lifestyle and social support.

4.10.1. Suggestions to prevention hypertension

Table 44 shows the various suggestions given by the respondents in order to prevent hypertension.

Table 44: Suggestions to Prevent Hypertension

Sl.no	Suggestions	Districts		Total N= 200
		Aizawl	Lunglei	
		n=100	n=100	
1	Self-control	43 (43.4)	28 (28.0)	71 (35.5)
2	Exercise	17 (17.2)	16 (16.0)	33 (16.5)
3	Sufficient sleep	5 (5.1)	24 (24.0)	29 (14.5)
4	Optimism	9 (9.1)	19 (19.0)	28 (14.0)
5	Self-awareness	11 (9.1)	9 (9.0)	20 (10.0)
6	Regular health check up	14 (14.1)	4 (4.0)	18 (9.0)

Source: Computed Figures in parenthesis indicates percentages

The table highlighted the suggestions made by the respondents to prevent hypertension, wherein nearly half (43%) of the respondents in Aizawl suggested self control, while 28 percent of the respondents in Lunglei suggested the same. Further, 17 per cent of the respondents in Aizawl suggested regular exercise while 16 per cent of the respondents in Lunglei suggested regular exercise. Less than a tenth (5%) of the respondents in Aizawl suggested having sufficient sleep while 24 per cent of the respondents in Lunglei also suggested having sufficient sleep. Being optimistic is suggested by less than a tenth (9%) of the respondents in Aizawl while 19 per cent in Lunglei suggested the same. More than a tenth (11%) of the respondents in Aizawl suggested self awareness while, a little lesser (9%) of the respondents in Lunglei suggested for self awareness. Regular health check up is suggested by 14 per cent of the respondents in Aizawl while 4 per cent in Lunglei suggested the same.

Overall it was found that 35.5 per cent of the respondents suggested self-control to prevent hypertension followed by 16.5 per cent of the respondents who suggested exercise, 14.5 per cent of the respondents who suggested sufficient sleep, 14 percent of the respondents who suggested being optimistic, 10 per cent of the respondents who suggested self-awareness and 9 per cent of the respondents who suggested regular check-up.

4.10.2. Suggestions to improve lifestyle and social support

Table 45 highlights the various suggestions given by the respondents to improve lifestyle and social support in relation to hypertension.

Table 45: Suggestions to improve lifestyle and social support

Sl.No	Suggestions	Districts		Total N=200
		Aizawl (n=100)	Lunglei (n=100)	
1	Awareness campaign	88 (88.0)	73 (73.0)	161 (80.5)
2	Participation and collaborations of/with NGOs	1 (1.0)	15 (15.0)	16 (8.0)
3	Media publicity	6 (6.0)	6 (6.0)	12 (6.0)
4	Practicing healthy lifestyle	3 (3.0)	4 (4.0)	7 (3.5)
5	Early education on health	2 (2.0)	2 (2.0)	4 (2.0)

Source: Computed Figures in parenthesis indicates percentage

The table depicted that majority (88%) of the respondents in Aizawl suggested having awareness campaign to improve lifestyle and social support while 73 per cent of the respondents in Lunglei suggested the same. More active involvement of various support groups was suggested by 1 per cent of the respondents in Aizawl while more than a tenth (15%) of the respondents suggested the same. Moreover, 6 per cent each from both the respondents in Aizawl and Lunglei suggested media publicity. Practicing healthy lifestyle was suggested by 3 per cent of the respondents in Aizawl and 4 per cent of the respondents in Lunglei. A few (2% each) from both the respondents in Aizawl and Lunglei suggested early education on health.

Overall majority (80.5%) of the respondents suggested awareness campaign followed by 8 per cent of the respondents who suggested more active involvement of support groups, 16 per cent of the respondents who suggested media publicity, and 3.5 per cent of the respondents who suggested practicing healthy lifestyle and 2 per cent of the respondents who suggested early education on health.

4.11. Case Study

The case studies examine the case history, the status of illness, lifestyle choices and social support systems of the patients in relation to hypertension. Six

case studies were conducted in Aizawl (3) and Lunglei (3) among women with hypertension with the help of NCD Clinic staffs.

Case 1

Muani (Fictitious) is a 45-year-old married woman who has three children. She owns a petty shop, which is attached to their house. Her husband is in the military service and mostly stays away from home.

She was diagnosed with high blood pressure when she was 40 years old. Her father was also a hypertensive patient and had history of stroke. She was prescribed antihypertensive medications by her healthcare provider to control her blood pressure but she did not take regularly due to negligence as she did not have problems relating to hypertension and did not pay heed to the importance of regular medication. She was inattentive to her medical appointment due to time constraints, as well as her apprehension of waiting for long hours for doctor's appointment due to overcrowded patients. She would only consult her doctor only when her situation gets worse.

Recently she noticed occasional palpitations and shortness of breath during physically demanding activities and her blood pressure readings had shown a slight elevation. She went to the clinic for further medical assistance. She expressed her concern about the impact of hypertension on her overall health. She was particularly worried about the potential for long-term complications such as kidney disease, because of her family health history.

Her work in the shop required her full time involvement and sometimes because of this, she eats irregular meal, making it challenging to maintain a consistent diet and exercise routine. She admitted to occasional indulgence in a high-sodium diet, particularly during her busy schedule. Physical activity was limited due to her demanding work schedule, and she rarely engages in structured exercise and the family often relied on convenient fast-food options for meals. She was regular in taking tobacco substances like 'sahdah' & 'kuva' and also occasionally consume small quantities of alcohol. She acknowledged the need for lifestyle modifications but found it challenging to implement changes because of the demands of her duty at home and at work.

Her social support network was robust, comprising of her husband and three children. Her husband actively participated in both family and business matters,

providing emotional and practical support when he was available. Her children, although young, contributed to the household responsibilities, creating a supportive environment when they had time. Despite the challenges, they were willing to make changes to support her. Furthermore, she had a close-knit circle of friends and extended family members who offer encouragement and assistance when needed.

Analysis of Case 1

The above case highlights the hereditary nature of hypertension. It also shows that negligence to health, healthy diet and intake of tobacco related products as well as alcohol consumption increased scope of the problem. The case also illustrates that stressful work environment can also enhance hypertension. Family and peer support are also seen as positive networks that improves the mental health of Muani.

Case 2

Liani (Fictitious) is a 60 years old widow. A year ago she lost her husband and lives all alone since her children had their own family elsewhere. She made her living from family pension from her late husband's entitlement.

She was diagnosed with hypertension when she was 54 years old and had been under regular medication since, and hardly had much problem. She was a chain smoker. Apart from that, she occasionally takes 'kuva' (betel nut). She was quiet conscious on healthy eating habits. She knew the importance of diet for hypertensive patients. She does not eat meat or consume much oily food and restrains herself from eating table salt. However, her physical activity level was quiet poor. Apart from household chores, she hardly engaged herself in physical activity. In addition, she cannot sleep well after her husband's death.

Recently her blood pressure readings consistently showed values above the normal range. She experienced symptoms such as headache, dizziness and fatigue.

Widowhood is a life-altering event that often leads to profound changes in an individual's social and emotional well-being. Her support system has shifted dramatically after becoming a widow following the death of her husband, with whom she shared a long and supportive marriage. Emotional breakdown combined with the challenges of being a widow contributed to her difficulty in managing hypertension. She is actively involved in church activity and currently she is an executive member

in the women fellowship in their local church and received support from them in times of need.

Analysis of Case 2

From the above case, we find that even with proper medication and proper diet, if a person does not stop smoking or have enough sleep, it can have repercussion in enhancing the problem of hypertension. The study also highlighted that bereavement leads to emotional breakdown, accompanied with stress and lack of sleep, and consequently hampers hypertension management. Lack of physical activity and tobacco intake serve as a contributing factor in enhancing the disease. Family support was very important for hypertensive patient to have healthy lifestyle and better health. Peers and church support play an important role in hypertension management.

Case 3

Zovi (Fictitious), is a46 years old divorcee with two teenage children. She was diagnosed with hypertension when she was 43 years old. Since then, she managed to maintain her blood pressure with medication. However, she experienced fluctuations in her blood pressure readings recently. She often experienced giddiness and headache which become severe when facing a problem.

She admitted to frequently skipping meals and indulging in fast food diet due to time constraints. Additionally, she struggled with poor sleep, often staying up late due to worries to support herself and her children. This is because she has no stable job. Work-related stress contributed to elevated blood pressure levels, making it difficult for her to maintain her health. She regularly takes beetle nut.

Her social support network was limited. Following her divorce, she moved to a new city, away from family and close friends. While she maintains casual friendships with some of her neighbour, she lacks a strong support system to lean on during challenging times. Her children, although supportive, were occupied with their own academic and social lives, leaving her feeling isolated.

Analysis of case 3

From the above case, it is clear that lifestyle plays an important role in hypertension management. Irregular diet, poor sleep and stress in family obligation

contributed to her problems. Lack of social support also contributed to her social isolation.

Case 4

Hmingi (Fictitious) is a 31 years old divorcee. She has no children. She underwent major surgery (gall bladder) while she was 23 years. She had a miscarriage at the age of 29 years and from then on, she developed hypertension. She had been on antihypertensive medications since then. She had other co-morbidities like asthma & thyroid. She is a beautician and owned a parlour. Her father died due to stroke when she was just a child.

Recently, due to persistent headaches, dizziness, and occasional chest discomfort, she went to the clinic. Her blood pressure readings at home had been consistently elevated despite compliance with his antihypertensive medication. Her blood pressure was counted to be 140/90 on multiple readings.

She led a sedentary lifestyle due to the nature her job as a beautician as she need to adjust according to her customer. There were several occasions when her workload is quiet high and did not even have time to take proper meal which led her to having frozen and fast food items. She did not like vegetables and did not even force herself to take them. She hardly had time to take exercise due to high demand of her job and when her workload was over, she was completely exhausted. Occasionally, she drank alcohol without getting high. She smokes and also takes other tobacco substances like shikhar, kuva, etc. occasionally. She experienced life stress in multiple occasions, because of her experiences of divorce, miscarriage, loss of a father at young age and high demanding job.

Since she lives alone, she had limited social support system. She seldom had time to be with others except with her colleagues and rarely participate in communities and church activities and did not have much connection with others outside work.

Analysis of Case 4

The above case also highlighted that other health problems can lead to hypertension. It also shows that lifestyle enhances the problem. Negligence in health, unhealthy eating habits, consumption of alcohol and tobacco contributes to the

problem of hypertensive patients. The problem is also elevated due to stress in work as well as absence in support system

Case 5

Rini (Fictitious) is a 52 years old woman. Her blood pressure readings consistently ranged above the normal limits, indicating the need for intervention to prevent various complications. She has no family history of hypertension and she has been prescribed medication to manage her blood pressure. She lives with an alcoholic husband who works as a government servant and three (3) teenage children. She is also a government servant.

She was diagnosed with hypertension when she was 47 years old. She was prescribed antihypertensive medications to control her blood pressure. She did not take it regularly due to negligence.

At present, her primary complaint was hypertension, with recorded blood pressure readings consistently above the normal range (systolic blood pressure consistently above 160 mm Hg and diastolic blood pressure consistently above 100 mm Hg).

She had a history of poorly controlled hypertension for over a period of time. Her blood pressure remained elevated, leading to progressive damage to her kidneys. Eventually, she developed end stage renal disease (ESRD), necessitating renal replacement therapy. Her sister was identified as a compatible and willing donor. She underwent a comprehensive successful transplantation. Her blood pressure was better controlled with regular medication, and the transplanted kidney functioned optimally. Following regular medication and appointments, and also adopting a better diet routine, she had no further complaints.

She led a busy life, working a full-time job and managing household. She admitted on taking a diet that includes high sodium content and on the other hand she likes to take fresh fruits and also highlighted her irregular exercise pattern. In addition, her alcoholic husband created unending stress in the family which caused her sleepless nights due to numerous physical and emotional tortures. She had the habit of taking tobacco products like ‘sahdah’ and’ kuva’ (betel nut).

Her husband occasionally created problems in the family and sometimes she would spend the night with her relatives when the situation became worse. In terms

of children, her eldest daughter, the supportive one, studied outside the state and hardly stays at home. The other children live with her under her care and support. She is an introvert and has very few friends. Her only friends were her co-workers and she rarely socializes in her community.

Analysis of Case 5

The above case highlighted two important factors. One is that irregular intake of medicines leads to serious consequences and co-morbidities that led to kidney transplant. The other is that regular medication and proper diet controls hypertension. The case also highlighted that family problems such as alcoholism contributed to stress which is harmful for hypertensive patients. Lack of social support systems can also increase stress.

Case 6

Biaki (Fictitious) is a 39-years old married woman. She gave birth to her second child three months ago. She was a nursing mother and a dedicated homemaker and managing household responsibilities. She was diagnosed with hypertension when she was 37 years old during her first pregnancy and had been under medication since then.

Currently, she has been experiencing increased stress and difficulty in managing her blood pressure since the birth of her second child. She was overwhelmed with the demands of motherhood, household chores, and a lack of sleep. Her blood pressure readings had consistently been elevated during her postpartum check-ups, raising concerns about her cardiovascular health. There was no known family history of hypertension or cardiovascular diseases.

Her dietary habits primarily consist of quick and convenient meals due to time constraints. She did not focus on a well-balanced diet, which may enhance her hypertension. She struggled to find time for regular exercise and good sleep amidst her care giving responsibilities. The combination of caring for two young children, managing household tasks, and coping with hypertension creates a high-stress environment for Biaki.

Her husband was supportive but works long hours in his private business firm, leaving her to manage the majority of childcare and household responsibilities. She further stated her lack of time to engage with friends or participate in community

activities. She was receiving regular medical check-ups. She felt the need to enhance communication with her healthcare provider to address her emotional and mental well-being.

Analysis of Case 6

The above case highlighted that pregnancy can also be one of the contributing factors for developing hypertension. It was also clear that motherhood d ue to its demand for responsibility could affect healthy lifestyle. Family, peers and significant others play a very important role in hypertension management.

From the above cases, we can understand that lifestyle and social support were a very important factor contributing to hypertension. Hereditary factors as well as pregnancy can also be one of the contributing factors for developing hypertension. Negligence in medication is also one factor that enhances the problems and creates other health problems. It was clear that anti-hypertensive medication solely was not a complete healer of the disease. Tobacco intake could be one of the contributing factors for the disease to get worse. The study also highlighted that bereavement leads to emotional breakdown, accompanied with stress and lack of enough sleep, and consequently hampers hypertension management. Lack of physical activity also serves as a contributing factor in developing the disease. Regular medication and early intervention prevented the disease from getting worse. Life stress disturbed hypertension management. The case also highlighted the need to encourage setting boundaries at work. Family, peers and significant others play a very important role in reducing stress and hypertension management.

4.11.2. Focus Group Discussion (FGD)

To address the issue of hypertension and understanding the lived experiences, challenges, and perceptions of hypertensive individuals two (2) focus group discussion (FGD) were conducted with eight hypertensive women diagnosed from the Non-Communicable Diseases (NCD) Clinic in both Aizawl and Lunglei. The topic of discussion was “Lifestyle factors and Social Support Systems affecting hypertension”

Group.1 (Aizawl)

Participants were recruited from the NCD Clinic in Aizawl, ensuring diversity in age, socioeconomic status, and severity of hypertension. The inclusion

criteria comprised women diagnosed with hypertension, actively seeking treatment from the clinic, and willing to engage in an FGD. Participants were assured of confidentiality and provided informed consent prior to participation.

Eight women, aged between 35 and 60, diagnosed with hypertension, participated voluntarily in the FGD. The participants were from diverse socio-economic backgrounds and had been attending the NCD Clinic regularly for their condition (see table 46).

Table 46: Participants Particulars (FGD I)

Age	Ethnicity	Socio-economic status	Educational qualification	Marital Status	Year of diagnosis	NCD Registration
35	Mizo	Non-NFSA	Graduate	Unmarried	2020	2020
42	Mizo	PHH	High School	Married	2017	2023
45	Paihte	AAY	Middle school	Divorce	2018	2023
48	Mizo	AAY	High School	Married	2017	2020
51	Mizo	PHH	Higher Secondary	Married	2018	2019
54	Hmar	PHH	High School	Married	2019	2021
58	Chakma	AAY	Primary	Widow	2020	2022
60	Mizo	AAY	Middle School	Widow	2017	2020

The findings of the discussion are listed below:

- Mix of dietary habits were found among the participants, ranging from traditional Mizo cuisine to processed foods. Emphasis was placed on reducing salt intake, but challenges in adapting to new dietary patterns were evident.
- The group acknowledged the importance of physical activity but cited time constraints and household responsibilities as barriers to regular exercise.
- Stress emerged as a significant factor contributing to hypertension. Participants discussed various coping mechanisms, including prayer, hobbies, and engaging in social activities, to manage stress.
- Some participants admitted occasional alcohol consumption.

- The participants expressed gratitude towards the NCD Clinic for providing regular check-ups and medication. Concerns were raised about the need for increased awareness about hypertension management.
- Financial constraints and transportation issues were identified as barriers to accessing healthcare services regularly.
- The group highlighted the significance of family support in managing hypertension. Supportive family members encouraged medication adherence and dietary modifications.
- A few participants expressed challenges in receiving adequate support due to familial obligations or lack of understanding about the severity of hypertension.
- Peer support helped in managing hypertension to a large extent.
- Support from Church, YMA, MHIP, MUP, NGOs was rare.
- Government measures for hypertension control physical, and instrumental was found on a wider scale but find there is still an area of improvement in matters relating to financial and emotional support.

Group 2 (Lunglei)

Eight hypertensive women from NCD Clinic, Lungleiwere selected for the discussion with the help of NCD staffs. Diverse backgrounds and age groups were recruited for this focus group discussion. Participants were selected based on their diagnosis of hypertension and willingness to share their experiences openly and honestly. The group represents a range of socioeconomic statuses, ethnicities, and educational backgrounds to ensure a broad perspective on the topic (see Table 47).

Table 47: Participants Particulars (FGD II)

Age	Ethnicity	Socio-economic status	Educational qualification	Marital Status	Year of diagnosis	NCD Registration
31	Mizo	Non-NFSA	Graduate	Married	2020	2023
40	Mizo	Non-NFSA	Higher Secondary	Divorcee	2019	2023
42	Chakma	AAY	Middle school	Married	2021	2021
44	Mizo	PHH	High School	Married	2021	2021
50	Mizo	PHH	Higher Secondary	Married	2017	2022
53	Chakma	PHH	High School	Married	2019	2021
57	Hmar	AAY	Primary	Widow	2018	2022
58	Mizo	AAY	Middle School	Widow	2017	2023

Source: Computed

The findings based on the discussion were as follows:

- The participants discussed their dietary habits, emphasizing the challenges of maintaining a healthy diet due to cultural preferences and financial constraints.
- Tobacco intake may be one of the contributing factor to hypertension as it was highlighted that most of the participants have the habits of taking beetle nut, ‘sahdah’, ‘tuibur’ and few of them smoked occasionally and further stated that this intake don’t have much impact on their health condition.
- Lack of regular physical activity emerged as a common issue, attributed to busy lifestyles, household responsibilities, and inadequate infrastructure for exercise in their community.
- Stress was identified as a major contributor to hypertension. Participants highlighted the importance of stress reduction techniques such as meditation and relaxation exercises, but expressed difficulty in incorporating them into their daily routines.
- Participants emphasized about the support received in managing hypertension, mostly in terms of encouragement for medication adherence, and also were given advice to take healthier diet quiet often

- Limited access to community resources for hypertension management was a shared concern.
- Participants expressed the need for community-based programs offering education, support groups, and access to affordable healthcare services.

4.11.3Participatory Techniques

This section provided the findings related to the participatory research techniques that were employed during the research process. These findings enriched the findings of the study. The two participatory techniques viz. causal tree analysis and daily activity schedule were conducted. The results and findings are as follows:

Fig. 6 : Causal Tree Analysis in Aizawl

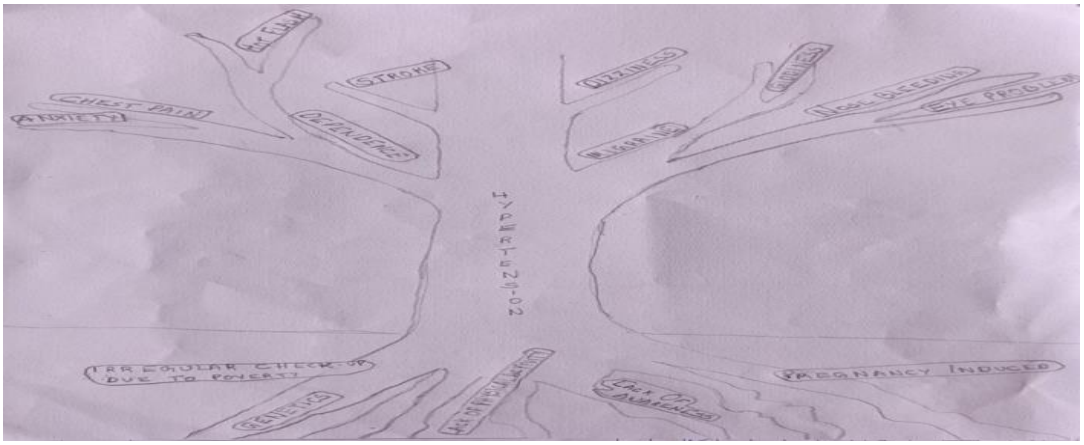


Figure 6 highlights the findings of the causal tree analysis of women with hypertension in Aizawl.

From the figures, the causes of hypertension include lack of physical activity, irregular check-up due to poverty, genetics, lack of awareness and also pregnancy induced.

Further, the figure shows that the effects of hypertension on women include problems like anxiety, chest pain, hot flush, dependency, stroke, dizziness, migraine, giddiness, nose bleeding and eye problem.

Fig. 7 Causal Tree Analysis in Lunglei

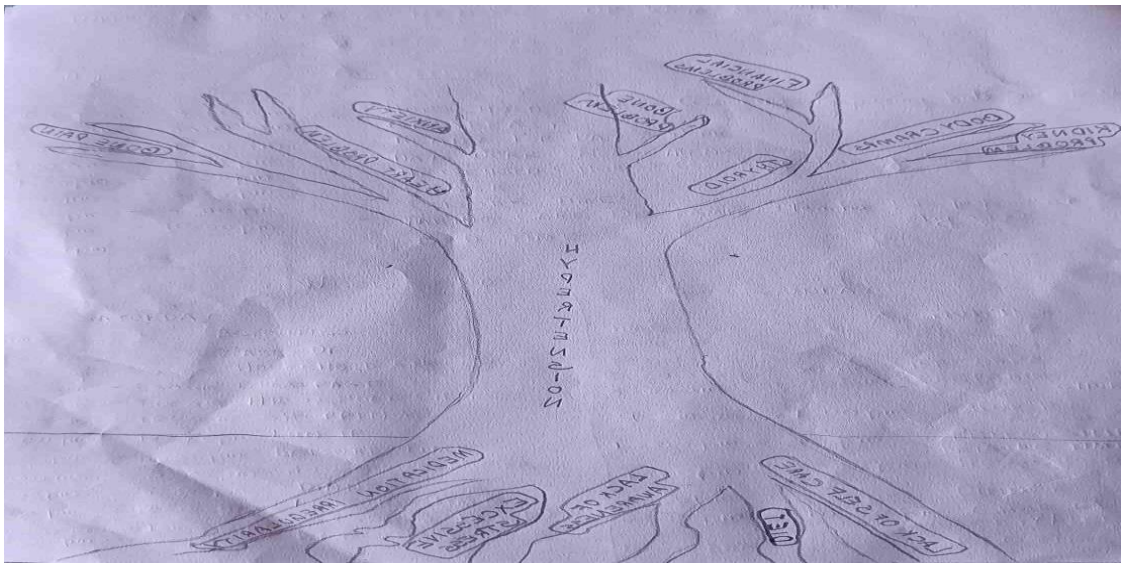
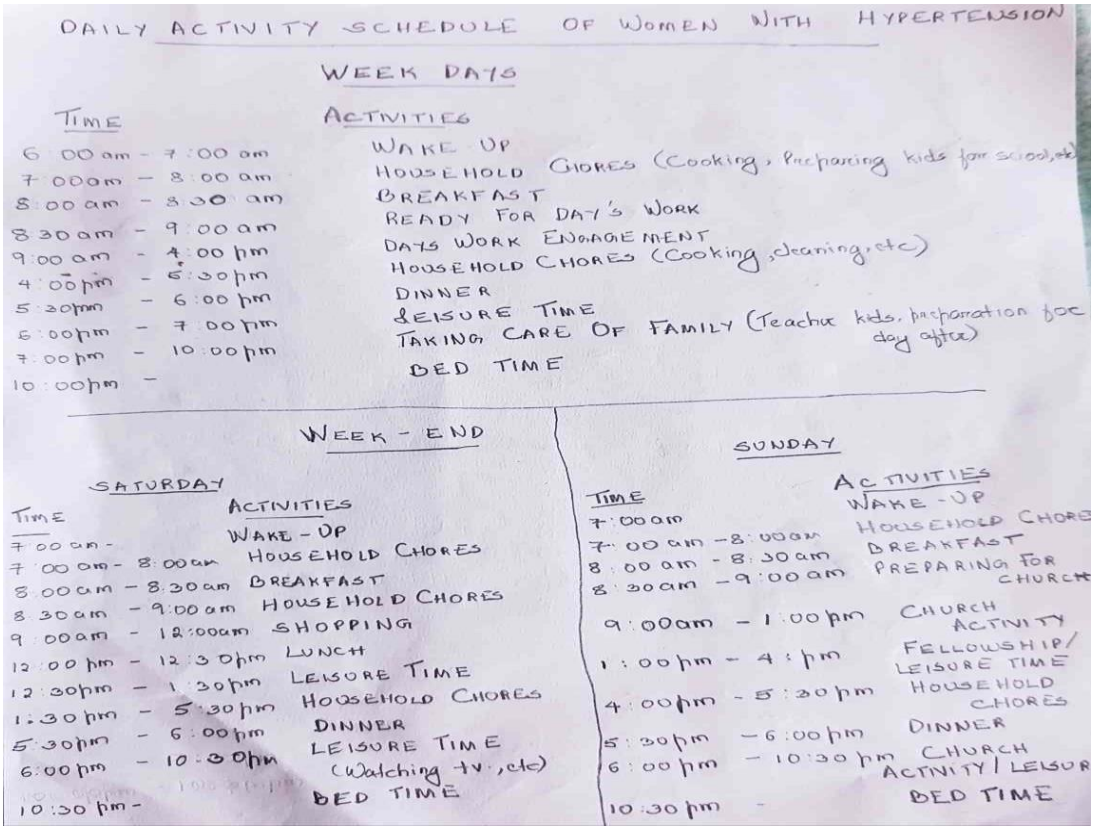


Figure 7 highlights the findings of the causal tree analysis of women with hypertension in Lunglei.

From the figures, the causes of hypertension include lack of self-care, diet, lack of awareness, excessive stress and medication irregularity.

The figure also shows that the effects of hypertension include problems like kidney problems, body cramps, financial problems, thyroid, anxiety, heart problem, chest pain and dependency

Fig. 8 Daily Activity Schedule of Women with Hypertension



From the above figure, women with hypertension across districts have little time for taking care of themselves and their time was fully concentrated largely on duties for the family. Moreover, it was evident that the schedule of women with hypertension in weekdays and weekend was a bit different where women have more time relaxing on weekends as compared to weekdays.

Chapter V
Conclusion

Hypertension**,** or high blood pressure, is a non-communicable disease characterized by a persistent rise in blood pressure within the arteries. According to the American Heart Association (2016), high blood pressure is defined as a persistently elevated BP of 140 systolic or higher and 90 diastolic or higher. Hypertension is termed as 'silent killer' since it progressively and permanently affects organs before occurrence of any diagnosable outward appearance. Therefore, it can also be regarded as the 'Sleeping snake' which bites when it wakes up. In this perspective, hypertension presents a major area of intervention because it is a frequent condition and is amenable to control through both non-pharmacological lifestyle factors and pharmacological treatment (Bollampally et al., 2016). In addition, patients with hypertension who perceived higher social support are more likely to adhere to the dietary of hypertension and further suggests that health care providers need to facilitate support from friends, family and significant others of patients to achieve optimum dietary adherence(Hanifah et al., 2021).

According to the World Health Statistics 2012, hypertension is the fourth leading cause of mortality in industrialized countries and the seventh in developing countries. According to recent reports, approximately 1 billion adults (more than a quarter of the world's population) had hypertension in 2000, and this figure is expected to rise to 1.56 billion by 2025.The Hindu (2023) reports that, globally, hypertension affects one in three individuals and four out of five do not have it well treated.

In the WHO report that based on 2019 statistics, 188 million Indians people aged 30-79 years have hypertension. In India, the prevalence of hypertension is significant, but the proportion of adults with hypertension who are aware of their diagnosis, receive treatment, and achieve control is low (Prenissl et al, 2019).HTN causes 57% of all stroke deaths and 24% of all coronary heart disease (CHD) deaths in India (Anchala, 2014).

Sheokand (2014) identify trends in the prevalence of hypertension among women, as it is a significant risk factor for cardiovascular disease in women, yet it is

frequently overlooked and untreated, and there is a persistent misconception that women have a lesser risk of cardiovascular disease than males.

In Mizoram, 12% of women aged 15 to 49 have hypertension, with 7% having stage 1 hypertension, 2% having stage 2 hypertension, and 1% having stage 3 hypertension. A little more than one-fifth (12%) of women have normal blood pressure, with 1% of women with normal blood pressure requiring blood pressure medication. Hypertension tends to rise with age and is more prevalent in cities than in rural regions (National Family Health Survey, 2018).There is a significant difference in knowledge of the range of normal blood pressure between hypertensive and non-hypertensive responders, with most women with hypertension knowing the normal range of blood pressure and few women without hypertension (Lalremtluangi, 2017).

A non-communicable diseases (NCD) which are sometimes called as lifestyle diseases are those diseases which may develop in a person due to incorrect eating and living habits. Lifestyle can be simply mentioned as the method in which a person lives. A manner of living of individuals, families (households), and communities, which they display in coping with their physical, psychological, social and economic situations on a day-to-day basis (Bollampally et al., 2016).A manner of living of individuals, families (households), and communities, which they display in coping with their physical, psychological, social and economic situations on a day-to-day basis is referred to as lifestyle. It is a mixture of motives, needs and wants and is impacted by elements such as culture, family, reference groups, and socioeconomic class(Business Dictionary). Lifestyle modification, originally dubbed non-pharmacologic therapy, has vital responsibilities in hypertensive as well as non-hypertensive persons. In hypertensive individuals, lifestyle adjustments can act as initial treatment before the initiation of pharmacological therapy and as an addition to medicine in those already on drug therapy (Appel, 2003).Lifestyle modifications like regular exercise, avoiding alcohol and smoking, incorporating green leafy vegetables, reducing smoking, reducing sedentary habits, managing overeating, and avoiding obesity can help control hypertension.(Lalremtluangi, 2017).

Social support refers to the resources supplied by interpersonal interactions to improve an individual’s wellbeing, which include emotional, informational and

instrumental aid (Bell, 2010).Social support refers to the actual or perceived availability of social resources that can be used for comfort or assistance, particularly during times of stress. It is provided by one's social network, which includes everyone with whom one has frequent social interaction (Lepore, 2012).Social support is an important means for people with higher blood pressure further, participation in community-based organizations may improve blood pressure for these individuals(Lei et al., 2019).Peer support program improved hypertension patients' adherence to treatment regimens(Haidari et al., 2017).Hypertensive patients are observed to improve as their social support increased. In addition to the assistance provided to patients by nuclear family members, additional forms of social support, particularly professional agencies and community organizations, should be promoted and strengthened (Pan et al., 2021).

The study delves into the socio demographic profile, lifestyle and social support of women with hypertension across districts viz. Aizawl and Lunglei in Mizoram, the two most populated districts. The objectives of the study were to find out the demographic profile of women with HTN in Mizoram, to explore the lifestyles of women with HTN across Districts in Mizoram, to explore dimensions of social support according to the availability, accessibility, adequacy and quality across the Districts in Mizoram, to explore the suitable provision for promoting the welfare of women with hypertension in Mizoram, to find out the relationship between lifestyles and social support of women with HTN across the Districts in Mizoram and to suggest measures of social work intervention and social policy in the field of HTN among women in Mizoram.

The study was descriptive in design and adopted mixed methods viz. quantitative, and qualitative. The study was conducted in two districts of Mizoram, Aizawl and Lunglei. Data was obtained from both primary and secondary sources. The unit of the study was women with hypertension. The study adopted purposive sampling technique.

A semi-structured interview schedule was used for finding the personal profile, family characteristics, other health related problems, additional food intake, tobacco consumption, problems related to hypertension, coping strategies, and suggestions for social work intervention to improve lifestyle and social support.

Simple Lifestyle Indicator Questionnaire (SLIQ) which was developed by Godwin (2008) was employed to measure the lifestyle of women with hypertension.A 5-point structured scale was constructed based on various studies(John & Katherine (2008), Schwarze, Knoll & Rieckmann (2003), Dunst, Trivette & Cross (1986), Schaefer, Coyne & Lazarus (2002), Olsson et al. (2015), Curtona and Suhr (1992), Chhangte (2017), Meral & Cavkaytar (2012), Lifshitz & Glaubman (2004), Teklu (2010), Parette et al. (2010), Mishra & Gupta (2006) & Lalmuanpuii (2016) was used to assess social support, measuring accessibility, quality, and adequacy across various dimensions such as basic needs, emotional support, physical health, mental health, life skills, financial support, and instrumental support. Qualitative methods such as case study, focus group discussion and participatory techniques i.e. impact diagram, daily activity schedule are also conducted.

The quantitative data was analyse using Microsoft Excel and SPSS package. Descriptive statistics, simple frequency and means were used to present the quantitative data. Social support was analyzed based upon a tool constructed and lifestyle was analyzed based on SLIQ score. To find out differentiation t-Test was used and Pearson's Co-efficient correlation statistics was used to find out the relationship between lifestyle and social support of women with hypertension. Qualitative results through case study and focus group discussions were highlighted. The findings of Participatory Rural Appraisal (PRA) using Causal Tree Analysis and Daily Activity Schedule were also highlighted and analyzed accordingly.

Informed consent was taken from all the respondents before collecting data. The sample excludes those who are intellectually disabled or had any other infirmity that disrupted communication and meaning. Confidentiality was strictly adhered to.

5.1 Major Findings from Quantitative Studies

- Majority of the hypertensive respondents in both the districts were between 50 – 60 years of age and mostly married in both the district .Equally most respondents had educational qualification till high school in both the districts. Majority of the respondents in both the district belonged to Lusei tribe. In both the districts, majority were Christian wherein majority in Aizawl belonged to Presbyterian denomination while Baptist denomination took majority in Lunglei. Equally, most of the respondents in both the districts

belonged to nuclear family where majority in Aizawl belonged to PHH category while NFSA category in Lunglei. It was also found that family primary occupation of the respondents in both the districts was mainly daily labour and their monthly income was mostly between Rs. (10,000 -50,000) across the districts. Furthermore, most respondents in Aizawl were diagnosed with hypertension disease in/after 2021 whereas in Lunglei, it was between 2015-2020 and overall, majority of them registered in NCD in/after 2021.

- Overall, the diet intake, exercise, smoking and life stress were found to be intermediate i.e. between unhealthy and healthy while alcohol consumption was found to be less i.e healthy. It was also found that majority of the respondents across the district had the habit of taking table salt, excessive oily food intake sweets intake and a few of them claimed to control their diet. Overall the lifestyle dimensions of the respondent s was found to be intermediate
- Furthermore, women with hypertension in both the districts reported taking tobacco related products such as ‘kuva’ (betel nut), ‘sahdah’ (tobacco taken orally), ‘tuibur’ (tobacco smoke-infused water), ‘khaini’ (processed tobacco taken orally) and ‘shikhar’. A few of them were found to be free from all these substances. There were also a significant number of women who consumed alcohol occasionally. Some of these findings are consistent with the findings of Elizabeth (2015) where she stated that Mizo tribal women consume tobacco in both smoked and smokeless forms at a higher rate at above the national average. The practice is widespread across all age groups, and variations in use patterns are also found.
- The findings also revealed that there is no difference found in the lifestyles across the districts. However, the study highlighted that there is significant differences across the districts in the life stress dimension of lifestyle of the women with hypertension where life stress among women with hypertension in Aizawl was higher than those in Lunglei.
- The overall score of the agents of social support across the dimensions in accessibility was neither inaccessible nor accessible in accessibility, neither

poor nor good in quality while it was inadequate in adequacy across agents. Family support was the only support systems that were found to be accessible, good and adequate for women with hypertension concerning to their ailment.

- Overall score of social support across various dimensions highlighted that basic needs, financial and instrumental support were inaccessible, poor and inadequate, while dimensions like emotional, physical health, mental health, and life skill support were neither inaccessible nor accessible, neither poor nor good and neither inadequate nor adequate.
- There were district wise differences in accessibility, quality and adequacy of family support and adequacy of peer support among primary supporters (Family and Peers) where respondents in Aizawl received lesser support as compared to the Lunglei respondents.
- From the secondary supporters (Church, YMA, MHIP, MUP, NGO), there were district wise differences in adequacy of Church and MHIP support, where respondents from Aizawl received lesser support than the Lunglei respondents.
- Among the tertiary supporters (Local Council, Government), there are also district wise differences in accessibility of government support, where Aizawl respondents are found to receive more support than the Lunglei respondents.
- Increase in the accessibility, quality and adequacy of family supports, leads to increase in smoking**.** Further, it was also found that higher the adequacy of family support, higher the life stress of the respondents. Also, higher the accessibility, quality and adequacy of family support, the higher the SLIQ total score of the respondents. Similar indications were also found in Kalavana et.al. (2011) where she stated that he link between family environment (cohesion and conflict) and health-related behaviours such as eating behaviour, tobacco smoking, alcohol use, insufficient sleep, and physical activity emphasises the importance of addressing family cohesion and conflict.

- It was found that higher the adequacy of MHIP support, lower the life stress of respondents. Further, higher the accessibility, quality and adequacy of MUP support, healthier the lifestyle. Moreover, higher the accessibility and quality of NGO support, higher the score in the exercise dimensions of the respondents. Conversely, higher the adequacy of MUP support, lower the overall lifestyle score of the respondents.
- The findings indicated that higher the accessibility, quality and adequacy of local council support, lower the smoking of the respondents. Further, higher the adequacy of local council support, the exercise lifestyle of the respondents becomes more vigorous. Moreover, increase in the adequacy of government supports, leads to increase in alcohol consumption of the respondents.
- In the findings related to suggestions to prevent hypertension, it was found that self-control, regular exercise, sufficient sleep, optimism, self-awareness and regular health check-up were among the important list suggested by the respondents.
- Lastly but not the least, in the suggestions made by the respondents to improve lifestyle and social support system, suggestions included awareness campaign, active participation and collaborations with NGOs, media publicity, practicing healthy lifestyles and early education on health.

5.2 Major Findings from Qualitative Study

- From the case studies, it was found that lifestyle and social support were a very important factors of hypertension. Hereditary factors as well as pregnancy can also be one of the contributing factors for developing hypertension. Negligence in medication is also one factor that enhances the problems and creates other health problems. It was clear that anti-hypertensive medication solely was not a complete healer of the disease. Tobacco intake could be one of the contributing factors for the disease to get worse. The study also highlighted that bereavement leads to emotional breakdown, accompanied with stress and lack of enough sleep, and consequently hampers hypertension management. Lack of physical activity

also serves as a contributing factor in developing the disease. Regular medication and early intervention prevented the disease from getting worse. Further, life stress disturbed hypertension management. The case also highlighted the need to encourage setting boundaries at work. Family, peers and significant others play a very important role in in reducing stress and hypertension management.

- From the focus group discussion in Aizawl, it was found that respondents had a mix of dietary habits ranging from traditional Mizo cuisine to processed foods. Emphasis was placed on reducing salt intake, but challenges in adapting to new dietary patterns were evident. Importance was given to physical activity but time constraints and household responsibilities were barriers to regular exercise. Stress emerged as a significant factor contributing to hypertension. Further coping mechanisms included prayer, hobbies, and engaging in social activities, to manage stress. There were some respondents who admitted occasional alcohol consumption. It was also found that there was a sense of gratitude towards the NCD Clinic for providing regular check-ups and medication. Concerns were raised about the need for increased awareness about hypertension management. Financial constraints and transportation issues were identified as barriers to accessing healthcare services regularly. The significance of family support was highlighted in managing hypertension. Supportive family members encouraged medication adherence and dietary modifications. Moreover, there were challenges in receiving adequate support due to familial obligations or lack of understanding about the severity of hypertension. Peer support helped in managing hypertension to a large extent. Support from Church, YMA, MHIP, MUP, NGOs was rare. Government measures for hypertension control physical, and instrumental was found on a wider scale but find there is still an area of improvement in matters relating to financial and emotional support.
- From the focus group discussions in Lunglei, it was found that there were challenges of maintaining a healthy diet due to cultural preferences and financial constraints. Tobacco intake may be one of the contributing factor to hypertension as it was highlighted that most of the participants have the

habits of taking beetle nut, ‘sahdah’, ‘tuibur’ and few of them smoked occasionally. Lack of regular physical activity emerged as a common issue, attributed to busy lifestyles, household responsibilities, and inadequate infrastructure for exercise in their community. Moreover, it was found that stress was identified as a major contributor to hypertension. Participants highlighted the importance of stress reduction techniques such as meditation and relaxation exercises, but expressed difficulty in incorporating them into their daily routines. Participants emphasized about the support received in managing hypertension, mostly in terms of encouragement for medication adherence, and also were given advice to take healthier diet quiet often. Limited access to community resources for hypertension management was a shared concern. There was also a need for community-based programs offering education, support groups, and access to affordable healthcare services.

- From the participatory research techniques, the causes of hypertension include lack of physical activity, irregular check-up due to poverty, genetics, lack of awareness, pregnancy induced, lack of self-care, diet, excessive stress and medication irregularity. Further, the effects of hypertension on women include problems like anxiety, chest pain, hot flush, dependency, stroke, dizziness, migraine, giddiness, nose bleeding, eye problem, kidney problems, body cramps, financial problems, thyroid, heart problem and dependency. Further, the daily activities schedule indicated that women with hypertension across districts have little time for taking care of themselves and their time was fully concentrated largely on duties for the family. Moreover, it was evident that the schedule of women with hypertension in weekdays and weekend was a bit different where women have more time relaxing on weekends as compared to weekdays.

5.3. Suggestions

- Launch comprehensive awareness programs that address multiple facets of lifestyle improvement, such as physical health, diet, mental health, and social interactions. Use a variety of venues, such as social media, community gatherings, and educational seminars, to efficiently distribute information. This

can be undertaken by the Health Department and collaborate with NCD and community based organisations, schools and other educational institutions. Further, to promote awareness about the benefits of healthy lifestyles and the availability of support services media can also be used. To reach a wide range of people, traditional media outlets such as television, radio and newspapers with digital platforms such as websites, podcasts and social media influencers can be used.

- Encourage behaviours that lead to a healthy lifestyle, such as regular exercise, balanced nutrition, appropriate sleep, stress management, and abstaining from dangerous substances like tobacco and excessive alcohol. Cognitive behavioural therapy as well as other psychodynamic therapies can be used at the individual and group levels.
- Provide incentives, subsidies, or discounts for participating in wellness programs or receiving health care.
- Implement comprehensive health education curriculum in schools and community centres to develop healthy behaviours at a young age. Teach children and adolescents the value of nutrition, physical activity, mental health, and pleasant social connections. Encourage participatory learning using games, workshops and peer support groups.
- Regular consultations with doctor to monitor blood pressure, discuss any issues, and alter treatment plan as necessary. Proactivism in controlling hypertension and follow doctor's advice consistently is also needed. Recognizing unusual changes in oneself helps early detection of high blood pressure allows for timely intervention.
- Awareness on the importance of adopting Dietary Approaches to Stop Hypertension (DASH) diet which is low in salt and rich in fruits, vegetables, whole grains, low-fat dairy and lean proteins must be given through media and various social support agents because the study highlighted that lifestyle in diet was intermediate. Since, Appel (2003) stated that the Dietary Approaches to Stop Hypertension (DASH) diet effectively lower BP.

- Lifestyle in exercise is found to be intermediate. Physical activity was identified as the characteristic most associated with hypertension (Herawati et al., 2023). Therefore, measures must be taken so that women with hypertension will improve their lifestyle in exercise. Aim for at least 150 minutes of moderate-intensity aerobic activity, such as brisk walking, or 75 minutes vigorous-intensity activity such as jogging, each week. In addition, incorporate strength training activities introduce your regimen at least twice a week.
- Advocacy programmes for policies that limit tobacco sales, increase taxes on these products is a must, and encourage women with hypertension to make use of government resources for cessation, like Tobacco Cessation Clinic.
- Improving access to mental health services provided under NPCDCS program in Mizoram including counselling and stress management programs.
- The support received from family was the only support, which was found to be accessible, good and adequate among all social support agents. Therefore, measures must be taken to improve the social support across agents for women with hypertension. Working with support groups specializing in health, education, and community development to execute programs suited to individual needs and demography is needed. Support groups can offer essential resources; experience and outreach to ensure that initiative reach their intended audience.
- Basic needs, financial and instrumental support were inaccessible, poor and inadequate; hence, social support in these dimensions can be improved across the agents of social supporters through awareness, training and sensitization programmes.
- Emotional, physical health, mental health, and life skill support were neither inaccessible nor accessible, neither poor nor good and neither inadequate nor adequate. So, more awareness workshop addressing various determinants of health needs to be conducted in a wider scale across community settings. These can be done through National programmes related to health and mental health. As for life skills, schools and community based intervention programmes can be helpful to improve the support.

- It was found that when the accessibility, quality and adequacy of family support increase, smoking tends to increase. The psychological and social attributes are highly significant in tobacco use (Elizabeth, 2015). Culturally, acceptance of smoking is high in Mizoram, therefore, family intervention programmes for cessation is needed. Church as well as YMA can be used as arenas to create awareness on the effects of smoking.
- Encourage family members in the importance to open communication where members freely express their thoughts, offer emotional help like spending quality time together and respect each other's boundaries. Because the study found that when increase in family support, life stress tends to increase.
- Increase in adequacy to MHIP support, life stress tends to decrease among the respondents. Therefore, measures must be taken to strengthen MHIP support so that life stress of women with hypertension will be reduced. Adopt stress management techniques like meditation, deep breathing, exercises, enjoyable hobbies, etc. to lessen the influence of negative emotions.
- MUP, NGO and Local Council support system must be strengthened with more advance program in collaboration with a healthcare professional addressing the underlying health concerns or medical conditions.
- It was found that higher the adequacy of government support, alcohol consumption tends to increase. Government efforts in prohibition have provided scope for illicit liquor trade that enhances alcohol consumption for some population in Mizoram (Sailo & Pachuau, 2015). Therefore, more efforts must be made to check the sales of illicit liquor trade in Mizoram.
- Measures to emphasize the need and importance of self-control to prevent hypertension needs to be taken as it is one of the most common shared suggestions to prevent hypertension by the respondents.
- It was clear from the study, that anti-hypertensive medication solely was not a complete healer of the disease. Therefore, measures must be taken so that women with hypertension will be more aware of the importance of lifestyle modification across dimensions such as diet, exercise, alcohol consumption, smoking and life stress.

- Hypertension could be developed without any symptoms and this creates negligence for regular medication. Ellis (2014) also stated that high blood pressure as the "silent killer," as it often has no symptoms Therefore, measures must be taken so that women with hypertension know the importance of self awareness.
- Self-management must be encouraged because the study highlighted the need to encourage setting boundaries to have a healthy lifestyle.
- Through case work, social workers can offer emotional support by listening carefully to hypertensive patients who are feeling anxious, stressed or depressed as a result of their disease. They can provide counselling and coping methods to assist patients control their emotions appropriately.
- Social workers can help hypertensive patients through group work by carefully analyzing the group situation that can further help them understand their illness, including risk factors, lifestyle changes and drug adherence. They can also advocate for patients' rights in the healthcare system and assist them in navigating complex medical procedures.
- Social workers can help hypertensive patients through community organization in finding community services like support groups, wellness programmes, and financial aid. They can also assist patient in obtaining healthcare services, such as specialist appointments and diagnostic tests.
- Through social action social workers can act as advocates for hypertensive patients, their families, and healthcare practitioners, ensuring that patients receive comprehensive care. They can improve communication among members of the healthcare team and help patients navigate the healthcare system more successfully.
- Social Work Research can focus on assessing the impact of educational programs and awareness campaigns targeting hypertension and healthcare providers on the management of hypertension. Evaluative study on the impact of existing health policies on the prevention, diagnosis and management of hypertension in women can also be focussed to identify gaps and propose policy recommendations. Further, examine the barriers to accessing healthcare

services for hypertension diagnosis and management among women, including geographic, economic and social barriers can also be covered in the study. Another important area of research is on how cultural beliefs and practices influence the perception, diagnosis and management of hypertension among women.

Bibliography

Abramson, B.L. & Melvin, R. G. (2014). Cardiovascular Risk in Women: Focus on Hypertension. *Canadian Journal of Cardiology. Volume 30, Issue 5, 2014, Pages 553 559.ISSN 0828-282X*. https://doi.org/10.1016/j.cjca.2014.02.014.

Adisa, R.., Olamide, O, O. &Fakeye, T.O. (2017). Social Support, Treatment Adherence and Outcome among Hypertensive and Type 2 Diabetes Patients in Ambulatory CareSettings in southwestern Nigeria..*Ghana Medical Journal, 51(2):64 77.doi:10.4314/GMJ.V51I2.4*

Admin. (2020, August 5). *What Is Hypertension? - Types, Causes, Symptoms & Treatment*. BYJUS. https://byjus.com/biology/hypertension/

Anchala, R. et al. (2014). Hypertension in India: a systematic review and meta-analysis of prevalence, awareness, and control of hypertension. *Journal of Hypertension. Volume 32 _ Number 6 _ June 2014.*

Ahmad, A. & Oparil, S. (2017). Hypertension in Women: Recent Advances and Lingering Questions.*01 Jul 2017-Hypertension (Lippincott Williams&WilkinsHagerstown,MD) Vol.70,Iss:1,pp 19-26.*

Antonetti, I., & Bisognano, J. D. (2013). Hypertension in Women. In *Springer eBooks* (pp. 251–263). https://doi.org/10.1007/978-1-4471-5517-1_12

Appel, J. L. (2003).Lifestyle Modification as a Means to Prevent and Treat High Blood Pressure.*Journal of the American Society of Nephrology.*

August, P. &Oparil, S. (1999). Hypertension in Women.*J ClinEndocrinolMetab (1999) 84 (6): 1862-1866.*

Azimi, A.M. & Daigle, L.E. (2020).Viloent Victimization: The Role of Social Support and

Risky Lifestyle. *Violence and Victims; Vol: 35, Iss.1, Feb 2020, DOI: 10.1891/08866708.VV-D-18-00167*

Bahari, G., Scafide, K.N., Krall, J.R., Mallinson, R.K.& Weinstein, A.A. (2019). Mediating role of self-efficacy in the relationship between family social support and hypertension self care behaviors: A cross-sectional study of Saudi men with hypertension. *16 Sep 2019 International Journal of Nursing Practice (Int J NursPract)-Vol.25, Iss:6.*

https://doi.org/10.1111/ijn.12785

Baldisserotto, J., Kopittke, L., Nedel,F.B., Takeda, S.P., Mendonca, C.S., Sirena, S.A., Diercks, M.S., Lima, L.A. &Nicolau, B. (2016).*Socio-demographic characteristics and prevalence of risk factors in a hypertensive and diabetics population: a cross-sectional study in primary health care in Brazil.*BMC Public Health.

Batool-Anwar, S., Malhotra, A., Forman, J., Winkelman, J., Li, Y., & Gao, X. (2011). Restless Legs Syndrome and Hypertension in Middle-Aged Women. *Hypertension*, *58*(5), 791– 796. https://doi.org/10.1161/hypertensionaha.111.174037

Bell, C. N., Thrope, R. J., &LaViest, T.A (2010).Race/Ethnicity and Hypertension: The Role of Social Support.NIH Public Access.Am J Hypertens. 2010 May ; 23(5): 534–540. doi:10.1038/ajh.2010.28.

Beilin, L. (1999). Lifestyle and Hypertension: An overview. *01 Jul 1999 – Clinical and Experimental Hypertension (Taylor & Francis)-Vol.21,pp749-762.*

Bhimarasetty, M., Pamarthi, K., Kandipudi, K.P., Padmasri, Y. Nagaraja, S.B., Khanna, P. &Goel, S. (2022). Hypertnesion among women in reproductive age in India: Can we predict the risk? An analysis from National Family Health Survey (2015 – 2016).*Journal of Family Medicine and Primary Care 11(9):p 5857-5864, September 2022.* | *DOI: 10.4103/jfmpc.jfmpc_176_22.*

Bollampally, M., Chandershekhar,P., Kumar,KP., Surakasula, A., Srikanth,S. & Reddy, TRM. (2016). Assessment of patient's knowledge, attitude and practice regarding hypertension. *International Journal of Research in Medical Sciences | August 2016 | Vol 4 | Issue 8 Page 3299.*

Borah, P. K., Paine, S. K., Kalita, H. C., Biswas, D., Hazarika, D., Bhattacharjee, C. K., & Mahanta, J. (2018, November 25). Prevalence and Risk Factors of Hypertension amongMizoPopulation:A Population-Based Epidemiological Study from North East India. *Current Science, 115*(10), 1947. https://doi.org/10.18520/cs/v115/i10/1947-1949

Bottorff, J., Robinson, C., Sarbit, G., Graham, R., Kelly, M., & Torchalla, I. (2015). A Motivational, Gender-Sensitive Smoking Cessation Resource for Family Members of Patients With Lung Cancer. *Oncology Nursing Forum,42*(4), 363–370. https://doi.org/10.1188/15.onf.42-04ap

Brownstein, J.N., Chowdhury, F.M., Norris, S.L., Horsley, T., Jack Jr, L., Zhang, X. & Satterfield, D. (2007). Effectiveness of community health workers in the care of people with hypertension.American Journal of Preventive Medicine.Volume 32, Issue 5, May 2007, Pages 435-447.

Campbell, N., Burgess, E., Choi, B., Taylor,G., BSc, Wilson, E., Cléroux, J., Fodor, G., Leiter, L. & Spence, D. (1999). Lifestyle modifications to prevent and control hypertension.*Canadian Medical Association Journal, May 4, 1999; 160 (9 Suppl)*.

Castro, S.M.O &Coutinho, R.M.C. (2011).Quality of life of patients with hypertension. *J Health Sci Inst. 2012;30(2):134-9.*

Chakraborty, S., Ussatayeva, G., Lee,M. &Dalal, K. (2022). Hypertension: A National Cross-sectional Study in India. *Turk KardiyolDernArs. 2022; 50(4): 276-283 | DOI: 10.5543/tkda.2022.21207.*

Chhabra, P., Behera, S.S., Sharma, R., Malhotra, R., Mehta, K., Upadhyay, K. &Goel, S. (2022). Gender-specific factors associated with hypertension among women of childbearing age: Findings from a nationwide survey in India. *Front. Cardiovasc. Med., 14 December2022 Sec. General Cardiovascular Medicine Volume 9-2022*https://doi.org/10.3389/fcvm.2022.999567

Conen, D., Ridker, P., Buring, J. & Glynn, R. (2007). Risk of cardiovascular events among women with high normal blood pressure or blood pressure progression : prospective cohort study. *BMJ/1September 2007/Volume 335.*

Das, M., Verma, M., Sri., N., Singh, M. & Singh, R.K. (2022). Relationship between height and hypertension among women in India: Evidence from the fourth round of National Family Health Survey. *Volume 16, Issue 1, 2022, 102384, ISSN 1871-4021.*https://doi.org/10.1016/j.dDsx.2021.102384.

Datta, B.K., Datta, B.K., Husain, M.J., Kostova, D. (2021). Hypertension in women: the role of adolescent childbearing. *BMC Public Health* **21**, 1481 (2021). https://doi.org/10.1186/s12889-021-11488-z.

Deepti, K.C., Poudel, S. &Shrestha, S. (2023). Illness Perception of Women Living with Hypertensive Condition: A Qualitative Study. *09 Mar 2023-Journal of Nepal Health Research Council-Vol.203, Iss:3, pp 677-682.*

Dhakal, A., Takma, K.C. &Neupane, M. (2021).Adherence to lifestyle modifications and its associated factors in hypertensive patients.*08 Sep 2021-Journal of Clinical Nursing (John Wiley & Sons, Ltd).* https://doi.org/10.1111/jocn.16033.

Dorobantu, M., Onciul, S., Tautu, O. &Cenko, E. (2016).Health and Ischemic Heart Disease in Women.*30 Jun 2016-Current Pharmaceutical Design (Curr Pharm Des)-Vol.22, Iss:25,pp 3885-3892. Doi: 10.2174/1381612822666160414142442 6.*

Dustan, H. (1987). Nutrition and Cardiovascular Diseases of Women. *Public Health Reports (1974-), Vol. 102, Supplement: Women's Health. Proceedings of the National Conference on Women's Health (Jul. - Aug., 1987), pp. 22-25.*

Elizabeth, H. (2015). *Gender and Tobacco Addiction in Mizoram.* International Journal in Management and Social Science. (Impact Factor-3.25). Vol.03.Issue-03, (March 2015). ISSN: 2321-1784

Elgendy, M.F., Eldawa, A.A.E., Elawady, M.A., Zidan, S.Y.E., &Elmahdy, M.A. (2022). Lifestyle Modification and Its Effects on The Control of Hypertension. *01 Oct 2022-The Egyptian Journal of Hospital Medicine-Vo.89,Iss:1,pp 4811-4816.*

Ellis, M. (2014b, January 2). *High blood pressure in women "more dangerous" than in men*. https://www.medicalnewstoday.com/articles/270747.php

Engberding, N., Wenger, N. (2012). Management of hypertension in women. *Hypertens Res* **35**,251–260 (2012). https://doi.org/10.1038/hr.2011.210.

Epidemiology of Hypertension. SUPPLEMENT TO JAPI • FEBRUARY 2013 • VOL. 61. MODULE – 1. Home Science in Daily Life. Communicable and Life Style Diseases. 30th April 2017.

Farrukh, F., Abbasi, A., Jawed, M., Almas, A., Jafar, T.H., Virani, S.S. &Samad, Z. (2022). Hypertension in Women: A South Asian Perspective. *Frontiers in Cardiovascular Medicine.10 August 2022 Sec. Sex and Gender in Cardiovascular Medicine Volume 9 2022. https://doi.org/10.3389/fcvm.2022.880374.*

Forman, J.P., Stampfer, M.J. &Curhan, G.C. (2009). Diet and lifestyle risk factors associated with incident hypertension in women. *22 Jul 2009-JAMA (American Medical Association)-Vol.302, Iss:4,pp 401-411. doi:10.1001/jama.2009.1060.*

Gabb, G. (2020). *What is hypertension?.* National Library of Medicine: National Centre for Biotechnology Information.AustPrescr. 2020 Aug; 43(4): 108 109. doi: 10.18773/austprescr.2020.025.

Geraci, T.S. &Geraci, S.A. (2013). Considerations in women with hypertension.*01 Jul 2013 South Medical Journal (South Med J)-Vol.106, Iss:7,pp 434-438.*

Ghezelbash, S. &Ghorbani, A. (2012).Lifestyle modification and hypertension prevention. 2012. *ARYA Atherosclerosis Journal; Volume 8, Special Issue in National Hypertension Treatment.*

Goetsch, M.R., Wagle, A.A., Valilis, E.M., Razavi, A.C., McEvoy, J.W., Blumenthal, R.S. &Whelton, S.P. (2021).Dietary and Lifestyle Modification for the Prevention and Treatment of Hypertension.*01 Oct 2021-Current Cardiovascular Risk Reports (SpringerUS)- Vol. 15, Iss: 10,pp 1-10.* https://doi.org/10.1007/s12170-021-00683-7

Goswami, A., Sultana, S. &Urooj, S. (2017). Socio-demographic study of hypertension and its risk factors.*01 Jan 2017-The Pharma Innovation Journal (AkiNik Publications)-Vol. 6, Iss: 12,pp368-372.*

Guo, A., Jin, H., Mao, J., Zhu, W., Zhou, Y., Ge, X. & Yu, D. (2022). Impact of health literacy and social support on medication adherence in patients with hypertension: a crosssectional community-based study. *Research Square.* https://doi.org/10.21203/rs.3.rs-2185043/v1.

Gupta, R. (2004). Trends in hypertension epidemiology in India. *J Hum Hypertens* **18**,73–78 (2004). https://doi.org/10.1038/sj.jhh.1001633

Gupta, R. & Guptha, S. (2010). Strategies for Initial Management of Hypertension.*Indian J Med Res 132, November 2010, pp 531-542.*

Gupta, R., Gaur, K., & S. Ram, C. V. (2018).Emerging trends in hypertension epidemiology in India.*Journal of Human Hypertension*, *33*(8), 575–587. https://doi.org/10.1038/s41371-018-0117-3

Gudmundsdottir, H. (2012). Hypertension in women : latest findings and clinical implications. *US National Library of Medicine, National Institutes of Health.*

Gustafson, K.S. (2009). Risk Factor for Cardiovascular Disease in Women.*Maturitas: An International Journal of Midlife and Beyond. 20Jul2009-Maturitas(Elsevier)-Vol.63,Iss:3,pp 186-190. DOI:* https://doi.org/10.1016/j.maturitas.2009.02.014.

Haidari, A., Moeini, M. &Khosravi, A. (2017). The impact of peer support program on adherence to the treatment regimen in patients with hypertension: A randomized clinical trial study. *01 Nov 2017-Iranian Journal of Nursing and Midwifery Research (Iran J Nurs Midwifery Res)-Vol. 22,Iss: 6, pp 427-430.*

Halim, R.D., Sitanggang, H.D. (2023).Formosa Journal of Science and Technology. 30 Jun 2023-Formosa Journal of Science and Technology-Vol.2,Iss:6,pp 1631-1646.

Hanifah, Winahyu, K.M. & Muttaqijn, M.I. (2021).*Social Support Positively Correlated with Dietary Adherence among Patients with Hypertension in Primary Health Center.* Faletehan Health Journal, 8 (1) (2021) 16-21.ISSN 2088-673X/e-ISSN 2597-8667.

Harding, B.N., Hawley, C., Kalinowski, J., Sims, M., Muntner, P., Mielcarek, B.A.Y., Heckbert,S.R., & Floyd, J.S. (2022). Relationship between social support and incident hypertension in the Jackson Heart Study: a cohort study. *01 Mar 2022-BMJ Open-Vol.12, Iss: 3, pp e054812-e054812.*

Herawati, C., Indragiri, S., Wahyuni, N.T. &Kristanti, L. (2023). Physical activity is a lifestyle as a factor risk hypertension (study cases in sufferers' hypertension. *World Journal of Advanced Research and Reviews, 2023,*

18 (02), 021- 027.Doi:10.30574/wjarr.2023.18.2.0797. https://doi.org/10.30574/wajrr.2023.18.2.0797/

Hu, H., Li, G. &Arao, T.The association of family social support, depression, anxiety and self efficacy with specific hypertension self-care behaviours in Chinese local community. *J Hum Hypertens* **29**, 198–203 (2015). https://doi.org/10.1038/jhh.2014.58.

Indrapal, M., Nagalla, B., Varanasi, B.V., Rachakulla, H.K. &Avula, L. (2022). Socio demographic factors, overweight/obesity and nutrients associated with hypertension among rural adults: Findings from National Nutrition Monitoring Bureau survey. *31 Aug 2022-Indian heart journal-Vol.74,Iss:5,pp 382-390.* https://doi.org/10.1016/j.ihj.2022.08.006.

Iriana, P., Yardes, N., Sudrajat, A., Mahanani, M.S. &Malau, P.H. (2022). Knowledge as a Factor Associated with Lifestyle in Controlling Hypertension. *Jurnal Info Kesehatan.22 Dec 2022-Jurnal info kesehatan-Vol.20,Iss:2, pp 183-193.*

Jain, A. M., & Jha, M. (2022, January 1). Social support as a protective factor against depressive symptoms: A review. *Journal of Ravishankar University (PART- A),* 93103. https://doi.org/10.52228/jrua.2022-28-1-11

Ji, K., Bai, Z., Tang, L., Yan, H., Zhu, Y., Chen, G. & Chen, R. (2021). Institutional Satisfaction and Anxiety Mediate the Relationship Between Social Support and Depression in Hypertension Patients in Elderly Caring Social Organizations: A Cross-sectional Study. *25 Oct 2021-Frontiers in Psychology (Frontiers Media SA)-Vol.12,pp 772092.*

J.N., Ofoli., Musa, Dankyau., J.A., Sule., D.B., Lass. (2017). Relationship between family and social support and adherence to treatment among outpatient hypertensives in an urban hospital. 8(1):45-52.

Journal of the Pakistan Medical Association (2023).*Vol. 73 No.02 (2023): Iss: 02,pp S109-S112. IndSupplemendt: The 13rd International Nursing Conference.*

Jumbo, A.D., Dienye, P.O., Nnadin, N.O. & Uriah, S. (2021). Lifestyle practices attending the Family Medicine Clinic in a tertiary hospital in Nigeria.*GSC*

Advanced Research and Reviews.10.30574/gscarr.2021.6.2.0021. https://doi.org/10.30574/gscarr.2021.6.2.0021

Kalavana, T., Lazarou, C. & Christodoulou, C. (2011). *Family Environment in Relation to Eating and Health Risk Behaviours in Adolescents.* Medical and Health Science Journal. ISSN:1804-1884(Print)1805-5014(Online)Volume 7,2011,pp.15-25.

Kario, K., Okura, A., Hoshide, S., & Mogi, M. (2024). The WHO Global report 2023 on hypertension warning the emerging hypertension burden in globe and its treatment strategy. *Hypertension Research*. https://doi.org/10.1038/s41440-024-01622-w

Karpman, H. (2009). Effects of Diet and Lifestyle on the Incidence of Hypertension in Women.*JAMA*2009;302:401 – 411.

Kaur, K., Sharma, Suresh, K., Kaur, G., Deepika, Sharma, Divya. &Rai, Harpreet. (2007). Practices of hypertensive patients visiting O.P.D at D.M.C & H, Ludhiana.*Nursing and Midwifery Research Journal, Vol-3, No. 2.*

Khomsatun, U., & Sari, I. W. W. (2022). *Hubungan Dukungan Sosial dengan Perilaku Manajemen Diri pada Pasien Hipertensi di PuskesmasPandak I Bantul DI. Yogyakarta*. Jurnal Keperawatan Klinis Dan Komunitas (Clinical and Community Nursing Journal). https://doi.org/10.22146/jkkk.49826

Kretchy, I.A., Owusu-Daaku, F.T. &Danquah, S.A. (2014).Mental health in hypertension: assessing symptoms of anxiety, depression and stress on anti-hypertensive medication adherence.International Journal of Mental Health System 2014; 8: 25.

https://doi:10.1186/1752-4458-8-25.

Kumar, S. et al. (2016).Study of Knowledge, Attitude and Practice of General Population of Ambala towards Hypertension.*International Journal of Health Sciences & Research (www.ijhsr.org) Vol.6; Issue: 8; August 2016.*

Lalremtluangi, C. (2017). *Lifestyle and Hypertension among Women in Lunglei, Mizoram.* (MPhil dissertation, Department of Social Work, Mizoram University)
http://mzuir.inflibnet.ac.in:8080/jspui/handle/123456789/595

Laxmaiah, A., Meshram, I.I.,Arlappa, N., Balakrishna, N., Rao, K.M., Reddy, C.G., Ravindranath, M., Kumar, S., Kumar, H. &Brahmam, G.N.V. (2015).*Socio-economic &demographic determinants of hypertension & knowledge, practices & risk behavior of tribals in India.*Indian J Med Res. 2015 May; 141(5): 697–708.doi: 10.4103/0971- 5916.159592.

Lei, P., Wu, Y., Ye, R., Sunil, T.S. & Zhou, H. (2019).*Social support and blood pressure: a cross-sectional study.* The Lancet, volume 394, supplement 1, October 2019, Page 51. https://doi.org/10.1016/S0140-6736(19)32387-6.

Lepore, S. (2012). Social Support. *Encyclopedia of Human Behavior*, 493–496. https://doi.org/10.1016/b978-0-12-375000-6.00336-0

Lestari, P.H., Ekasari, M.F. & Pertiwi N.F. (2022).Korelasidukungankeluargadanpengetahuan hipertensiterhadappolahiduppenderitahipertensi di dki Jakarta.*Media KeperawatanVol-13, Iss:2, pp197-197-23 Dec 2022.* https://doi.org/10.32382/jmk.v13i.2.2938

Liew, S.J., Lee,J.T., Tan, C.S., Koh, C.H.G., Dam, R.V. & Muller, F. (2019). *SociodemographicFactors in Relation to Hypertension Prevalence, Awareness, Treatment and Control in a Multi-ethnic Asian Population: A Cross-sectional Study.* National Library of Medicine. 2019 May 19;9(5):e025869.doi:10.1136/bmjopen-2018-025869.

Mahajan, H., Kazi,Y., Sharma, B. &Velhal,GD. (2012). Assessment of KAP, Risk Factors and Associated Co-Morbidities in Hypertensive Patients.*Journal of Dental and Medical Sciences, 2279-0853 Volume 1, Issue 2, PP 06-14*

Marcello, B.C., Domenica, A.M., Gabriele, P., Elisa, M. & Francesca, B. (2018). Lifestyle and Hypertension: An Evidence- Based Review. Journal of Hypertension and Management. doi.org/10.23937/2474-3690/1510030.

Marshall, G. (2008). Testing the Simple Lifestyle Indicator Questionnaire.*Can Fam Physician. 2008 Jan; 54(1): 76-77.*

Maytasari, S. &Sartika, R.A.D. (2020). Family, Social, and Health Workers Support with ComplienceBehaviour to Patients with Hypertension in Bogor, Indonesia. *Vol. 8, No. 2.20202. JurnalPromkes: The Indonesian Journal of*

Health Promotion and HealthEducation. https://doi.org/10.20473/jpk.V8.12.2020.146-153.

Micheal, A.E., Ojeka, S.O. & Victor, Z.Z. (2021). Correlation study of socio-demographic factor like gender, age, body mass index and some cardiovascular parameters in hypertensive subjects of Yenagoa, Bayelsa state, Nigerai: Correlation of socio-demographic factors with CV parameters in hypertension.*Annals of Medical Physiology. 22 Nov 2021-Vol.5, Iss: 2, pp 7-12*

Miettinen, 0.S. (2010). Epidemiological Research: Terms and Concepts. *The elements here are copyright © Not for unauthorized distribution (Manuscript, November 2010)*

Mills, K.T., Stefanescu, A. & He, J. (2020).The global epidemiology of hypertension. *Nat Rev Nephrol* **16**, 223–237. https://doi.org/10.1038/s41581-019-0244-2

Moser, K., Agrawal, S., Smith, G.D. &Ebrahim, S. (2014). Socio-demographic inequalities inthe prevalence, diagnosis and management of hypertension in India: analysis ofnationally-representative survey data. *23 Jan 2014-POLS ONE (Public Library of Science)-Vol.9, Iss:1,pp 86043.* https://doi.org/10.1371/journal.pone.0086043.

Muxfeldt, E.S., Nogueira, A.R., Salles, G.F. & Bloch, K.V. (2004).*Demographic and clinical characteristics of hypertensive patients in the internal medicine outpatient clinic of a university hospital in Rio de Janeiro.Sao Paulo Medical Journal.*Print version ISSN 1516-3180On-line version ISSN 1806-9460. Sao Paulo Med. J. vol.122 no.3 São Paulo May 2004. https://doi.org/10.1590/S1516-31802004000300003.

Muyana, H. (2018). Correlation between social support and individual coping strategy of hypertension at Tagogapu Village.*17(2):234-242. Doi:10.36465/JKBTH.V1712.227.*

Nascimento, J.S., Gomes, B.C.F. &Sardinha, A.H.L. (2012).Modifiable risk factors for cardiovascular diseases in women with hypertension.*25 Jul 2012-Northeast NetworkNursing Journal – 12, Iss:4.*

Nagawa, C. S., Pbert, L., Wang, B., Cutrona, S. L., Davis, M., Lemon, S. C., & Sadasivam, R. S. (2022). Association between family or peer views towards tobacco use and past 30-day smoking cessation among adults with mental health problems. *Preventive Medicine Reports*, *28*, 101886. https://doi.org/10.1016/j.pmedr.2022.101886

Health & Family Welfare Department. (n.d.-b). https://health.mizoram.gov.in/page/npcdcs

Niu, M., Zhang, L., Wang, Y., Tu, R., Liu, X., Wang, C. &Bie, R. (2021). Lifestyle Score and Genetic Factors With Hypertension and Blood Pressure Among Adults in Rural China.*17 Aug 2021-Frontiers in Public Health (Front Public Health)-Vol.9,pp687174-687174.* https://doi.org/10.3389/fpubh.2021.687174.

NHM Mizoram. (n.d.). https://nhmmizoram.org/page/17#:~:text=NHM%20Mizoram,OBJECTIVE%20OF%20THE%20PROGRAMME:

Nursalam, N., Dewi, L.C. &Widhiastuti, E. (2020). The effect of social support based on short message service (sms) on compliance in treatment and reduction of blood pressure inhypertensive patients in betunpuskesmas and besikamapuskemas. *30 Jun 2020Vol.9,Iss:1, pp 10-16. Critical Medical and Surgical Nursing Journal.* https://doi.org/10.20473/cmsnj.v9i1.17802

Ojike, N., Sowers, J.R., Seixas, A., Ravenell, J., Rodriguez-Figueroa, G., Awadallah, M., Zizi,F., Jean-Louis, G., Ogedegbe, O. &· McFarlane, S.I. (2016). Psychological Distress and Hypertension : Results from the National Health Interview Survey for 2004-2013. Cardio renal Med 2016;6:198-208. https://doi.org/10.1159/000443933.

Oktaviani, R., Suryawati, C., &Mendrofa, F. A. M. (2019, July 8). PerananDukunganKeluargaPenderitaHipertensiDalamPenggunaanAplikasi Kesehatan.*Indonesian Journal of Nursing Research (IJNR)*, *2*(1). https://doi.org/10.35473/ijnr.v2i1.226

Oommen, A.M. et al. (2016). Prevalence of risk factors for non-communicable diseases in rural & urban Tamil Nadu.*Indian J Med Res 144, September 2016, pp 460-471DOI: 10.4103/0971-5916.198668.*

Osamor, P. E. (2015). Social support and management of hypertension in south-west Nigeria.Cardiovascular Journal of Africa. Volume 26, No 1, January/February 2015.

Pandey, N. (2022). The Lifestyle of Hypertensive People and its Health Effects.*31 Dec 2022 Madhayabindu journal – Vol. 8, Iss: 1, pp 55 – 65.* https://doi.org/10.3126/madhyabindu.v7i1.54235

Pan, J., Hu, B., Wu, L. & Li, Y. (2021).The Effect of Social Support on Treatment Adherence in Hypertension in China.*O7 Sep 2021- Patient Preference and Adherence (Dove Press) Vol.15, pp* 1953-1961. https://doi.org/10.2147/PPA.S325793

Pimenta, E. (2008). Hypertension in Women.*Princess Alexendra Hospital. O1 Jan 2008-Vol.3,pp 138-145.*

Rahmatika, D. (2019, December 9). HUBUNGAN ANTARA DUKUNGAN EMOSIONAL DENGAN KEPATUHAN DIET LANSIA PENDERITA HIPERTENSI. *The Indonesian Journal of Public Health*, *14*(2), 252. https://doi.org/10.20473/ijph.v14i2.2019.252-262

Rangarajan, U. &Kochar M.S. (2000).Hypertension in Women.*01 Jun 2000-WMJ: official publication of the State Medical Society of Wisconsin (WMJ)-Vol.99,Iss: 3, pp 65-70.*

Rush, T. (2023). *Everything you need to know about hypertension (high blood pressure)*. https://www.medicalnewstoday.com/articles/150109

Sailo, G.L & Pachuau, H.Z. (2015). *Zu and the Mizos – Change and Continuity*.Becoming Something Else. Society and Change in India's North East. Cambridge Scholars Publishing. Page 41- 54.

Santana, L.M., Perin, L., Lunelli, R.P., Inacio, J.F.S., Rodrigues, C.C., Eibel, B. &Goldmeier, S. (2019). Sexual Dysfunction in Women with Hypertension: A Systemetic Review and Meta-analysis. *CurrHypertens Rep* **21**, 25 (2019). https://doi.org/10.1007/s11906-019-0925-z.

Shahin, W, Kennedy, G.A. &Stupas, I. (2021). The association between social support and medication adherence in patients with hypertension: A systematic review. *22 Jun 2021 Pharmacy Practice (Internet) (Centro de InvestigacionesPublicacionesFarmaceuticas) Vol.19,Iss:2,pp 2300-2300.*

Sharma, M., & Majumdar, P. (2009). Occupational lifestyle diseases: An emerging issue. *the Indian Journal of Occupational & Environmental Medicine/the Indian Journal of Occupational and Environmental Medicine*, *13*(3), 109. https://doi.org/10.4103/0019-5278.58912

Sheokand, P. (2014). Hypertension among Indian Women.*09 May 2014- International journal of innovative research and development.*

Shimomura, T. & Wakabayashi, I. (2012).Associations of cardiovascular risk factors with prehypertension and hypertension in women.*04 Dec 2012- Blood Pressure (Blood Press)Vol.21, Iss:6, pp 345-351.* https://doi.org/10.3109/08037051.2012.686177.

Simamane, M., Constantinou, D., & Watson, E. (2023, June 9). *The Family Involvement Role in Assisting with Hypertension Management: A Qualitative Study*. https://doi.org/10.21203/rs.3.rs-2910950/v1

Spikes, T., Higgins, M., Lewis, T.T. & Dunbar, S. B. (2020). The Effect of Contextualized Racial and Gendered Stressors, Social Support and Depression on Hypertension Illness Perceptions and Hypertension Medication Adherence in Young African American Women with Hypertension.*01 Nov 2020-Journal of Cardiovascular Nursing (Ovid Technologies (Wolters Kluwer Health))-Vol.35.Iss:6,pp 576-587.DOI:* 10.1097/JCN.0000000000000671.

Stein, J.D., et. al. (2002).The Quality of Life of Patients With Hypertension. *The Journal of Clinical Hypertension, vol. IV, no.III.*

Susetyowati, S., Faza, F. &Budiamaja, Y.A. (2023).Sociodemographic as Attributable Risk Factors of Prehypertension: A Population Study from Urban and Rural. *Journal of*

Hypertension 41(Suppl):pe243,January2023. | DOI: 10.1097/01.hjh.00009 15208.36539.52.

Tavares, R.S. & Silva, D.M.G.V. (2013).The implication of social support in the lives of people with hypertension.Rev.GaúchaEnferm. vol.34 no.3 Porto Alegre Sept. 2013. https://dx.doi.org/10.1590/S1983-14472013000300002.

Tesema, S. (2016). Knowledge, Attitude and Practice Regarding Lifestyle Modification of Hypertensive Patients at Jimma University Specialized Hospital, Ethiopia. *Primary Health Care ISSN: 2167-1079 PHCOA, an open access journal: Volume 6 • Issue 1 • 1000218.*

Thakur, J.S. et al. (2011). Tobacco Use: A Major Risk Factor for Non Communicable Diseases in South-East Asia Region. *Indian Journal of Public Health, Volume 55, Issue 3, July-September, 2011*.

Turan, G. B., Aksoy, M. &Ciftci, B. (2019). *Effect of social support on the treatment adherence of hypertension patients.*Journal of Vascular Nursing. Volume 37, Issue 1, March 2019,Pages 45 – 51.

The Hindu. (2023). *Silent Killer: On Hypertension and the first WHO report on the Subject. September 22, 2023, 12:20am.* https://www.thehindu.com/opinion/editorial/silent-killer-the-hindu-editorial-on-hypertension-and-the-first-who-report-on-the subject/article67330726.ece.

Talukdar, D., Tripathi, M., Tripathi, V. &Teelucksingh, S. (2021). Retracted Article: Prevalence and associated factors of undiagnosed hypertension among women aged 15–49 years in India: an analysis of National Family Health Survey-4 data.*Journal of Human Hypertension, volume 35, pages726–740 (2021).* https://doi.org/10.1038/s41371-020-0384-7.

.Valenzuela, P.L., Bastos, P.C., Galvez, B.G., Hurtado, G.R.,Ordovas, J.M., Ruilope, L.M. & Lucia, A. (2021).Lifestyle interventions for the prevention and treatment of hypertension.*01 Apr 2021-Nature Reviews Cardiology (Nature Publishing Group)-Vol. 18,Iss:4, pp 251-275.*

Vahedparast, H., Mohammadi, E., Ahmadi, F. &Farhadi, A. (2018) The Role of Social Support in Adherence to Treatment Regimes: Experiences of

Patients with Chronic Diseases. *Med SurgNursa J. 2018; 7 (1): e69646. https://doi.org/10.5812/msnj.69646.*

Wang, L.L., Zhang, H., Yao, H., Gong, C.L., Zhong, J. & Liang, H. (2023). Social determinants of health and hypertension in women compared with men in the United States: An analysis of the NHANES study. *Clinical Cardiology Open Access, 10th July 2023.* https://doi.org/10.1002/clc.24079

Wang, C., Sun, Y. W., Chen, T., & Han, B. (2022, December 6). *The association between social support and mental health in the elderly with hypertension*. International Conference on Biomedical and Intelligent Systems (IC-BIS 2022). https://doi.org/10.1117/12.2660746

Wang, F., Tiwari, V.K. & Wang, H. (2014). Risk Factors for Hypertension in India and China : A Comparative Study. *Health and Population Perspectives and Issues 37 (1 & 2), 40 – 49, 2014.*

Yazawa, A., Inoue, Y., Yamamoto, T., Watanabe, C., Tu, R. &Kawachi, I. (2022). Can social support buffer the association between loneliness and hypertension? A cross-sectional study in rural China.*18 Feb 2022-PLOS ONE-Vol.17, pp e0264086-e0264086.* https://doi.org/10.1371/journal.pone.0264086.

Yoshikawa A, Smith M.L., Lee S., Towne S.D., Ory M.G. (2021). The role of improved social support for healthy eating in a lifestyle intervention: Texercise Select. *Public Health Nutrition*. 2021;24(1):146-156. doi:10.1017/S1368980020002700

Yurdakul, S. &Aytekin, S. (2010). Hypertension in Women.*01 Jan 2010-Turk KardiyolojiDemegiarsivi: Turk KardiyolojiDemegininyayinorganidir (Turk KardiyolDernArs), Vol.38, Iss:1, pp 25-31.*

Zhen, J., Liu, S., Zhao, G., Peng, H., Xu, A., Li, C.J., Wu, J. & Cheung, B.M.Y. (2023). Impact of healthy lifestyles on risk of hypertension in the Chinese Population: finding from SHUN-CVD study. *Family Practice, Volume 40, Issue 5-6, October/December 2023, Pages 737–741.*https://doi.org/10.1093/fampra/cmad041.

Zhou, B., Carrillo-Larco, R. M., Danaei, G., Riley, L. M., Paciorek, C. J., Stevens, G. A., Gregg, E. W., Bennett, J. E., Solomon, B., Singleton, R. K., Sophiea, M. K., Iurilli, M. L., Lhoste, V. P., Cowan, M. J., Savin, S., Woodward, M., Balanova, Y., Cifkova, R., Damasceno, A., . . . Ezzati, M. (2021). Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants. *Lancet*, *398*(10304), 957–980. https://doi.org/10.1016/s0140-6736(21)01330-1

Zsófia, O., Beatrix, R., Tamás, M., Márta, C., Zsolt, B., Viola, S. &Béla, M. (2020).Correlation of social support and healthy lifestyle.*OrvosiHetilap, 161(4):129-138. doi: 10.1556/650.2020.31625.*

Appendices

Lifestyle and Social Support of Women with Hypertension in Mizoram
Interview Schedule
(Confidential and for Research Purpose only)

Research Scholar
Mrs. C. Lalremtluangi
Ph.D Scholar
Department of Social Work,
Mizoram University

Supervisor
Dr. Henry Zodinliana Pachuau
Asst. Professor
Department of Social Work,
Mizoram University

Schedule Number: Date:

Dear Sir/ Madam,

Hello ! I am a Ph.D scholar from the Department of Social Work, Mizoram University conducting a research on the topic, ' Lifestyle and Social Support of Women with Hypertension in Mizoram'. I kindly request to render your participation in this study by answering the following interview schedule. Confidentiality and anonymity will be strictly maintained. Thank You.

I.	**Personal Profile (Please tick the appropriate answer)**		
1.	Name (Optional)	:	
2.	Age	:	
3.	Marital status (tick)	:	Married/Unmarried/Divorcee/Widowed
4.	Educational qualification (tick)	:	Illiterate/Primary/Middle/High School/Higher Secondary/Graduate/Post Graduate/PhD/ Others (Specify)
5.	Religion (tick)	:	Christianity/Hinduism/Muslim/others
6.	Denomination (tick)	:	Presbyterian/Baptist/Catholic/Seventh Day/Salvation Army/UPC/Others (Specify)
7.	Sub Tribe (tick)	:	Lusei/Hmar/Paihte/Lai/Mara/Chakma/Bru/Others (Specify)
8.	Forms of family (tick)	:	Nuclear/Joint
9.	Primary Occupation of Family (tick)		Unemployed/Homemaker/Agriculture/Business/Daily Labour/Government Servant/Animal Husbandry/

10.	Monthly Family Income	:	
11.	Socio-economic category (tick)	:	No Category/AAY/PHH/NFSA
12.	Year of Diagnosis	:	
13.	Year of registration in NCD	:	
II.	**Lifestyle Dimension (SLIQ) Please tick the appropriate answer**		
DIET: To answer these questions, think about your eating habits during the past year. Indicate how often you eat the following foods. Please include all meals, and food eaten out.			
1.	Lettuce/green leafy salad, with/without other vegetables	:	Less than 1 week/1 week/2-3times a week/4-6times a week
2.	Fruit, including fresh, canned/frozen, but not including juices	:	Less than 1 week/1 week/2-3 times a week/4-6 times a week
3.	High-fibre cereals, such as Raisin Bran/fruit and fibre, cooked oatmeal/whole-grain breads, such as whole wheat, rye/pumpemickle	:	Less than 1 week/1 week/2-3 times a week/4-6 times a week
Diet raw score (Q1+Q2+Q3)---------			Diet category score------ 0 if diet score 0-5 1 if diet score 6-10 2 If diet score 11-15
EXERCISE: To answer the following questions, please indicate how many times per week you take part in the following activities for at least 30 minutes or more at a time.			
4.	Light exercise, such as the following: light gardening and light housework, leisurely walking, bowling, fishing, carpentry, playing a musical	:	0 week/1-3 times a week/4-7 times a week/8 or more times a week

	instrument, volunteer work		
5.	Moderate exercise, such as the following: brisk walking, bicycling, skating, swimming, curling, gardening (raking, digging), dancing, tai chi/moderate exercise classes	:	0 week/1-3 times a week/4-7 times a week/8 or more times a week
6.	Vigorous exercise, such as the following: running, bicycling, cross-country skiing, lap swimming aerobics, heavy yard work, weight training, soccer, basketball, or other league sports	:	0 week/1-3 times a week/4-7 times a week/8 or more times a week
Activity raw score (Q1+Q2+Q3)---------			Activity category score------ 0 if light excerise only 1 if any moderate activity 2 if any vigorous activity
ALCOHOL CONSUMPTION:			
7.	Please indicate how many drinks of the following types of alcohol you consume in an average week.	:	Wine------ drinks (3-5oz)/Beer-----drinks (10-12oz/1 bottle)/Spirits----drinks(1-1 ½ oz)
Alcohol raw score (wine+beer+spirits)--------			Alcohol category score------- 0 if alcohol score 14 or more 1 if alcohol score 8-13 2 if alcohol score 0-7
SMOKING: Please indicate your smoking habits below.			
8.	Are you a smoker?	:	Yes (0)/No

9.	If no, did you ever smoke?	:	Yes (1)/No (2)
Smoking raw score (0, 1,or 2) ---------			Smoking category score------- (same as Smoking raw score)
LIFE STRESS:			
10.	To answere this question, please circle the number you feel best corresponds to the level of stress in your everyday life.	:	6 (not at all stressful)/5,4,3,2,1 (very stressful)
Stress raw score--------- (as indicated on line)			Stress category score--------- 0 if life stress 1/2 1 if life stress 3/4 2 if life stress 5/6
SLIQ SCORE=Diet category score+Activity category score+Alcohol category score+Stress category score			
11.	**Food consumption pattern: Salty, Oily, Sweety, etc.**		
12.	**Tobacco consumption: Apart from smoking**		
13.	**Challenges Faced because of Hypertension**		
14.	**Coping Strategies to challenges faced**		

III.	**Social Support Dimension**															
1.	**Family Support (Please Tick the appropriate answer)**															
Sl/no	**Form of support**	**Accessibility**					**Quality**					**Adequacy**				
		VAC5	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**
i.	Provisions for Basic Needs (Food, shelter, clothing)															
ii.	Emotional Support (Love, care, concern, empathy, sympathy)															
iii.	Physical Health Support (medical, attention, provisions &services, exercise)															
iv.	Mental Health Support (Professional counselling, guidance and psychiatric care and services)															
v.	Support in Life skills (Self-care, training, vocations)															
vi.	Financial Support (aid or help in form of money)															
vii.	Instrumental Support (Aids, Appliances)															
viii.	Others (Specify)															
VAC: Very Accessible 5; AC: Accessible 4; NACI: Neither accessible nor inaccessible 3; IAC: Inaccessible 2; VIAC: Very Inaccessible 1																
2.	**Support from Peers(Please Tick the appropriate answer)**															
	Forms of support	**Accessibility**					**Quality**					**Adequacy**				
		V	**A**	**N**	**I**	**V**	**V**	**A**	**N**	**I**	**V**	**V**	**A**	**N**	**I**	**V**

Sl/no		AC5	C4	ACI3	AC2	IAC1	AC5	C4	ACI3	AC2	IAC1	AC5	C4	ACI3	AC2	IAC1
i.	Provisions for Basic Needs(Food, shelter, clothing)															
ii.	Emotional Support (Love, care, concern, empathy, sympathy)															
iii.	Physical Health Support (medical, attention, provisions &services, exercise)															
iv.	Mental Health Support (Professional counselling, guidance and psychiatric care and services)															
v.	Support in Life skills (Self-care, training, vocations)															
vi.	Financial Support (aid or help in form of money)															
vii.	Instrumental Support (Aids, Appliances)															
viii.	Others (Specify)															
VAC: Very Accessible 5; AC: Accessible 4; NACI: Neither accessible nor inaccessible 3; IAC: Inaccessible 2; VIAC: Very Inaccessible 1																
3.	**Social Support from Church(Please Tick the appropriate answer)**															
Sl/no	**Forms of Support**	**Accessibility**					**Quality**					**Adequacy**				
		VAC5	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**
i.	Provisions for Basic Needs(Food, shelter, clothing)															
ii.	Emotional Support (Love, care, concern, empathy, sympathy)															
iii.	Physical Health Support (medical, attention,															

	provisions &services,exercise)															
iv.	Mental Health Support (Professional counselling, guidance and psychiatric care and services)															
v.	Support in Life skills (Self-care, training, vocations)															
vi.	Financial Support (aid or help in form of money)															
vii.	Instrumental Support (Aids, Appliances)															
viii.	Others (Specify)															
VAC: Very Accessible 5; AC: Accessible 4; NACI: Neither accessible nor inaccessible 3; IAC: Inaccessible 2; VIAC: Very Inaccessible 1																
4.	**Support from YMA(Please Tick the appropriate answer)**															
Sl/no	**Forms of Support**	**Accessibility**					**Quality**					**Adequacy**				
		VAC5	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**
i.	Provisions for Basic Needs(Food, shelter, clothing)															
ii.	Emotional Support (Love, care, concern, empathy, sympathy)															
iii.	Physical Health Support (medical, attention, provisions &services, exercise)															
iv.	Mental Health Support (Professional counselling, guidance and psychiatric care and services)															
v.	Support in Life skills (Self-care, training, vocations)															
vi.	Financial Support (aid or help in form of money)															
vii.	Instrumental Support (Aids, Appliances)															
viii.	Others (Specify)															

VAC: Very Accessible 5; AC: Accessible 4; NACI: Neither accessible nor inaccessible 3; IAC: Inaccessible 2; VIAC: Very Inaccessible 1																
5.	**Support from MHIP(Please Tick the appropriate answer)**															
Sl/no	**Forms of support**	**Accessibility**					**Quality**					**Adequacy**				
		VAC5	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**
i.	Provisions for Basic Needs(Food, shelter, clothing)															
ii.	Emotional Support (Love, care, concern, empathy, sympathy)															
iii.	Physical Health Support (medical, attention, provisions &services, exercise)															
iv.	Mental Health Support (Professional counselling, guidance and psychiatric care and services)															
v.	Support in Life skills (Self-care, training, vocations)															
vi.	Financial Support (aid or help in form of money)															
vii.	Instrumental Support (Aids, Appliances)															
viii.	Others (Specify)															

VAC: Very Accessible 5; AC: Accessible 4; NACI: Neither accessible nor inaccessible 3; IAC: Inaccessible 2; VIAC: Very Inaccessible 1																
6.	**Support from MUP(Please Tick the appropriate answer)**															
Sl/no	**Forms of Support**	**Accessibility**					**Quality**					**Adequacy**				
		VAC5	**AC4**	**NACI**	**IAC2**	**VIAC**	**VAC5**	**AC4**	**NACI**	**IAC2**	**VIAC**	**VAC5**	**AC4**	**NACI**	**IAC2**	**VIAC**

				3		**1**			**3**		**1**			**3**		**1**
i.	Provisions for Basic Needs(Food, shelter, clothing)															
ii.	Emotional Support (Love, care, concern, empathy, sympathy)															
iii.	Physical Health Support (medical, attention, provisions &services, exercise)															
iv.	Mental Health Support (Professional counselling, guidance and psychiatric care and services)															
v.	Support in Life skills (Self-care, training, vocations)															
vi.	Financial Support (aid or help in form of money)															
vii.	Instrumental Support (Aids, Appliances)															
viii.	Others (Specify)															

VAC: Very Accessible 5; AC: Accessible 4; NACI: Neither accessible nor inaccessible 3; IAC: Inaccessible 2; VIAC: Very Inaccessible 1

7. Support from Local Council /Village Councils(Please Tick the appropriate answer)

Sl/no	**Forms of Support**	**Accessibility**					**Quality**					**Adequacy**				
		VAC5	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**
i.	Provisions for Basic Needs(Food, shelter, clothing)															
ii.	Emotional Support (Love, care, concern, empathy, sympathy)															
iii.	Physical Health Support (medical, attention, provisions &services, exercise)															
iv.	Mental Health Support (Professional counselling, guidance and psychiatric care and services)															
v.	Support in Life skills (Self-care, training,															

	vocations)																
vi.	Financial Support (aid or help in form of money)																
vii.	Instrumental Support (Aids, Appliances)																
viii.	Others (Specify)																
VAC: Very Accessible 5; AC: Accessible 4; NACI: Neither accessible nor inaccessible 3; IAC: Inaccessible 2; VIAC: Very Inaccessible 1																	
8.	**Support from other NGOs (Please Tick the appropriate answer)**																
Sl/no	**Forms of Support**	**Accessibility**					**Quality**					**Adequacy**					
		VAC5	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**	**VAC5**	**AC4**	**NACI3**	**IAC2**	**VIAC1**
i.	Provisions for Basic Needs(Food, shelter, clothing)																
ii.	Emotional Support (Love, care, concern, empathy, sympathy)																
iii.	Physical Health Support (medical, attention, provisions &services, exercise)																
iv.	Mental Health Support (Professional counselling, guidance and psychiatric care and services)																
v.	Support in Life skills (Self-care, training, vocations)																
vi.	Financial Support (aid or help in form of money)																
vii.	Instrumental Support (Aids, Appliances)																
viii.	Others (Specify)																
VAC: Very Accessible 5; AC: Accessible 4; NACI: Neither accessible nor inaccessible 3; IAC: Inaccessible 2; VIAC: Very Inaccessible 1																	

9.	Support from Government including NCD(Please Tick the appropriate answer)															
Sl/no	Forms of Support	Accessibility					Quality					Adequacy				
		VAC5	AC4	NACI3	IAC2	VIAC1	VAC5	AC4	NACI3	IAC2	VIAC1	VAC5	AC4	NACI3	IAC2	VIAC1
i.	Provisions for Basic Needs(Food, shelter, clothing)															
ii.	Emotional Support (Love, care, concern, empathy, sympathy)															
iii.	Physical Health Support (medical, attention, provisions &services, exercise)															
iv.	Mental Health Support (Professional counselling, guidance and psychiatric care and services)															
v.	Support in Life skills (Self-care, training, vocations)															
vi.	Financial Support (aid or help in form of money)															
vii.	Instrumental Support (Aids, Appliances)															
viii.	Others (Specify)															
VAC: Very Accessible 5; AC: Accessible 4; NACI: Neither accessible nor inaccessible 3; IAC: Inaccessible 2; VIAC: Very Inaccessible 1																
11.	**Suggestions to prevent hypertension**															
12.	**Suggestions to improve lifestyle and social support for women with HTN**															

Thank You

BIO DATA

Name	:	C. Lalremtluangi
Father's Name	:	C. Hrangzuala
Mother's Name	:	F. Lalrinsiami
Sex	:	Female
Date of Birth	:	4th February 1985
Address	:	Near Sacred Heart School, Venglai, Lunglei – 796701, Mizoram
Mobile Number	:	8794441059
Email ID	:	chongthu_lrt@rediffmail.com
Educational Qualifications	:	

Sl.No	Qualification	Board/University	Year of Passing
1.	HSLC	Mizoram Board of School Education	2001
2.	HSSLC	Mizoram Board of School Education	2003
3.	BA	Mizoram University	2006
4.	MSW	Pune University	2008
5.	M.Phil	Mizoram University	2017

OTHER QUALIFICATION:

Qualification	Examination	Year of Passing
National Eligibility Test (NET)	University Grants Commission (UGC)	2012

Other Relevant Information

List of Papers Presented in Seminars/Conferences

Sl.No	Year	Title of Paper	Title of Seminar/Conference	Organizers and Place
1.	2023	A Study on Lifestyle Disease (Hypertension) on Women	National Conference: Human Development and Social Work Intervention – Perspectives, Challenges and Issues	Department of Social Work, Mizoram University, Aizawl
2.	2024	A Review on Socio-demographic Studies on Hypertension	3rd International Conference on Advance Interdisciplinary Research	Digvijay Nath Post Graduate College, Gorakhpur, UP & Science Tech Institute, Lucknow

Published Work:

Sl.No	Year	Title of Chapter/Research	Name of Book/Journal	Publication Details (place/publishers with ISBN/ISSN)
1.	2021	Hypertension in Mizo Women: Knowledge, Attitude and Practices	Journal of Social Work & Social Development (UGC Care Journal)	Department of Social Work, Palli Samgathana Vibhaga Visva-Bharati Sriniketan West Bengal ISSN 2229 – 6468
2.	2024	A Qualitative Cross-Sectional Study of Lifestyle Disease on Women (A special reference to hypertension)	Humanities and Social Science Studies (Peer Reviewed, Bi-annual, Interdisciplinary UGC Care Journal)	8C, Gayatri Vihar, Jodhpur, Rajasthan India ISSN: 2319 – 829X

WORK EXPERIENCE:

The candidate has also experienced in certain fields of social work in which the following are some of the experiences of the candidates:

1) She had been working in the BCM, Relief and Development Department, Ramzotlang, Lunglei as Project Coordinator for one and a half year from 2009 – 2010.

2) She is recently working in Higher and Technical Institute, Mizoram (HATIM), Chanmari, Lunglei as Assistant Professor from 2010.

PARTICULARS OF THE CANDIDATE

1.	NAME OF THE CANDIDATE	:	C. Lalremtluangi
2.	DEGREE	:	Ph.D.
3.	DEPARTMENT	:	Social Work
4.	TITLE OF THESIS	:	Lifestyle and Social Support of Women with Hypertension in Mizoram
5.	DATE OF ADMISSION	:	1st December 2020

APPROVAL OF PROPOSAL

1.	BOS	: 11th May, 2021
2.	School Board	: 17th May, 2021
3.	MZU Registration No.	: 1506781
4.	Ph.D. REGISTRATION NO. & DATE	:MZU/Ph.D./1627 of 01.12.2020
5.	EXTENSION	: NA

(PROF. C. DEVENDIRAN)
Head
Department of Social Work
Mizoram University

ABSTRACT

LIFESTYLE AND SOCIAL SUPPORT OF WOMEN WITH HYPERTENSION IN MIZORAM

AN ABSTRACT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

C. LALREMTLUANGI

MZU REGISTRATION NO.: 1506781

Ph.D. REGISTRATION NO.: MZU/Ph.D./1627 of 01.12.2020

DEPARTMENT OF SOCIAL WORK

SCHOOL OF SOCIAL SCIENCE

JULY, 2024

LIFESTYLE AND SOCIAL SUPPORT OF WOMEN WITH HYPERTENSION IN MIZORAM

BY

C. LALREMTLUANGI

Department of Social Work

Supervisor

Dr. HENRY ZODINLIANA PACHUAU

Submitted

In partial fulfillment of the requirement of the Degree of Doctor of Philosophy in Social Work of Mizoram University, Aizawl

Introduction

The purpose of this study is to examine the complex interactions between lifestyle choices and social support networks and women with hypertension (HTN) across the Districts in Mizoram.

International Scenario

The first worldwide report on hypertension from the WHO has been released. The increasing global prevalence of hypertension, which is associated with cardiovascular disease and overall death from all causes, serves as the backdrop for this analysis. The research emphasizes how urgent it is to address hypertension and its associated issues, which affect over a billion people worldwide. Since hypertension raises the risk of cardiovascular disease, stroke, and early mortality, it remains a serious public health concern. According to the survey (Kario et al., 2024), only 54% of people with hypertension are diagnosed, 42% receive treatment, and only 21% have their hypertension under control.

Hypertension is a key risk factor for cardiovascular disease (CVD), and the consequences in women can result in premature death and morbidity. Furthermore, because hypertension is a chronic but avoidable condition, lifestyle change is a crucial component for efficient hypertension control and management.

The Hindu (2023) reports that, globally, hypertension affects one in three individuals and four out of five do not have it well treated, according to first World Health Organization (WHO) study on hypertension released on September 19. Unmanaged blood pressure is a key risk component for various heart diseases includes heart attacks and stroke, and most prevalent cause of illness and mortality. It is crucial to highlight that health problems related with hypertension do not begin at over 140/90. Instead, they operate in a continuum even below what is characterized as clinical hypertension, notably in those who are diabetic, are obese, and those who consume tobacco and alcohol. Hence, assessments on hypertension levels in the community underestimate the cumulative risk of high blood pressure.

According to the World Health Statistics 2012, hypertension is the fourth leading cause of mortality in industrialized countries and the seventh in developing countries.

According to recent reports, approximately 1 billion adults (more than a quarter of the world's population) had hypertension in 2000, and this figure is expected to rise to 1.56 billion by 2025.

Based on prior statistics, hypertension is quickly increasing in developing countries and is one of the top causes of death and disability. While the average blood pressure in nearly all high-income countries has declined. The prevalence of hypertension in India fluctuated between studies in the late 1990s and early 2000s, ranging from 2- 15% in urban India to 2-8% in rural India (World Health Organization, 2012).

Hypertension affects an estimated 26% of the global population (972 million people), and the prevalence is anticipated to reach to 29% by 2025, owing mostly to rises in nations that are still developing economically. The high rates of hypertension place a heavy strain on public health. High blood pressure was the top modifiable risk factor for disability adjusted life-years lost worldwide in 2013 (Alexander, 2019), as a main contributor to heart disease and stroke, the first and third leading causes of mortality worldwide, respectively.

More over a quarter of the world's population, or around 1 billion individuals, suffered with hypertension in 2000; by 2025, it is predicted that this number will have increased to 1.56 billion. Previous data indicates that one of the leading causes of death and disability in emerging nations is hypertension, which is also rapidly rising in these regions. In the meantime, blood pressure has decreased in almost all high-income nations while remaining constant or rising in most African nations. The region with the highest rate of high blood pressure in 2008 was Africa (36.8%). In 199 high-, middle-, and low-income nations, the Global Burden of Diseases; Chronic Disease Risk Factors Collaborating Group recorded changes in mean body mass index (BMI), systolic blood pressure (BP), and cholesterol levels over a 35-year period (1980–2005). In high- and middle-income countries, the mean systolic blood pressure fell; but, in low-income countries, it increased to a level higher than in high-income ones. Moreover, the results for India align with the worldwide patterns in low-income nations (WHO, 2002).

Compared to age-matched women who do not take oral contraceptives, women who use these medications have a 2-3 times higher risk of hypertension. Age,

duration of usage, and body mass index all increase the risk of hypertension. The Treatment of Mild Hypertension Study found that women are less likely than men to have their blood pressure controlled with lifestyle changes alone, presumably due to their less successful weight loss efforts. Losing weight is particularly crucial for women's blood pressure regulation due to the high prevalence of obesity (August & Oparil, 1999).Further they suggested that, hypertension is especially relevant in women because it is a modifiable risk factor that is exceedingly prevalent in older women.

Hypertension is a proven risk factor for cardiovascular disease, which affects about one billion people globally. Furthermore, recent statistics have reported an increase in hypertension-related mortality, emphasizing the importance of prophylactic strategies in controlling blood pressure and, as a result, suggested that lifestyle changes are one of the most effective ways to prevent and control hypertension (Ghezelbash&Ghorbani, 2012). They also revealed that, both direct and indirect associations between obesity and an increased risk of hypertension. They also claim that lifestyle factors including eating habits and physical exercise are associated to hypertension. As useful strategies for preventing and managing hypertension, they also suggested consuming more grains, fruits, vegetables, and milk in your diet while consuming less sodium, fat, and alcohol. Also, those who regularly exercised had a 35% lower chance of developing hypertension than sedentary ones.

National Scenario

As per the WHO research, 188 million Indians between the ages of 30 and 79 have hypertension, based on 2019 estimates. Just 37% of the patients have received a diagnosis, 30% are receiving treatment, and a pathetic 15% of patients have their hypertension under control. In terms of having the disease identified, managed, and treated, women seem to perform slightly better than males. Based on inaccurate data from regions of India, a February 2022 study indicated that the one-month case fatality rate was 18%–42% and the stroke incidence was reported to be 108–172 per 1,00,000 persons annually. Heart attacks ranked as India's leading cause of death and disability in the 2019 Global Burden of Disease survey (The Hindu, 2023).

Although hypertension is rather common in India, there is a low percentage of adults with the disease who are aware of their diagnosis, are receiving treatment, and have their blood pressure under control. States' health systems differ significantly in how well they manage hypertension, even when state economic development is taken into account. Men, residents of rural areas, and those with lower household incomes must have special access to hypertension diagnosis and treatment (Prenissl et al, 2019).

Hypertension (HTN) significantly affects cardiovascular health and healthcare systems in India, hence impacting public health. 57% of stroke deaths and 24% of deaths from coronary heart disease (CHD) in India are attributed to hypertension. A worldwide data research on the prevalence of hypertension worldwide found that in 2005, 20.6% of Indian men and 20.9% of Indian women had the disease. HTN rates in % are expected to rise to 22.9 and 23.6 for Indian men and women by 2025, respectively (Anchala, 2014). The assessment of the risk factors for hypertension in China and India shows that several risk factors contribute to the prevalence of hypertension, including increasing age, unhealthy diet (especially salt intake > 5gms doubles the risk of hypertension), obesity, alcohol and tobacco consumption, less physical inactivity, and urban residence (Wang et al. 2014).

The prevalence of hypertension in India fluctuated between studies in the late 1990s and early 2000s, ranging from 2-15% in urban India to 2-8% in rural India (World Health Organisation). In 1990, 2.3 million Indians died from cardiovascular illnesses; by 2020, this number is predicted to triple. In India, hypertension is directly linked to 24% of deaths from coronary heart disease and 57% of fatalities from stroke.

China and India are the two most populous developing countries with an increasing trend in hypertension prevalence. As a result, hypertension prevention and control pose a substantial problem. In 2000, India and China had 118 million and 160 million hypertensive people, respectively (Wang, Tiwari & Wang, 2014). According to epidemiological research, hypertension affects 25% of urban and 10% of rural Indians. There are 31.5 million hypertensive people in rural areas and 34 million in metropolitan areas.

The predicted prevalence of hypertension (among those aged 20 and older) in India in 2000 was 20.6% among males and 20.9% among females, according to a recent analysis of the global burden of hypertension. By 2025, it is anticipated to climb to 22.9% and 23.6%. The anticipated total number of hypertensive people in India in 2000 was 60.4 million men and 57.8 million females, and this figure is expected to rise to 107.3 million and 106.2 million, respectively, by 2025 (Chaturvedi, 2009).

According to reports, cardiovascular diseases (CVD) accounted for 2.3 million fatalities (25% of all deaths in India in 1990). Additionally, coronary heart disease was the cause of 1.2 million deaths, and stroke was the cause of 0.5 million. By 2020, there will likely be an 11% rise in cardiovascular mortality in India. A significant portion of the population in India has non-optimal hypertension, which is directly responsible for 24% and 57% of all deaths from coronary heart disease and stroke, respectively. Blood pressure (BP) is directly linked to the risks of various forms of cardiovascular disease, and these associations between BP and disease risk are continuing. This is significant since hypertension is a treatable condition, and a 2mmHg population-wide reduction in blood pressure can avoid 151,000 strokes and 153,000 coronary heart disease deaths in India (Gupta, 2004).

Because hypertension is a lifestyle condition, it can be caused by how a person lives his or her life. Based on this, Kaur et. al. (2007) evaluates the practices of hypertension patients consulting O.P.D at D.M.C & H, Ludhiana. The data was gathered by an interview schedule that included several characteristics of hypertensive people such as identifying data, socio-demographic data, and lifestyle behaviors. The findings revealed a variety of methods among hypertensive patients for hypertension control, as well as participant flaws such as inconsistent logbook maintenance, avoidance of yoga, meditation, and physical workouts. The results led to the recommendation that a nurse be assigned to the cardiology outpatient department (O.P.D.) in order to encourage patients to adopt healthy lifestyle practices in order to control their blood pressure.

Regional Scenario

In Mizoram, hypertension affects 12% of women between the ages of 15 and 49. Stage 1 hypertension affects 7% of women, stage 2 affects 2%, and stage 3

affects 1% of women. Just 1% of women with normal blood pressure require blood pressure medication, but little over one-fifth (12%) of women have normal blood pressure. Hypertension tends to rise with age and is more prevalent in cities than in rural regions (National Family Health Survey, 2018).

The following table depicts the report by Mizoram National Program on Prevention & Control of Cancer, Diabetes, CVDs & Stroke (NPCDCS) for State NCD Cell within March 2023-2024 from eight (8) District NCD Cells.

Among Mizo women though there is awareness about hypertension, it does not make a significant impact in promoting a healthy lifestyle that allows individuals to be free of lifestyle disorders (Lalremtluangi, 2017).

Hypertension:

Hypertension is defined as abnormally high blood pressure along with a high level of psychological stress. The patients with this disease will have a blood pressure reading more than 140 over 90mm. Blood pressure measurements are used to diagnose hypertension. The first reading would be the systolic pressure, which is the pressure at which the heart pumps blood through the body, followed by the diastolic pressure, which is the pressure at which the heart rests and replenishes the blood (Admin, 2020).

Persistently elevated blood vessel pressure is referred to as hypertension, or high blood pressure, by the World Health Organization. Every part of the body receives blood through veins that carry it from the heart. Vascular blood is pumped by the heart with each pulse. Blood is forced against artery walls by the heart's pumping action, which results in blood pressure. The heart must beat more forcefully to pump blood under higher pressure. It is regarded as the “silent killer”, as it generally shows no symptoms.

The World Health Organization's World Health Report 2002 highlighted the most important risk factors for non-communicable diseases whereby hypertension is also recognized as one of the high risk categories.

Due to its gradual and lasting organ damage that occurs before any diagnosable outward manifestation, hypertension is known as the "silent killer." As such, it may also be thought of as the "Sleeping snake" that bites upon awakening. In this perspective, hypertension presents a major area of intervention because it is a

frequent condition and is amenable to control through both non-pharmacological lifestyle factors and pharmacological treatment (Bollampally et al., 2016).

Lifestyle/Non communicable disease:

A non-communicable diseases (NCD) which are sometimes called as lifestyle diseases are those diseases whose occurrence is primarily based on daily habits of people and are a result of an inappropriate relationship of people with their environment (Sharma & Majumdar, 2009). Non-communicable diseases and lifestyle-related illnesses have a chronic (long-term) cause; they do not arise from an acute (short-term) infection and do not transfer from one individual to another. These illnesses impair quality of life by causing bodily malfunction. They may also lead to death. As these are chronic illnesses they are a financial burden for lifetime. Therefore, there is an increasing concern these days concerning lifestyle disorders that can be readily prevented but not healed (Home Science in Daily Life).

Cardiovascular diseases (CVD) account for the largest percentage of NCD-related mortality (48%) among deaths from NCD. 36 million (63%) of the estimated 57 million global mortality in 2008 were attributed to non-communicable diseases (NCDs), according to the World Health Statistics database from 2012. Among the behavioural and physiological risk factors associated with the highest attributable mortality, elevated blood pressure accounts for 13% of fatalities worldwide. According to research, hypertension ranks fourth in developed nations and seventh in developing nations when it comes to early death. It is projected that by 2025, there will be 1.56 billion adults worldwide who suffer with hypertension, up from the over 1 billion individuals (more than 25% of the global population) who experienced it in 2000. Prior studies also suggest that one of the leading causes of death and disability in emerging nations is hypertension, whose incidence is rising quickly. While mean blood pressure has declined in practically all high-income nations (Suplement to Japi, 2013).

Because of the related morbidity, mortality, and societal cost, hypertension remains one of the most significant public health concerns worldwide. It is one of the most important risk factors for cardiovascular (CV) morbidity and death caused by blood vessel damage in the heart, brain, kidney, and eyes. Hypertension kills 7.1

million people prematurely each year and accounts for 13% of all deaths worldwide (Tesema, 2016).

The World Health Report 2002 predicted that by 2020, cardiovascular diseases (CVDs) would account for the majority of deaths and disabilities in India. In an autopsy report, hypertension was responsible for 60% of heart failure fatalities, 40% of end stage renal disease deaths, 75% of myocardial infarction deaths, and 41% of stroke deaths (Biritwumet al, 2005). High blood pressure is defined as blood pressure that is elevated to the point where clinical benefit from medication or other therapeutic measures is required. The diastolic and systolic components of blood pressure are both significant in determining one's cardiovascular risk (Edwards &Walker, 2001).

The majority of the health burden in developed nations is attributed to non-communicable diseases (NCDs), with cardiovascular diseases (CVDs) in particular representing a fast growing global issue. They also present a significant opportunity for improved health. Heart disease, cancer, accidents, and other violent causes account for three out of every four deaths in a large portion of the developed world. Globally CVD is responsible for every third death and coronary heart disease (CHD) is already the number one killer in the world (Puska, 2002).

According to World Health Report 2002, cardiovascular diseases (CVDs) would be the biggest cause of death and disability by 2020 in India. In 2020 AD, 2.6 million Indians are estimated to die owing to coronary heart disease which comprises 54.1 % of all CVD deaths. Nearly half of these deaths are predicted to occur in young and middle aged persons (30-69 years). Currently Indians experience CVD fatalities at least a decade early than their counterparts in nations with established market economies (EME). The Global Burden of Disease (GBD) study predicts that 52% of CVD deaths occur below the age of 70 years in India as compared to 23% in EME, resulting in a substantial adverse impact on its economy. The contributing factors for the increased burden of CVDs are increasing prevalence of cardiovascular risk factors including hypertension, dyslipidemia, diabetes, overweight or obesity, physical inactivity and tobacco use. It is an area where large health benefits can be gained through the deployment of primary care interventions and fundamental public health strategies targeting diet, behaviours and the environment.

A person's lifestyle can be defined as their way of living. A way of life that people, families (households), and communities exhibit in order to manage their daily physical, psychological, social, and economic circumstances. It manifests itself in patterns of behaviour related to work and play, as well as (individually) in actions, attitudes, interests, beliefs, values, and the distribution of income. It also symbolises how individuals view themselves and think others perceive them, or their self-image or self-concept. According to the Business Dictionary, a person's lifestyle is influenced by a variety of factors, including their family, socioeconomic status, culture, and social circles. Because it is a reversible risk factor for stroke, ischemic heart disease, congestive heart failure, renal failure, and peripheral vascular disease, hypertension is a major public health concern. Everyone now agrees that decreasing risk factors including hypertension and making dietary and lifestyle modifications will help prevent cardiovascular disease (Campbell et al., 1999).

Dustan (1987) adds that obesity is a key associate of hypertension and are obviously associated to maturity onset diabetes; these two illnesses are among the most serious dangers for atherosclerosis. There is possibility that avoidance of obesity in industrialized nations will greatly lower the occurrence of hypertension and atherosclerosis resulting to a decreased mortality from these vascular illnesses.

According to Perry (2017), obesity is defined as an increase in body fat that can impact people of any age and affect people of both sexes. There are several factors that are linked to an increase in body fat content that leads to obesity. When you consume more calories than your body needs, you acquire weight. The extra calories you consume from food are converted to fat by your body. Numerous studies have proven that obesity is one of the factors that contribute to hypertension. Based on demographic research, approximately two thirds of obese individuals are at risk for hypertension. Additionally, there are risks associated with sleep apnea, coronary heart disease, and congestive heart failure.

People who over eat to the point of being overweight or obese are more likely to have high blood pressure, according to Vaesa, J. (2016). Gaining weight puts extra strain on the artery walls because it requires more blood to carry oxygen throughout the body. Two values are used to compute blood pressure: the first, known as the systolic, measures how much blood your heart pumps. The second figure, known as

the diastolic, represents the level of resistance the blood encounters in the arteries. 120/80 mm Hg or less is regarded as normal blood pressure.

Soriguer et al. (2003) stated that hypertension in highly connected with obesity and was impacted by sex, diabetes, and age. Although the content of monounsaturated fatty acids in the serum phospholipids is negatively correlated with this risk, the use of sunflower oil and the presence of excess polar molecules in cooking oil have been linked to the risk of hypertension. These associations persisted even after being included in models for age, sex, obesity, and the existence of problems with glucose metabolism. The consumption of polar cooking oil components is positively and independently correlated with the occurrence of hypertension, while blood concentrations of monounsaturated fatty acids are negatively correlated.

One in six deaths from non-communicable diseases (NCDs) are related to tobacco smoking, which is a key modifiable risk factor shared by diabetes, chronic respiratory conditions, cancer, and cardiovascular diseases. Each year, tobacco smoking—both directs tobacco use and secondhand smoke—causes the deaths of almost 6 million individuals. This figure is expected to increase to 7.5 million by 2020, accounting for 10 million deaths. According to data from multiple studies, smokers are 2-3 times more likely to have coronary heart disease (CHD), 1.5 times more likely to have a stroke, 1.4 times more likely to get chronic obstructive pulmonary disease (COPD), and 12 times more likely to develop lung cancer. These risks are age-gradient, with younger age groups showing a larger relative risk (5–6 times). They are similar for men and women, and they decrease quickly with quitting smoking. The risk of atherosclerosis formation and progression is increased even in the case of second-hand smoke (SHS) exposure. Several risk variables work in concert with tobacco smoke (Thakur, 2011).

Initially known as non-pharmacologic therapy, lifestyle modification plays a crucial role in both hypertension and non-hypertensive individuals. Changes in lifestyle can serve as both an initial treatment for hypertensive patients prior to the start of pharmaceutical therapy and a supplement to medication for those who are already receiving it. These interventions can facilitate drug withdrawal and step-down in hypertensive individuals with medication-controlled blood pressure who are

extremely motivated and successful in making and maintaining lifestyle changes. In non-hypertensive, lifestyle adjustments have the ability to avoid hypertension, and more generally to reduce BP and hence minimize the risk of BP-related clinical consequences in whole populations (Appel, 2003).

Hypertension is a major risk factor for cardiovascular disease in women. Oral contraception users are more prone to develop hypertension. One aspect of female hypertension that warrants special consideration is obesity. Obesity is significantly more common in middle-aged women than in men, and there is evidence that females influence blood pressure more than males (August & Oparil, 1999). Women with high normal blood pressure are more likely than women with normal blood pressure to develop hypertension or have a catastrophic cardiovascular event (Conen et al., 2007).

Social support:

The actual or perceived availability of social resources that can be used for consolation or help, especially during stressful times, is referred to as social support. One's social network, which consists of all the people they frequently engage with in social situations, offers social support. While not all social networks are beneficial, those that are typically have a positive impact on users' health and general wellbeing. Social support appears to benefit people’s physical and psychological health both directly and indirectly by mitigating the negative impact of stressors on health (Lepore, 2012).

Social support means having friends and other people, including family, to turn to in times of need or disaster in order to extend your perspective and retain a decent self-image. In times of need or disaster, friends and other people, particularly family, can help you maintain a positive self-image and focus. Social support enhances one's quality of life and serves as a shield against adversity (Jain & Jha, 2022).

Family and friend support play distinct roles in the two elements of mental health in the elderly with hypertension. Family support was more important for emotional well-being, whereas friend support contributed more to cognitive well-being (Wang et al., 2022).Social support is an important means for people with

higher blood pressure further, participation in community-based organizations may improve blood pressure for these individuals(Lei et al., 2019).

Regular blood pressure monitoring and medication adherence are positively correlated with family social support. Though further prospective research is required to fully understand the impacts of family social support, depression, and self-efficacy on self-care behaviours, strategies to enhance family social support should be created for the treatment of hypertension (Hu et al., 2015). Patients with hypertension who perceived higher social support are more likely to adhere to the dietary of hypertension and further suggests that health care providers need to facilitate support from friends, family and significant others of patients to achieve optimum dietary adherence(Hanifah et al., 2021).Peer support program improved hypertension patients' adherence to treatment regimens(Haidari et al., 2017).

Emotional support and network features are linked to the diagnosis and management of hypertension. Significantly, those with larger social networks have a decreased chance of undiagnosed and uncontrolled hypertension—that is, if they talk to their network members about health-related matters. A larger network size is linked to a higher risk of undetected and uncontrolled hypertension when these communication channels are closed. Health care utilization partially mediates associations with diagnosis, but the benefits of network resources for hypertension control do not seem to stem from health-related behaviours (Cornwell & Waite, 2012).

Hypertensive patients are observed to improve as their social support increased. In addition to the assistance provided to patients by nuclear family members, additional forms of social support, particularly professional agencies and community organizations, should be promoted and strengthened (Pan et al., 2021).

The level of structural social support and satisfaction with social support did not correlate with hypertension risk in addition, the study indicate that better functional assistance may be linked to a lower incidence of incident hypertension(Harding et at.,2022).

Social support is associated with indices of mental health (depression, stress level, and wellbeing) and had a moderate relationship with intense exercise (Ocsovszky et al., 2020).

To increase hypertension patient compliance, it is crucial to implement a program of health promotion activities that includes not only patients but also family and social members (Sartika & Maytasari, 2020).

Patients with hypertension feel more empowered to take control of their own recovery and have a better understanding of their illness and how to modify their lifestyle when more family members are involved in their care. The more informed the hypertension patient is about the physiological aspects of the condition, the more likely they are to be able to control it effectively (Simamane et al., 2023).

Patients with hypertension who experienced more social support were more likely to stick to their hypertension diets (Hanifah et al., 2021).

Compared to women with normal blood pressure, those with high normal blood pressure are significantly more likely to develop hypertension or experience a catastrophic cardiovascular incident. These individuals require careful monitoring and lifestyle adjustments. Once hypertension has developed, the cardiovascular event rate is increased shortly after the diagnosis of hypertension has been made, especially among women with high normal blood pressure at baseline (Conen et al., 2007).

In addition, newly research studies mentioned that women with high blood pressure are at higher risk than their male counterparts of vascular disease, prompting researchers to recommend different treatments in women (Ellis, 2014) and cardiovascular disease (CVD) claims more women's lives than any other disease, but is often underestimated and undiagnosed and there is an on-going misperception that women are at a lower risk of cardiovascular disease than men (Gudmundsdottir, 2012). In 2007, CVD caused about one death per minute among women in the United States, more women's lives than were claimed by cancer, chronic lower respiratory disease, Alzheimer's disease and accidents combined *(*Roger et al. 2011*).*

Moreover, more deaths in women are linked to hypertension than to any other avoidable risk factor. Pharmacological treatment of established hypertension has proven benefits, yet blood pressure control is achieved in only 57 % of patients with pharmacological intervention, and, therefore, primary prevention of hypertension (lifestyle modification, i.e. non – pharmacological treatment) could have major positive public health ramification by reaching more women and would have the

proven benefit of avoiding drug therapy with its potentially adverse effects (Karpman, 2009).

Non Communicable Disease Cells and Clinics:

The National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) was introduced in 2012 with an emphasis on infrastructure enhancement, human resource development, and referral with the goal of preventing and controlling major non-communicable diseases in India. NPCDCS was launched in Mizoram in 45thFebruary, 2014 and District NCD Cells and Clinics have also been set up under this programme. Currently the programme was implemented in Aizawl, Champhai, Kolasib, Mamit, Lawngtlai, Lunglei, Serchhip & Siaha District(NHM Mizoram, n.d.).

The primary goals of the NPCDCS are: promoting health via behavior modification with the participation of the media, civil society, community-based organizations, and the community. At every stage of the health care delivery system, starting with sub centers, opportunistic screening is conducted for common malignancies, hypertension, and early diagnosis. Additionally, outreach camps (30 years and above) are planned. To stop and manage long-term non-communicable diseases, particularly diabetes, cancer, cardiovascular disease, and stroke. To increase the capability of healthcare at all levels for early detection, treatment, prevention, information education and communication (IEC)/Behavior change communication (BCC, operational research and rehabilitation. To support for diagnosis and cost effective treatment at primary, secondary and tertiary levels of health care(Health & Family Welfare Department, n.d.).

Overview of Literature

Hypertension is a significant risk factor for cardiovascular disease in women, yet it is frequently overlooked and untreated, and there is a persistent misconception that women have a lesser risk of cardiovascular disease than males (Sheokand, 2014).

Several researches had been conducted to investigate the adverse effects of hypertension on women, as well as techniques for reducing the negative effects of hypertension. For instance, during the past years, several studies had been carried out on matters relating to hypertension. There were 972 million persons living with

hypertension globally in 2000, and this figure is expected to rise to more than 1.56 billion by 2025 (Zungu, 2013).The World Health Organization's World Health Report 2002 highlighted the most important risk factors for non-communicable diseases whereby hypertension is also recognized as one of the high risk categories.

In the past decades, hypertension in women studies occupy an important place since, the disease have a deep connection on women. For instance, identify trends in the prevalence of hypertension among women (Sheokand, 2014; Das et al., 2022; Gupta, 2004; Yurdakul & Aytekin, 2010), condition on diagnosis and care (Antonetti & Bisognano, 2014;Engberding & Wenger, 2012), perception on their condition (Deepti et al., 2023), health management (Gustafson, 2009; Rangarajan & Kochar, 2000), impact of hypertension (Dorobantu et al., 2016;Geraci & Geraci, 2013; Abramson & Melvin, 2014).), chances of development of the disease (Kumar, 2016;Ellis, 2014; Farukh et al ., 2022; Hayes et al., 2013; Datta et al., 2021), hypertension is particularly important in women because it is a modifiable risk factor that is extremely prevalent in older women(August & Oparil,1999); hypertension prevention strategies (Mills et al., 2020).

Unawareness and uncontrolled hypertension were widespread in Asian population and connected with socio-demographic characteristics (Liew et al., 2019).Hypertension are more frequent in senior individuals, especially women, and less educated people (Baldisserotto et al., 2016).Older age groups, urban areas, lower educational status in women, working individuals, and economically sound men were identified as risk factors for hypertension(Chakraborty et al., 2022).Elderly, illiterate, and tobacco and alcohol consumers are more likely to be affected with hypertension Laxmaiah et al. (2015).Population prone to hypertension (Susetyowati et al., 2023; Wang et al., 2023; Bhimarasetty et al., 2022)

There is a high prevalence of undiagnosed hypertension among women (Talukdar et al., 2021). Conventional risk factors like older age, higher BMI, tobacco, and alcohol use increased hypertension odds among women of reproductive age in India. Gender-specific characteristics like early childbirth, menarche, oral contraceptive use, and hysterectomy were also associated with hypertension Chhabra et al. (2022).Significant direct association between age and cardiovascular parameters in hypertension patients, with a negligible positive relationship between

gender and body mass index, suggesting older individuals and overweight individuals are at higher risk(Micheal et al., 2021).Hypertension is a significant contributor to India's cardiovascular disease epidemic, with socio-demographic disparities in prevalence, diagnosis, and treatment. Improved detection is crucial for reducing disease burden, with treatment and management mainly effective in women (Moser et al., 2014).

Socio-demographic studies on hypertension (Goswami et al., 2017;Indrapal et al., 2022; Halim & Sitanggang, 2023; Iriana et al., 2022). High body mass index, family history of hypertension, exposure to cigarette smoking, physical inactivity, and excessive sodium intake were substantially related with an elevated risk of hypertension in women(Journal of Pakistan Medical Association, 2023).

A healthy lifestyle is linked to a lower risk of hypertension, emphasizing the need to address lifestyle factors to reduce this risk (Zhen et al., 2023).Study that link between lifestyle factors and hypertension prevalence with physical activity being the most associated characteristic, while unhealthy eating habits, smoking, and stress also increase the risk (Herawati et al., 2023).Age, brown skin colour, sedentary lifestyle, and obesity are strongly associated with hypertension in adults, emphasizing the need for interventions(Lavor et al., 2020).

Lifestyle modification, originally dubbed non-pharmacologic therapy, has vital responsibilities in hypertensive as well as non-hypertensive persons(Appel, 2003).Lifestyle factors significantly influence hypertension prevalence (Beilin, 1999).Indian growing public health issue with high blood pressure, necessitating non-pharmacological management strategies (Gupta & Guptha, 2010).Hypertension, a global risk factor for cardiovascular diseases, necessitates lifestyle changes like dietary changes, physical activity, and increased consumption of fruits, vegetables, and milk to reduce mortality rates (Ghezelbash&Ghorbani, 2012).Borah et al. (2018) found prevalence of hypertension, with factors like age, salt intake, tuibur, high BMI, and sedentary lifestyle linked.

Hypertension, condition causing blood vessel damage, can lead to serious health issues like strokes, heart attacks, and kidney failure, influenced by factors like excessive salt intake and unhealthy diets(The National Aboriginal Health Organization, 2010). High tobacco, alcohol, and unhealthy diet habits as major risk

factors for NCD, recommending an integrated approach for hypertension control(Oommen et al., 2016). Hypertension control measures(Kaur et. al., 2007; Bollampally et al., 2016; Mahajan, et. al., 2012).

Lifestyle modification as a means for hypertension management and control (Marcello et al., 2018; Elgendy et al., 2022;Goetsch et al.,2021; Valenzeula et al., 2021) Dhakal et al. (2021) discovered that low adherence to lifestyle modifications in hypertensive patients results in poor therapeutic effectiveness, decreased quality of life, and increased healthcare costs.Niu et al.(2021) study highlights the link between genetic and lifestyle factors in rural areas, emphasizing the significance of maintaining a healthy lifestyle for hypertension prevention.

Hanifah et al. (2021) highlight the significance of social support in promoting adherence to a patient's hypertension diet or therapy, suggesting that healthcare providers should facilitate this support. (Tavares & Silva, 2019; Oktaviani et al., 2019) found that emotional, informational, and instrumental support from family relationships is crucial for hypertensive individuals, requiring attention from healthcare professionals like nurses. Family social support positively influences medication adherence and regular blood pressure measurement, suggesting strategies for hypertension control (Hu et al., 2015; Gao et al.,2022; Shahin et al. 2021; Osamor, 2015; Turan,2019; Ofoli et al., 2017; Nursalam et al., 2020; Bahari et al., 2019; Sartika & Maytasari, 2020; Adisa, 2017; Vahedparasat et al., 2018;). More social support and that community-based organization participation can potentially improve blood pressure (Lei et al., 2019). Haidari et al. (2017) indicates peer support program improved hypertension patients' adherence to treatment regimens, emphasizing the importance of managing chronic conditions effectively. Bell (2010) suggests social support, including emotional and financial, could potentially improve hypertension.

Rising prevalence of chronic and mental health issues, including depression suggest interventions focusing on social support and anxiety reduction (Ji et al., 2021; Yazawa et al.,2022; Ojike et al., 2016; Ocsovszky et al.,2020; Spikes et al.,2020; Sheokand, 2014;). (Rahmatika, 2019; Kretchy et al.,2014;) emotional support significantly influenced dietary compliance. Social network ties and resources, including information and support, are linked to hypertension diagnosis

and management, with larger networks reducing undiagnosed and uncontrolled hypertension risks (Cornwell & Waite, 2012). Harding et al. (2022) no correlation between structural social support and hypertension risk, suggesting better functional assistance may reduce the incidence of hypertension. Brownstein (2007) suggests community health workers can significantly influence hypertension self-management, especially in multidisciplinary programs targeting underserved racial/ethnic populations. The Mulyana (2018) study found that social support negatively impacts individual coping strategies in hypertension patients.(Santana et al., 2019) found risk ratio between hypertensive and normotensive women, with hypertension women having a higher risk as they age.

Lestari et al (2022) mention correlation between family support and hypertension lifestyle, with gender, hypertension knowledge, and family support being significant factors affecting their lifestyle. Simamane et al. (2023) found that increased family involvement in hypertension management empowers patients to manage their condition and improve their lifestyle. Hanifah et al. (2021) found that social support significantly influences dietary adherence among hypertensive patients, suggesting that healthcare providers should provide such support. Yoshikawa et al (2021) found that social support positively impacts healthy eating habits in individuals enrolled in T-exercise Select, potentially contributing to healthier lifestyle behaviors. Azimi & Daigle (2020) study found that lack of social support directly impacts violent victimization and increases the risk of engaging in dangerous lifestyles.

Statement of the problem

Hypertension is the most prevalent modifiable risk factor for CVD, the main cause of mortality in women worldwide (Ahmad &Oparil, 2017). In addition, hypertension is a chronic condition which cannot be cured but may be prevented (Centre for Health Protection, 2013), hence lifestyle modification and social support is one of the crucial components for efficient control and management of hypertension. In, Mizoram, 11,700 people were diagnosed with hypertension and hold the majority group among non-communicable disease i.e., diabetes, stroke, CVDs and cancer (National Health Mission, Mizoram, 2020). Social support was more important for patients with higher blood pressure, therefore engagement in

community-based groups may improve blood pressure for these individuals (Lei et al, 2019). However, India's total healthcare spending (is considerably lower than that of other countries (Mehra, 2020). Therefore, it vital to have a full examination of hypertension in relation to lifestyles and social support of women and also corrective actions that may be performed in order to enhance the lifestyles, health and social support of women with hypertension in Mizoram.

Objectives

i) To find out the demographic profile of women with HTN in Mizoram.

ii) To explore the lifestyles of women with HTN across Districts in Mizoram

iii) To explore dimensions of social support according to the availability, accessibility, adequacy and quality across the Districts in Mizoram.

iv) To explore the suitable provision for promoting the welfare of women with hypertension in Mizoram.

v) To find out the relationship between lifestyles and social support of women with HTN across the Districts in Mizoram

vi) To suggest measures of social work intervention and social policy in the field of HTN among women in Mizoram.

Methodology

The methodology chapter serves as the foundation for this research study, detailing the systematic approach used to collect analyses and evaluate data. A well-crafted methodology ensures the rigour and credibility of the research, providing readers with a road map to understand the study's approach and its conformity with the research objectives. We will look at the study strategy, data collecting, and analytical methodologies used to answer the research questions stated in this dissertation in this section.

Research Design

The study is descriptive in design and adopts a mixed method, viz. quantitative, qualitative and participatory techniques. The study is conducted in 2 districts of Mizoram wherein, Aizawl District represent the northern region and Lunglei District represent southern region.

Sampling

The unit of the study was women with hypertension in Mizoram. The study adopted a purposive sampling technique from the list of NCD. Overall, sample included 222 respondents based on Non-communicable Disease (NCD) Cell record (111 from Aizawl district and 111 from Lunglei district). The choice of sample included those presently having hypertension as a primary/secondary disease.

Tool of Data Collection

Data was collect from both primary and secondary sources. Primary sources included data collected from women with hypertension. Secondary sources are collect from government and non-government records.

A semi-structured interview schedule form the tools for data collection for finding the personal profile, family characteristics, suggestions and scope for social work intervention to improve the lifestyle related to hypertension. Simple Lifestyle Indicator Questionnaire (SLIQ) which was developed by Godwin (2008) was employed to measure the lifestyle of women across women with hypertension in Mizoram. Simple Lifestyle Indicator Questionnaire (SLIQ) includes the SLIQ's 12 questions and outlines the scoring system. The SLIQ consists of five components: nutrition (3 questions), activity (3 questions), alcohol use (3 questions), smoking (2 questions), and stress (1 question). Each component can be assigned a raw score as well as a category score. The overall SLIQ score is calculated using the five category scores to ensure that each component receives equal consideration. Each component has a category score of 0, 1, or 2, based on raw scoring of questions related to each component. Component scores are summed to give a SLIQ score from 0 – 10. Categorically, a person is considered “unhealthy” if they have a SLIQ score of between 0 – 4, “intermediate” if the SLIQ score is between 5 – 7, and “healthy” if they score between 8 – 10 on the SLIQ. The higher the score, the healthier the lifestyle.The questions on diet and activity were amendable to assessment by Cronbach Alpha, which was measured separately on the 3 diet questions and the 3 activity questions. The coefficients for these questions were reasonably good at the level of 0.58 for the diet questions and 0.6 for the questions on activity. The component on stress has only 1 question and so cannot be assessed for Cronbach Alpha. The questions on smoking and alcohol consumption are structured such that

they are mutually exclusive and would not be expected to be scored in the same direction.

A semi-structured interview schedule is used to collect data on personal profiles, family features, and suggestions for improving social support. A 5-point structured scale which was developed based on the studies of(John & Katherine (2008), Schwarze, Knoll & Rieckmann (2003), Dunst, Trivette & Cross (1986), Schaefer, Coyne & Lazarus (2002), Olsson et al. (2015), Curtona and Suhr (1992), Chhangte (2017), Meral & Cavkaytar (2012), Lifshitz & Glaubman (2004), Teklu (2010), Parette et al. (2010), Mishra & Gupta (2006) & Lalmuanpuii (2016)was used to assess social support, measuring accessibility, quality, and adequacy across various dimensions such as basic needs, emotional support, physical health, mental health, life skills, financial support, and instrumental support.

Qualitative methods such as case study, focus group discussion and participatory techniques such as impact diagram and daily activities schedule were also conducted. After preparation of the tool, the language was transcribed in Mizo and a pilot study was conducted so as to test the validity and reliability of the tool among women with hypertension. Necessary modifications and changes were made after the pilot study.

Data Processing and Analysis

The quantitative data was analyzed using Microsoft Excel and SPSS package. Descriptive statistics, simple frequency and means were used to present the quantitative data. Social support was analyzed based upon a tool constructed by and lifestyle was analyzed based on SLIQ. T-test was used to find out the district wise differences in lifestyle and social support. Pearson's correlation co-efficient was used to find out the relationship of the lifestyle domains, lifestyles and problems faced by respondents, dimensions of social support, lifestyle and social support of women with hypertension. Case studies and focus group discussions were also highlighted to understand the lived experience of women with hypertension.

Ethical Consideration

Informed consent is taken from the respondents. Only those who are willing to give consent form the sample. The sample excludes those who are intellectually disabled

or has any other infirmity that disrupts communication and meaning. Confidentiality is strictly adhered to.

Finally, the methodology used in this study was designed to rigorously meet the research objectives. The approach adopted was meticulously planned to ensure dependability, validity, and relevance to the study problems at hand. After laying a solid basis with an appropriate technique, the next chapter will provide a detail analysis of the data collected and explain the implications of our findings in relation to the research objectives.

Inclusion and Exclusion Criteria

In this study, Women with Hypertension referred only to women under the age of 70 who were registered in the NCD clinic viz. Aizawl and Lunglei.

Limitations of the study

- The study was conducted only among women with hypertension who came to the NCD Clinic in Aizawl and Lunglei for further check-up.
- As majority of the respondents who came to the clinic in both the districts were mostly from middle and lower income group it might not encompass the whole population.

Major Findings from Quantitative Studies

- Majority of the hypertensive respondents in both the districts were between 50 – 60 years of age and mostly married in both the district .Equally most respondents had educational qualification till high school in both the districts. Majority of the respondents in both the district belonged to Lusei tribe. In both the districts, majority were Christian wherein majority in Aizawl belonged to Presbyterian denomination while Baptist denomination took majority in Lunglei. Equally, most of the respondents in both the districts belonged to nuclear family where majority in Aizawl belonged to PHH category while NFSA category in Lunglei. It was also found that family primary occupation of the respondents in both the districts was mainly daily labour and their monthly income was mostly between Rs. (10,000 -50,000) across the districts. Furthermore, most respondents in Aizawl were diagnosed

with hypertension disease in/after 2021 whereas in Lunglei, it was between 2015-2020 and overall, majority of them registered in NCD in/after 2021.

- Overall, the diet intake, exercise, smoking and life stress were found to be intermediate i.e. between unhealthy and healthy while alcohol consumption was found to be less i.e healthy. It was also found that majority of the respondents across the district had the habit of taking table salt, excessive oily food intake sweets intake and a few of them claimed to control their diet. Overall the lifestyle dimensions of the respondent s was found to be intermediate
- Furthermore, women with hypertension in both the districts reported taking tobacco related products such as ‘kuva’ (betel nut), ‘sahdah’ (tobacco taken orally), ‘tuibur’ (tobacco smoke-infused water), ‘khaini’ (processed tobacco taken orally) and ‘shikhar’. A few of them were found to be free from all these substances. There were also a significant number of women who consumed alcohol occasionally. Some of these findings are consistent with the findings of Elizabeth (2015) where she stated that Mizo tribal women consume tobacco in both smoked and smokeless forms at a higher rate at above the national average. The practice is widespread across all age groups, and variations in use patterns are also found.
- The findings also revealed that there is no difference found in the lifestyles across the districts. However, the study highlighted that there is significant differences across the districts in the life stress dimension of lifestyle of the women with hypertension where life stress among women with hypertension in Aizawl was higher than those in Lunglei.
- The overall score of the agents of social support across the dimensions in accessibility was neither inaccessible nor accessible in accessibility, neither poor nor good in quality while it was inadequate in adequacy across agents. Family support was the only support systems that were found to be accessible, good and adequate for women with hypertension concerning to their ailment.

- Overall score of social support across various dimensions highlighted that basic needs, financial and instrumental support were inaccessible, poor and inadequate, while dimensions like emotional, physical health, mental health, and life skill support were neither inaccessible nor accessible, neither poor nor good and neither inadequate nor adequate.
- There were district wise differences in accessibility, quality and adequacy of family support and adequacy of peer support among primary supporters (Family and Peers) where respondents in Aizawl received lesser support as compared to the Lunglei respondents.
- From the secondary supporters (Church, YMA, MHIP, MUP, NGO), there were district wise differences in adequacy of Church and MHIP support, where respondents from Aizawl received lesser support than the Lunglei respondents.
- Among the tertiary supporters (Local Council, Government), there are also district wise differences in accessibility of government support, where Aizawl respondents are found to receive more support than the Lunglei respondents.
- Increase in the accessibility, quality and adequacy of family supports, leads to increase in smoking**.** Further, it was also found that higher the adequacy of family support, higher the life stress of the respondents. Also, higher the accessibility, quality and adequacy of family support, the higher the SLIQ total score of the respondents. Similar indications were also found in Kalavana et.al. (2011) where she stated that he link between family environment (cohesion and conflict) and health-related behaviours such as eating behaviour, tobacco smoking, alcohol use, insufficient sleep, and physical activity emphasises the importance of addressing family cohesion and conflict.
- It was found that higher the adequacy of MHIP support, lower the life stress of respondents. Further, higher the accessibility, quality and adequacy of MUP support, healthier the lifestyle. Moreover, higher the accessibility and quality of NGO support, higher the score in the exercise dimensions of the

respondents. Conversely, higher the adequacy of MUP support, lower the overall lifestyle score of the respondents.

- The findings indicated that higher the accessibility, quality and adequacy of local council support, lower the smoking of the respondents. Further, higher the adequacy of local council support, the exercise lifestyle of the respondents becomes more vigorous. Moreover, increase in the adequacy of government supports, leads to increase in alcohol consumption of the respondents.
- In the findings related to suggestions to prevent hypertension, it was found that self-control, regular exercise, sufficient sleep, optimism, self-awareness and regular health check-up were among the important list suggested by the respondents.
- Lastly but not the least, in the suggestions made by the respondents to improve lifestyle and social support system, suggestions included awareness campaign, active participation and collaborations with NGOs, media publicity, practicing healthy lifestyles and early education on health.

Major Findings from Qualitative Study

- From the case studies, it was found that lifestyle and social support were a very important factors of hypertension. Hereditary factors as well as pregnancy can also be one of the contributing factors for developing hypertension. Negligence in medication is also one factor that enhances the problems and creates other health problems. It was clear that anti-hypertensive medication solely was not a complete healer of the disease. Tobacco intake could be one of the contributing factors for the disease to get worse. The study also highlighted that bereavement leads to emotional breakdown, accompanied with stress and lack of enough sleep, and consequently hampers hypertension management. Lack of physical activity also serves as a contributing factor in developing the disease. Regular medication and early intervention prevented the disease from getting worse. Further, life stress disturbed hypertension management. The case also highlighted the need to encourage setting boundaries at work. Family, peers

and significant others play a very important role in in reducing stress and hypertension management.

- From the focus group discussion in Aizawl, it was found that respondents had a mix of dietary habits ranging from traditional Mizo cuisine to processed foods. Emphasis was placed on reducing salt intake, but challenges in adapting to new dietary patterns were evident. Importance was given to physical activity but time constraints and household responsibilities were barriers to regular exercise. Stress emerged as a significant factor contributing to hypertension. Further coping mechanisms included prayer, hobbies, and engaging in social activities, to manage stress. There were some respondents who admitted occasional alcohol consumption. It was also found that there was a sense of gratitude towards the NCD Clinic for providing regular check-ups and medication. Concerns were raised about the need for increased awareness about hypertension management. Financial constraints and transportation issues were identified as barriers to accessing healthcare services regularly. The significance of family support was highlighted in managing hypertension. Supportive family members encouraged medication adherence and dietary modifications. Moreover, there were challenges in receiving adequate support due to familial obligations or lack of understanding about the severity of hypertension. Peer support helped in managing hypertension to a large extent. Support from Church, YMA, MHIP, MUP, NGOs was rare. Government measures for hypertension control physical, and instrumental was found on a wider scale but find there is still an area of improvement in matters relating to financial and emotional support.
- From the focus group discussions in Lunglei, it was found that there were challenges of maintaining a healthy diet due to cultural preferences and financial constraints. Tobacco intake may be one of the contributing factor to hypertension as it was highlighted that most of the participants have the habits of taking beetle nut, ‘sahdah’, ‘tuibur’ and few of them smoked occasionally. Lack of regular physical activity emerged as a common issue, attributed to busy lifestyles, household responsibilities, and inadequate infrastructure for exercise in their community. Moreover, it was found that

stress was identified as a major contributor to hypertension. Participants highlighted the importance of stress reduction techniques such as meditation and relaxation exercises, but expressed difficulty in incorporating them into their daily routines. Participants emphasized about the support received in managing hypertension, mostly in terms of encouragement for medication adherence, and also were given advice to take healthier diet quiet often. Limited access to community resources for hypertension management was a shared concern. There was also a need for community-based programs offering education, support groups, and access to affordable healthcare services.

- From the participatory research techniques, the causes of hypertension include lack of physical activity, irregular check-up due to poverty, genetics, lack of awareness, pregnancy induced, lack of self-care, diet, excessive stress and medication irregularity. Further, the effects of hypertension on women include problems like anxiety, chest pain, hot flush, dependency, stroke, dizziness, migraine, giddiness, nose bleeding, eye problem, kidney problems, body cramps, financial problems, thyroid, heart problem and dependency. Further, the daily activities schedule indicated that women with hypertension across districts have little time for taking care of themselves and their time was fully concentrated largely on duties for the family. Moreover, it was evident that the schedule of women with hypertension in weekdays and weekend was a bit different where women have more time relaxing on weekends as compared to weekdays.

Suggestions

- Launch comprehensive awareness programs that address multiple facets of lifestyle improvement, such as physical health, diet, mental health, and social interactions. Use a variety of venues, such as social media, community gatherings, and educational seminars, to efficiently distribute information. This can be undertaken by the Health Department and collaborate with NCD and community based organisations, schools and other educational institutions. Further, to promote awareness about the benefits of healthy lifestyles and the availability of support services media can also be used. To reach a wide range

of people, traditional media outlets such as television, radio and newspapers with digital platforms such as websites, podcasts and social media influencers can be used.

- Encourage behaviours that lead to a healthy lifestyle, such as regular exercise, balanced nutrition, appropriate sleep, stress management, and abstaining from dangerous substances like tobacco and excessive alcohol. Cognitive behavioural therapy as well as other psychodynamic therapies can be used at the individual and group levels.
- Provide incentives, subsidies, or discounts for participating in wellness programs or receiving health care.
- Implement comprehensive health education curriculum in schools and community centres to develop healthy behaviours at a young age. Teach children and adolescents the value of nutrition, physical activity, mental health, and pleasant social connections. Encourage participatory learning using games, workshops and peer support groups.
- Regular consultations with doctor to monitor blood pressure, discuss any issues, and alter treatment plan as necessary. Proactivism in controlling hypertension and follow doctor's advice consistently is also needed. Recognizing unusual changes in oneself helps early detection of high blood pressure allows for timely intervention.
- Awareness on the importance of adopting Dietary Approaches to Stop Hypertension (DASH) diet which is low in salt and rich in fruits, vegetables, whole grains, low-fat dairy and lean proteins must be given through media and various social support agents because the study highlighted that lifestyle in diet was intermediate. Since, Appel (2003) stated that the Dietary Approaches to Stop Hypertension (DASH) diet effectively lower BP.
- Lifestyle in exercise is found to be intermediate. Physical activity was identified as the characteristic most associated with hypertension (Herawati et al., 2023). Therefore, measures must be taken so that women with hypertension will improve their lifestyle in exercise. Aim for at least 150 minutes of moderate-intensity aerobic activity, such as brisk walking, or 75 minutes

vigorous-intensity activity such as jogging, each week. In addition, incorporate strength training activities introduce your regimen at least twice a week.

- Advocacy programmes for policies that limit tobacco sales, increase taxes on these products is a must, and encourage women with hypertension to make use of government resources for cessation, like Tobacco Cessation Clinic.
- Improving access to mental health services provided under NPCDCS program in Mizoram including counselling and stress management programs.
- The support received from family was the only support, which was found to be accessible, good and adequate among all social support agents. Therefore, measures must be taken to improve the social support across agents for women with hypertension. Working with support groups specializing in health, education, and community development to execute programs suited to individual needs and demography is needed. Support groups can offer essential resources; experience and outreach to ensure that initiative reach their intended audience.
- Basic needs, financial and instrumental support were inaccessible, poor and inadequate; hence, social support in these dimensions can be improved across the agents of social supporters through awareness, training and sensitization programmes.
- Emotional, physical health, mental health, and life skill support were neither inaccessible nor accessible, neither poor nor good and neither inadequate nor adequate. So, more awareness workshop addressing various determinants of health needs to be conducted in a wider scale across community settings. These can be done through National programmes related to health and mental health. As for life skills, schools and community based intervention programmes can be helpful to improve the support.
- It was found that when the accessibility, quality and adequacy of family support increase, smoking tends to increase. The psychological and social attributes are highly significant in tobacco use (Elizabeth, 2015). Culturally, acceptance of smoking is high in Mizoram, therefore, family intervention

programmes for cessation is needed. Church as well as YMA can be used as arenas to create awareness on the effects of smoking.

- Encourage family members in the importance to open communication where members freely express their thoughts, offer emotional help like spending quality time together and respect each other's boundaries. Because the study found that when increase in family support, life stress tends to increase.
- Increase in adequacy to MHIP support, life stress tends to decrease among the respondents. Therefore, measures must be taken to strengthen MHIP support so that life stress of women with hypertension will be reduced. Adopt stress management techniques like meditation, deep breathing, exercises, enjoyable hobbies, etc. to lessen the influence of negative emotions.
- MUP, NGO and Local Council support system must be strengthened with more advance program in collaboration with a healthcare professional addressing the underlying health concerns or medical conditions.
- It was found that higher the adequacy of government support, alcohol consumption tends to increase. Government efforts in prohibition have provided scope for illicit liquor trade that enhances alcohol consumption for some population in Mizoram (Sailo & Pachuau, 2015). Therefore, more efforts must be made to check the sales of illicit liquor trade in Mizoram.
- Measures to emphasize the need and importance of self-control to prevent hypertension needs to be taken as it is one of the most common shared suggestions to prevent hypertension by the respondents.
- It was clear from the study, that anti-hypertensive medication solely was not a complete healer of the disease. Therefore, measures must be taken so that women with hypertension will be more aware of the importance of lifestyle modification across dimensions such as diet, exercise, alcohol consumption, smoking and life stress.
- Hypertension could be developed without any symptoms and this creates negligence for regular medication. Ellis (2014) also stated that high blood pressure as the "silent killer," as it often has no symptoms Therefore, measures

must be taken so that women with hypertension know the importance of self awareness.

- Self-management must be encouraged because the study highlighted the need to encourage setting boundaries to have a healthy lifestyle.
- Through case work, social workers can offer emotional support by listening carefully to hypertensive patients who are feeling anxious, stressed or depressed as a result of their disease. They can provide counselling and coping methods to assist patients control their emotions appropriately.
- Social workers can help hypertensive patients through group work by carefully analyzing the group situation that can further help them understand their illness, including risk factors, lifestyle changes and drug adherence. They can also advocate for patients' rights in the healthcare system and assist them in navigating complex medical procedures.
- Social workers can help hypertensive patients through community organization in finding community services like support groups, wellness programmes, and financial aid. They can also assist patient in obtaining healthcare services, such as specialist appointments and diagnostic tests.
- Through social action social workers can act as advocates for hypertensive patients, their families, and healthcare practitioners, ensuring that patients receive comprehensive care. They can improve communication among members of the healthcare team and help patients navigate the healthcare system more successfully.
- Social Work Research can focus on assessing the impact of educational programs and awareness campaigns targeting hypertension and healthcare providers on the management of hypertension. Evaluative study on the impact of existing health policies on the prevention, diagnosis and management of hypertension in women can also be focussed to identify gaps and propose policy recommendations. Further, examine the barriers to accessing healthcare services for hypertension diagnosis and management among women, including geographic, economic and social barriers can also be covered in the study. Another important area of research is on how cultural beliefs and practices

influence the perception, diagnosis and management of hypertension among women.

Bibliography

Ahmad, A. & Oparil, S. (2017). Hypertension in Women: Recent Advances and Lingering Questions.*01 Jul 2017-Hypertension (Lippincott Williams&WilkinsHagerstown,MD)Vol.70,Iss:1,pp 19-26.*

Anchala, R. et al. (2014). Hypertension in India: a systematic review and meta-analysis of prevalence, awareness, and control of hypertension. *Journal of Hypertension. Volume 32 _ Number 6 _ June 2014.*

Appel, J. L. (2003).Lifestyle Modification as a Means to Prevent and Treat High BloodPressure.*Journal of the American Society of Nephrology.*

August, P. &Oparil, S. (1999). Hypertension in Women.*J ClinEndocrinolMetab (1999) 84 (6): 1862-1866.*

Azimi, A.M. & Daigle, L.E. (2020).Viloent Victimization: The Role of Social Support and

Risky Lifestyle. *Violence and Victims; Vol: 35, Iss.1, Feb 2020, DOI: 10.1891/08866708.VV-D-18-00167*

Admin. (2020, August 5). *What Is Hypertension? - Types, Causes, Symptoms & Treatment*. BYJUS. https://byjus.com/biology/hypertension/

Bollampally, M., Chandershekhar,P., Kumar,KP., Surakasula, A., Srikanth,S. & Reddy, TRM. (2016). Assessment of patient's knowledge, attitude and practice regarding hypertension. *International Journal of Research in Medical Sciences | August 2016 | Vol 4 | Issue 8 Page 3299.*

Bell, C. N., Thrope, R. J., &LaViest, T.A (2010).Race/Ethnicity and Hypertension: The Role of Social Support.NIH Public Access.Am J Hypertens. 2010 May ; 23(5): 534–540. doi:10.1038/ajh.2010.28.

Brownstein, J.N., Chowdhury, F.M., Norris, S.L., Horsley, T., Jack Jr, L., Zhang, X. & Satterfield, D. (2007). Effectiveness of community health workers in the care of people with hypertension.American Journal of Preventive Medicine.Volume 32, Issue 5, May 2007, Pages 435-447.

Baldisserotto, J., Kopittke, L., Nedel,F.B., Takeda, S.P., Mendonca, C.S., Sirena, S.A., Diercks, M.S., Lima, L.A. &Nicolau, B. (2016).*Socio-demographic characteristics and prevalence of risk factors in a*

*hypertensive and diabetics population: a cross-sectional study in primary health care in Brazil.*BMC Public Health.

Campbell, N., Burgess, E., Choi, B., Taylor,G., BSc, Wilson, E., Cléroux, J., Fodor, G., Leiter, L. & Spence, D. (1999). Lifestyle modifications to prevent and control hypertension. *Canadian Medical Association Journal, May 4, 1999; 160 (9 Suppl).*

Conen, D., Ridker, P., Buring, J. & Glynn, R. (2007). Risk of cardiovascular events among women with high normal blood pressure or blood pressure progression : prospective cohort study. *BMJ/1September 2007/Volume 335.*

Chakraborty, S., Ussatayeva, G., Lee,M. &Dalal, K. (2022). Hypertension: A National Cross-sectional Study in India. *Turk KardiyolDernArs. 2022; 50(4): 276-283 | DOI: 10.5543/tkda.2022.21207.*

Dustan, H. (1987). Nutrition and Cardiovascular Diseases of Women. *Public Health Reports (1974-), Vol. 102, Supplement: Women's Health. Proceedings of the National Conference on Women's Health (Jul. - Aug., 1987), pp. 22-25.*

Epidemiology of Hypertension. SUPPLEMENT TO JAPI • FEBRUARY 2013 • VOL. 61. MODULE – 1. Home Science in Daily Life. Communicable and Life Style Diseases. 30th April 2017.

Farrukh, F., Abbasi, A., Jawed, M., Almas, A., Jafar, T.H., Virani, S.S. &Samad, Z. (2022). Hypertension in Women: A South Asian Perspective. *Frontiers in Cardiovascular Medicine.10 August 2022 Sec. Sex and Gender in Cardiovascular Medicine Volume 9 2022. https://doi.org/10.3389/fcvm.2022.880374.*

Ghezelbash, S. &Ghorbani, A. (2012).Lifestyle modification and hypertension prevention. 2012. *ARYA Atherosclerosis Journal; Volume 8, Special Issue in National Hypertension Treatment.*

Gudmundsdottir, H. (2012). Hypertension in women : latest findings and clinical implications. *US National Library of Medicine, National Institutes of Health.*

Geraci, T.S. &Geraci, S.A. (2013). Considerations in women with hypertension.*01 Jul 2013 South Medical Journal (South Med J)-Vol.106, Iss:7,pp 434-438.*

Hu, H., Li, G. &Arao, T.The association of family social support, depression, anxiety and self efficacy with specific hypertension self-care behaviours in Chinese local community. *J Hum Hypertens* **29**, 198–203 (2015). https://doi.org/10.1038/jhh.2014.58.

Hanifah, Winahyu, K.M. & Muttaqijn, M.I. (2021).*Social Support Positively Correlated with Dietary Adherence among Patients with Hypertension in Primary Health Center.* Faletehan Health Journal, 8 (1) (2021) 16-21.ISSN 2088-673X/e-ISSN 2597-8667.

Haidari, A., Moeini, M. &Khosravi, A. (2017). The impact of peer support program on adherence to the treatment regimen in patients with hypertension: A randomized clinical trial study. *01 Nov 2017-Iranian Journal of Nursing and Midwifery Research (Iran J Nurs Midwifery Res)-Vol. 22,Iss: 6, pp 427-430.*

Harding, B.N., Hawley, C., Kalinowski, J., Sims, M., Muntner, P., Mielcarek, B.A.Y., Heckbert,S.R., & Floyd, J.S. (2022). Relationship between social support and incident hypertension in the Jackson Heart Study: a cohort study. *01 Mar 2022-BMJ Open-Vol.12, Iss: 3, pp e054812-e054812.*

Jain, A. M., & Jha, M. (2022, January 1). Social support as a protective factor against depressive symptoms: A review. *Journal of Ravishankar University (PART- A),* 93103. https://doi.org/10.52228/jrua.2022-28-1-11

Kario, K., Okura, A., Hoshide, S., & Mogi, M. (2024). The WHO Global report 2023 on hypertension warning the emerging hypertension burden in globe and its treatment strategy. *Hypertension Research*. https://doi.org/10.1038/s41440-024-01622-w

Kaur, K., Sharma, Suresh, K., Kaur, G., Deepika, Sharma, Divya. &Rai, Harpreet. (2007). Practices of hypertensive patients visiting O.P.D at D.M.C & H, Ludhiana.*Nursing and Midwifery Research Journal, Vol-3, No. 2.*

Karpman, H. (2009). Effects of Diet and Lifestyle on the Incidence of Hypertension in Women.*JAMA*2009;302:401 – 411.

Lalremtluangi, C. (2017). *Lifestyle and Hypertension among Women in Lunglei, Mizoram.* (MPhil dissertation, Department of Social Work,

Mizoram University) http://mzuir.inflibnet.ac.in:8080/jspui/handle/123456789/595

Laxmaiah, A., Meshram, I.I.,Arlappa, N., Balakrishna, N., Rao, K.M., Reddy, C.G., Ravindranath, M., Kumar, S., Kumar, H. &Brahmam, G.N.V. (2015).*Socio-economic &demographic determinants of hypertension & knowledge, practices & risk behavior of tribals in India.*Indian J Med Res. 2015 May; 141(5): 697–708.doi: 10.4103/0971- 5916.159592.

Lestari, P.H., Ekasari, M.F. & Pertiwi N.F. (2022).Korelasidukungankeluargadanpengetahuan hipertensiterhadappolahiduppenderitahipertensi di dki Jakarta.*Media KeperawatanVol-13, Iss:2, pp197-197-23 Dec 2022.* https://doi.org/10.32382/jmk.v13i.2.2938

Lepore, S. (2012). Social Support. *Encyclopedia of Human Behavior*, 493–496. https://doi.org/10.1016/b978-0-12-375000-6.00336-0

Lei, P., Wu, Y., Ye, R., Sunil, T.S. & Zhou, H. (2019).*Social support and blood pressure: a cross-sectional study*. The Lancet, volume 394, supplement 1, October 2019, Page 51. https://doi.org/10.1016/S0140-6736(19)32387-6.

Mills, K.T., Stefanescu, A. & He, J. (2020).The global epidemiology of hypertension. *Nat Rev Nephrol* **16**, 223–237. https://doi.org/10.1038/s41581-019-0244-2

Muyana, H. (2018). Correlation between social support and individual coping strategy of hypertension at Tagogapu Village.*17(2):234-242. Doi:10.36465/JKBTH.V1712.227.*

NHM Mizoram. (n.d.). https://nhmmizoram.org/page/17#:~:text=NHM%20Mizoram,OBJECTIVE%20OF%20THE%20PROGRAMME:

Osamor, P. E. (2015). Social support and management of hypertension in south-west Nigeria.Cardiovascular Journal of Africa. Volume 26, No 1, January/February 2015.

Ojike, N., Sowers, J.R., Seixas, A., Ravenell, J., Rodriguez-Figueroa, G., Awadallah, M., Zizi,F., Jean-Louis, G., Ogedegbe, O. &· McFarlane, S.I. (2016).

Psychological Distress and Hypertension : Results from the National Health Interview Survey for 2004-2013. Cardio renal Med 2016;6:198-208. https://doi.org/10.1159/000443933.

Oktaviani, R., Suryawati, C., &Mendrofa, F. A. M. (2019, July 8). PerananDukunganKeluargaPenderitaHipertensiDalamPenggunaanAplikasiKesehatan.*Indonesian Journal of Nursing Research (IJNR)*, *2*(1). https://doi.org/10.35473/ijnr.v2i1.226

Sharma, M., & Majumdar, P. (2009). Occupational lifestyle diseases: An emerging issue. ˜ *the œIndian Journal of Occupational & Environmental Medicine/˜ the œIndian Journal of Occupational and Environmental Medicine*, *13*(3), 109. https://doi.org/10.4103/0019-5278.58912

Simamane, M., Constantinou, D., & Watson, E. (2023, June 9). *The Family Involvement Role in Assisting with Hypertension Management: A Qualitative Study*. https://doi.org/10.21203/rs.3.rs-2910950/v1

Sheokand, P. (2014). Hypertension among Indian Women.*09 May 2014-International journal of innovative research and development.*

Susetyowati, S., Faza, F. &Budiamaja, Y.A. (2023).Sociodemographic as Attributable Risk Factors of Prehypertension: A Population Study from Urban and Rural. *Journal of Hypertension 41(Suppl):pe243,January2023. | DOI: 10.1097/01.hjh.0000915208.36539.52*.

Talukdar, D., Tripathi, M., Tripathi, V. &Teelucksingh, S. (2021). Retracted Article: Prevalence and associated factors of undiagnosed hypertension among women aged 15–49 years in India: an analysis of National Family Health Survey-4 data.*Journal of Human Hypertension, volume 35, pages726–740 (2021).* https://doi.org/10.1038/s41371-020-0384-7.

The Hindu. (2023). *Silent Killer: On Hypertension and the first WHO report on the Subject. September 22, 2023, 12:20am.* https://www.thehindu.com/opinion/editorial/silent-killer-the-hindu-editorial-

on-hypertension-and-the-first-who-report-on-the subject/article67330726.ece.

Tesema, S. (2016). Knowledge, Attitude and Practice Regarding Lifestyle Modification of Hypertensive Patients at Jimma University Specialized Hospital, Ethiopia. *Primary Health Care ISSN: 2167-1079 PHCOA, an open access journal: Volume 6 • Issue 1 • 1000218.*

Thakur, J.S. et al. (2011). Tobacco Use: A Major Risk Factor for Non Communicable Diseases in South-East Asia Region. *Indian Journal of Public Health, Volume 55, Issue 3, July-September, 2011.*

Wang, C., Sun, Y. W., Chen, T., & Han, B. (2022, December 6). *The association between social support and mental health in the elderly with hypertension*.International Conference on Biomedical and Intelligent Systems (IC-BIS 2022). https://doi.org/10.1117/12.2660746

Wang, F., Tiwari, V.K. & Wang, H. (2014). Risk Factors for Hypertension in India and China : A Comparative Study. *Health and Population Perspectives and Issues 37 (1 & 2), 40 – 49, 2014.*

Zungu L. (2013).Knowledge and lifestyle practices of hypertensive patients attending a primary health care clinic in Botswana. *African Journal for Physical, Health Education, Recreation and Dance*, (1), 132-148.