QUALITY OF LIFE AMONG HYPERTENSION POPULATION AGE 45 YEARS AND ABOVE IN KATHMANDU VALLEY NEPAL: A HOSPITAL BASED CROSS-SECTIONAL STUDY

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A Thesis Submitted in Partial Fulfillment of the Requirements
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คุณภาพชีวิตของผู้มีความดันโลหิตสูงที่มีอายุมากกว่า 45 ปี ในหุบเขากาฐมาณฑุ ประเทศเนปาล: การศึกษาแบบตัดขวางในโรงพยาบาลแห่งหนึ่ง

นางซาสมริทรา บาสโทลา

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาสาธารณสุขศาสตรมหาบัณฑิต
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Thesis Title	QUALITY OF LIFE AMONG HYPERTENSION POPULATION AGE 45 YEARSAND ABOVE IN KATHMANDU VALLEY NEPAL: A HOSPITAL BASED CROSS-SECTIONAL STUDY
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Field of Study	Public Health
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ซาสมริทรา บาสโทลา : คุณภาพชีวิตของผู้มีความดันโลหิตสูงที่มีอายุมากกว่า 45 ปี ในหุบเขากาฐมาณฑุ ประเทศเนปาล: การศึกษาแบบตัดขวางในโรงพยาบาลแห่งหนึ่ง (QUALITY OF LIFE AMONG HYPERTENSION POPULATION AGE 45 YEARSAND ABOVE IN KATHMANDU VALLEY NEPAL: A HOSPITAL BASED CROSS-SECTIONAL STUDY) อ.ที่ปรึกษาวิทยานิพนธ์หลัก: รัตนา สำโรงทอง, 84 หน้า.

ความสำคัญของปัญหา,ในช่วงหลายปีที่ผ่านมาโรคความดันโลหิตสูงมีความชุกของโรคเพิ่มสูงขึ้นในกลุ่มประเทศที่มีรายได้น้อย แต่กลับมีค่าคงที่ในกลุ่มประทศที่มีรายได้สูง จากข้อมูลขององค์การอนามัยโลก ได้ประมาณการณ์ไว้ว่า ในปี พ.ศ.2573 ประชากรเกือบ 23.6 ล้านคนจะเสียชีวิตจากโรคหลอดเลือดหัวใจ โดยสาเหตุหลักมาจากโรคหัวใจและโรคหลอดเลือดสมองแตก วัตถุประสงค์หลักของการวิจัยในครั้งนี้ เพื่อศึกษาปัจจัยที่มีผลต่อคุณภาพชีวิตของ ผู้ป่วยโรคความดันโลหิตสูง อายุ 45 ปีขึ้นไป ณ โรงพยาบาลแห่งหนึ่ง ในเมืองกาฐมาณฑุ ประเทศเนปาล

วิธีการ:การศึกษาวิจัยครั้งนี้ใช้วิธีการวิจัยแบบตัดขวาง ในผู้ป่วยโรคความดันโลหิตสูง อายุ 45 ปีขึ้นไป จากการคำนวณกลุ่มตัวอย่าง โดยวิธี Cochranของผู้ป่วยความดันโลหิตสูง ซึ่งในปี พ.ศ. 2549 มีอัตราป่วยร้อยละ 22.7 โดยกลุ่มตัวอย่างลือกแบบตามความสะดวก การวิเคราะห์ใช้สถิติพรรณนาในการสรุปลักษณะทางกายภาพของกลุ่มตัวอย่าง และ one-way ANOVA ในการทดสอบเพื่อหาความสัมพันธ์ระหว่างตัวแปรต้นและตัวแปรตาม

ผลการวิจัย:กลุ่มตัวอย่างจำนวน 300 คน แบ่งเป็นเพศชายร้อยละ 55.3 เพศหญิงร้อยละ 44.7 เป็นโรคความดันโลหิตสูงช่วงอายุ 51-60 ปี หรืออย่างน้อยเป็นโรคความดันโลหิตสูงเมื่ออายุ 71 ปีขึ้นไป ส่วนใหญ่สถานภาพสมรสและอยู่ด้วยกันร้อยละ 86.7 ร้อยละ 12 ไม่ได้รับการศึกษาในโรงเรียน ร้อยละ 56.3 ของผู้ไม่สูบบุหรี่และร้อยละ 59 ของผู้ไม่ดื่มแอลกอฮอล์เป็นโรคความดันโลหิตสูง ร้อยละ 64 ไม่มีโรคประจำตัว และร้อยละ 20.3 เป็นโรคเบาหวาน ซึ่งพบว่า อายุ รายได้ ระยะเวลาของการเกิดโรคความดันโลหิตสูงและระยะเวลาในการรับประทานยาแก้โรคความดันโลหิตสูง และโรคประจำตัวของผู้ป่วย มีความสัมพันธ์กับคุณภาพชีวิตของผู้ป่วยโรคความดันโลหิตสูง และการตอบสนองต่อผลกระทบของคุณภาพชีวิตผู้ป่วยโรคความดันโลหิตสูง ที่อายุ 45 ปีขึ้นไป

สาขาวิชา สาธารณสุขศาสตร์ ลายมือชื่อนิสิต .....

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SASMRITA BASTOLA: QUALITY OF LIFE AMONG HYPERTENSION POPULATION AGE 45 YEARSAND ABOVE IN KATHMANDU VALLEY NEPAL: A HOSPITAL BASED CROSS-SECTIONAL STUDY. ADVISOR: ASSOC. PROF. RATANA SOMRONGTHONG, Ph.D., 84 pp.

The importance of the issue, in recent years, the disease has a high prevalence of the disease is higher in countries with low income. But there is a constant among the countries with high income. According to the World Health Organization It is estimated that in the year 2573 population of almost 23.6 million people will die from cardiovascular disease. The main cause of heart disease and intracranial hemorrhage. The main purpose of this research. To study the factors that affect quality of life. Patients with hypertension aged 45 years and over at the hospital. In the city of Kathmandu, Nepal.

Method The study is based on cross-sectional study. In patients with hypertension aged 45 years and over were calculated by Cochran of patients with high blood pressure, which in 2549 had a rate of 22.7 percent, according to a selected sample. conveniently Analyzed using descriptive statistics to summarize the physical characteristics of the sample and one-way ANOVA test to determine the relationship between independent variables and the dependent variable.

Result: A sample of 300 people were male, 55.3 percent female, 44.7 percent were high blood pressure, age range 51-60 years, or at least as high blood pressure at age 71 years and over are married and live. with 86.7 percent, 12 percent did not receive a school education, 56.3 percent of nonsmokers and 59 percent of those who do not drink alcohol disease, high blood pressure and 64 percent have no medical MRI. 20.3 percent had diabetes, found that age, income, duration of disease, high blood pressure and duration of oral disease, high blood pressure. And the patient's underlying disease Is related to the quality of life of patients suffering from high blood pressure. And responding to the impact of the quality of life of patients with hypertension at the age of 45 years.

Field of Study: Public Health Student's Signature .....

Academic Year: 2017 Advisor's Signature .....

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CHAPTER 1

INTRODUCTION

Hypertension is the humongous health issue and is one of the biggest health threats in the 21st century. It is not exactly the disease; it is a medical condition. Estimated total number of hypertensive patients were 972 million in 2002, of which 333 were seen in economically developing countries and 639 were seen in economically developed countries, the result predicted in 2025 case will be around 60% of the total population, and this also predicts risk of chronic disease burden in the world which is seriously linked to hypertension,52% of stroke (cerebra-vascular disease) and 45% of ischemic heart disease death (A. M. Sharma, Wittchen, H. U., Kirch, W., Pittrow, D., Ritz, E., Göke, B., ... & Pfister, H., 2004).

Analysis of the global hypertension burden reveals that over 25 % of the world's adult population in 2000 suffered from hypertension. Limited data on the trends of prevalence of hypertension suggest that it has increased in economically developing countries in recent years while remaining stable or having decreased in developed countries. There is evidence that, in developed and high-income countries, hypertension is inversely associated with socioeconomic status, and so are morbidity and mortality from cardiovascular diseases(Sarki, 2015).

Total of all the pervasiveness of adult aged having high blood pressure was 25% and whereas above was 40%. Africa was the one who was having the highest prevalence (46%) of blood pressure among the WHO regions and in the lower side was the Americans having only 35%. About 35% in Southeast Asia have hypertension. (Ezzati, 2002)

Globally 9.8 million deaths worldwide each year. In 2008 people who were living with high blood pressure was more than one billion(Sarki, 2015). WHO data estimates that, by 2030, almost 23.6 million people will die from CVD, mainly from heart disease and stroke. CVD is projected to remain the leading causes of death

worldwide. In the United States alone cardiovascular disease causes one in three (approximately 800,000) deaths each year. Furthermore, the economic impact of CVD is astounding(Ezzati, 2002)

The comparative Risk Assessment Collaborating Group has identified hypertension as the leading global risk factor for mortality and as the third leading risk factor for disease burden(P. M. Kearney, Whelton, M., Reynolds, K., Muntner, P., Whelton, P. K., & He, J. , 2005). While hypertension is well recognized as a major cause of morbidity and mortality in the economically developed world, the importance of hypertension in economically developing countries is less well established. Previous reviews have reported on the prevalence of hypertension in different world regions, but no study to date has assembled information on the worldwide prevalence of hypertension (Aryal, 2015). Quantification of the global burden of hypertension would allow public health policy to assign sufficient. The comparative Risk Assessment Collaborating Group has identified hypertension as the leading global risk factor for mortality and as the third leading risk factor for disease burden. While hypertension is well recognized as a major cause of morbidity and mortality in the economically developed world, the importance of hypertension in economically developing countries is less well established. Previous reviews have reported on the prevalence of hypertension in different world regions, but no study to date has assembled information on the worldwide prevalence of hypertension. Quantification of the global burden of hypertension would allow public health policy to assign sufficient priority and resources for its management and prevention.(P. M. Kearney, Whelton, M., Reynolds, K., Muntner, P., Whelton, P. K., & He, J. , 2005)

1.1 Background

Nepal is a small, secular, democratic country situated between the two countries India and the China. It covers the total area of 54,363 sq. mi (147,881 sq. km). It has a strip of plain land along its southern border and has a wide range of mountains also referred to Himalayas extending up to 8848m from sea level at northern border. The southern plains of Nepal are called “Terai Region” and the northern mountain range is

called “Himalayan Region”. In between Terai and Himalayan region lie a range of hills, which is called “Hilly Region”. Nepal is a land full of diversity. It has a wide variation of landscapes, culture, language, etc. Along with cultural diversity comes variation in lifestyle, nutrition, traditions, norms and values**.** (CBS, 2001)

Nepal’s population in 2016, however, is projected to be 28 million with average annual growth rate of 1.35 percent – a shift from 2.25 percent growth rate as recorded by the National Population. Though Nepal has achieved a significant improvement during past one and half decade in the social sector like health and education, it has a long way to go on par with many other countries including Asian countries. The crude birth rate has come down to 21.8 per 1000 in 2015 from 33.1 in 2001, crude death rate to 7.3 from 9.6, total fertility rate to 2.5 per woman from 4.1, infant mortality rate per 1000 live births to 40.5 from 64 and mortality rate under five per 1000 to 52.9 from 91 during the same time period. Similarly, the average life expectancy at birth reached to 66.6 years in 2015 from 60.4 years in 2001 under which the life expectancy for male stood at 65.5 and for females it stands at 67.8. The findings of some studies reveal even higher life expectancy at birth for both sexes that also shows the female’s life spans longer than that of male 1 years for males, 60.7 years for females, or 60.4 overall(CBS, 2001).

Global trends of hypertension

According to the epidemiological survey done by the USA, there is an increasing rate of hypertension among women, the prevalence of uncontrolled hypertension in women increases from 17% to 22% in the early 1990s and 2000s, where the rate of having hypertension in men is decreased from 19% to 17% at the same time. It was estimated that 30% of the American women who were more than 65 years recent isolated systolic high blood pressure.(Shirani, 2012)

In another survey done by the USA, women have higher rate of hypertension than the men, i.e. 260.9 Per 1,000 prevalence in women and 243.0 per 1,000 in men. It assumes that it is due to the hormonal change that plays a huge role in the hypertension mechanism and its occurrence is more in women than men. Studies done is physiological characteristics states that, in women due to the short stature and also

due to short obligatory arterial tree heart rate will be high and arterial reflected pulse waves which leads in having difference between systolic blood pressure, pulse pressure diastolic pressure and diastolic time, between male and female(S. Shrestha, & Devkota, R,), , 2016).

This gender difference may be of variety of awareness rates of among hypertensive female compared to male. A survey done by the National Health and Nutrition Examination to view the trends in the prevalence, control and awareness of hypertension in the USA concluded that, female had more rates of awareness and control of hypertension compared with male from 1988 to 1994, however in the 1999-2000 survey, there was no significant difference in gender. Furthermore, the studies stated that the females are the strong one of poor hypertension control. It also states that the Asian women have the lower pervasiveness of high blood pressure (about 150.4 per 1,000) worldwide(S. Shrestha, & Devkota, R,), , 2016).

Data, specially the prevalence one is very rare or vary hard to find in south Asia because many countries are going through “nutritional transition”. This change is basically on dietary habits, obesity, physical inactivity, alcohol consumption. Despite the major public issues or public health challenge worldwide, hypertension is usually left uncontrolled and unmanageable by both the staffs of the medical and also the individual cases. Focusing less attention on the factors is directly related to the scientific finding that both dietary and lifestyle changes along with the effective treatment or medications can improve hypertension and decrease the risk of complications associated with the hypertension(Shaikh, 2011).

The cardiovascular alone states to 46.2% deaths followed by other non-communicable disease among cardiovascular disease, the total number of people having high blood pressure is expected to increase by 24% from 333 million to 413 million while in developing countries its rate is increasing by 80% from 639 million to 1.15 billion between 2000 and 2025.This data depicts that almost three-quarters of the hypertensive population worldwide will be in developing countries by the year 2025. The prevalence of hypertension in men is 9% and 13% in women between 2000 and 2015 in Nepal, the scenario of hypertension is identical to other developing countries(S. Shrestha, & Devkota, R,), , 2016).

Changing of lifestyle are the cornerstones of overall BP management, but are inadequate to achieve control. Lifestyle based interventions are seen more influenced, where the lowering in risk of blood pressure will be possible only when quarries in a person are less vulnerable. Uncomfortable strategies enforced at the beginning of the life to reduce the risk of hypertension. Increase in weight, obesity is the main factor which contributes to hypertension. So, regular exercise, healthy diet, avoiding the habit of alcohol consumption and smoking, consumption of fish can help in lowering the impact of hypertension. Cutting down the excess content of saturated fat, focusing on taking high amounts of green leafy vegetables and fruits and doing regular physical activity can be helpful for reducing the risk of having high blood pressure and its complications(S. Peele, & Brodsky, A. , 2000).

There are several barriers to hypertension, which include; individual factors, Socio-cultural barrier, and health care related barrier. However, the Patient's attitude of taking care of their own health was found to influence their decision to follow-up at health institutions and attempt lifestyle modification (diet and exercise). Although people are aware of the benefit of lifestyle modification, was difficult because of food craving, taste, desire to eat, and improper work life balance. People reported addiction to alcohol and smoking as a barrier as they need to smoke and drink to relax and maintain their health(S. Shrestha, 2016).

Prevalence and Trends of Hypertension in Nepal

Although Nepal has been witnessing commendable improvements in the public health sector since past few years, there still stands a long way to achieve the goal of complete health service delivery to the people throughout the country. There are certain health related problems that need to be addressed at the earliest possible. One of them is the Hypertension. The Hypertension has become a major public health issue globally, of which Nepal is a part. The condition like hypertension and non-

communicable disease, lack prevention, lack of management skills, both in the developing and the developed countries. According to the systemic analysis of population health data it was found that the hypertension was the foremost cause of death and morbidity globally(Lopez, 2006)

In the context of Nepal there are also many cases of hypertensive patients. The prevalence of hypertension in various parts of Nepal ranged between 3.3% and 44.9%. Several studies were done repeatedly in a rural Kathmandu, stated that the prevalence of hypertension was tripled from 6% in 1990 to 18% in 2006(Aryal, 2015)

According to the data from WHO, hypertension is one of the leading globally mortality underlying causes of hypertension is known to many people, but the main fact is that how many or who are at risk and most susceptible groups. Hypertension has become one of the public health challenges(Ezzati, 2002) According to data publish in April 2011 by WHO, hypertension death in Nepal was 5,570 or 3.75% of total death. The adjusted death rate of age is 40.37 per 1,00,000 of the total population and the world rank is 51. The burden of high blood pressure is increasing severely in Nepal ruling about 55% out of pocket expenditure for NCD for the health care expenses(Vaidya, 2012)

Non communicable disease plays a major role in contributing mortality in Nepal which accounts 50% of mortality in Nepal. Data recently published by WHO, the prevalence of raising the blood glucose, overweight, obesity, tobacco consumption, alcohol and physical activity are 8.4%, 9.1%. 4%, 23.3%, 15.8% and 14.2% respectively(2011., 2016)

Hypertension could be either primary or secondary, primary is one that shows 90-95% cases as a high blood pressure with no modifiable cause, but has some aggravating factors(Beevers, 2014) and the secondary is one that results from the multiple causes(P. M. Kearney, Whelton, M., Reynolds, K., Muntner, P., Whelton, P. K., & He, J. , 2005).

Like other developing countries, disease pattern is also changing from infectious to chronic due to various epidemiological transitions. Disease burden is very high and on

top of that it is facing various problems of the non-communicable disease(G. P. Bhandari, Neupane, S., Ghimire, U., & Khanal, A., 2010).

Quality of life (QOL) is an important indicator to evaluate hypertensive treatment outcomes. A recent systematic review of 20 studies indicated that hypertensive patients had a lower QOL compared with normotensive people. The QOL of hypertensive patients tends to be worse among those with co-morbidity. (Zygmuntowicz, 2012)

Quality of Life

Quality of life is a concept used by the health care providers to assess the factors other than illness that are responsible for affecting the health of the people. It will help to know the different variations within the patient's life and provide the information of patient's knowledge of the illness. Quality of life emphasizes the people thinking and positioning themselves in life in relation to the values and culture in which they live expectations concerns and standards. It mainly focuses on domains that are important to health and are influenced by factors like economical, sociological, psychological spiritual and psychosocial. For the chronic disease, hypertension is stated as the important factors in decreasing life expectancy(Schalock, 2004). Cardiac complications like myocardial infarction, heart failure, stroke and kidney failure results in hypertensive patients. Co morbidities and huge medical expenses of hypertension and in the future having more serious complications will have a bad effect on the patient's day to day activities and lower down self –confidence of people. The patients suffering from high blood pressure do experience of low or limited health related quality of life(S. Shrestha, 2016). Moving our concern to the health care system in Nepal, the knowledge of the quality of life is not known Hypertension and Nepal", "quality of life and age above 45 years and above" very few researches on quality of life and just a single research in quality of life among patients with age above 45 years and above was found. Therefore, this study into quality of life is an endeavor to identify and address the factors that influence quality of life in age above 45 years and above patients in hopes of maintaining their versatility, dynamic commitment to society and independence, helping them deal with the challenges of age and bring about constructive and positive experience of ageing.

Therefore, this pioneer study in Nepal is to evaluate the quality of life of hypertensive patients in order to get a clear view of the present health situation of the people having hypertension.

1.2 Research Objectives

The core objective of conducting this research work is:

- To evaluate the quality of life among age 45 years and above patients in Kathmandu valley suffering from hypertension.
- To identify the factors influencing the quality of life among 45 years and above patients in Kathmandu valley suffering from hypertension

1.3 Research Questions

- What is the level of quality of life among age 45 years and above patients in Kathmandu valley suffering from hypertension?
- What are the factors influencing quality of life among age 45 years and above patients in Kathmandu valley suffering from hypertension?

1.4 Hypothesis

- HO: There is no association between general characteristics and the quality of life of hypertensive patients age 45 years and above
- HA: There is association between general characteristics and quality of life of the hypertensive patients age 45 years and above
- HO: There is no association between health behavior and quality of life of the hypertensive patients age 45 years and above
- HA: There is association between health behavior and quality of life of the hypertensive patients age 45 years and above
- HO: There is no association between co morbidities and quality of life of the hypertensive patients age 45 years and above.
- HA: There is association between co-morbidities and quality of life of the hypertensive patients age 45 years and above.

1.5Conceptual Framework

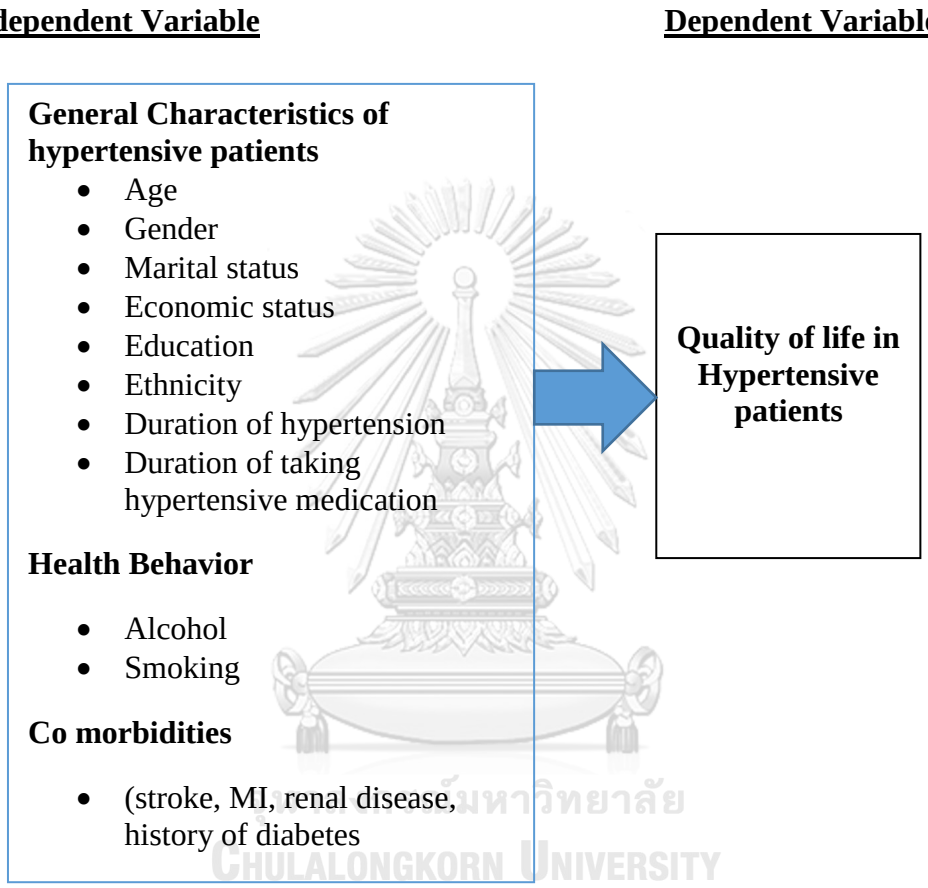


Figure 1 Conceptual framework

1.6 Operational Definition

- **Hypertension:** WHO has defined hypertension as the elevation in the blood pressure exceeding systolic 140 and diastolic over 90mmhg.
- **Quality of Life:** According to the WHO it is states as the individual happiness that mainly focuses on four internal and external factors; they are physical health, Social relationships, psychological and environment which will eventually affect the human behavior.
- **Age:** It is defined as the number of years successfully completed after the date of the birth.
- **Sex:** It is the state of being male or female. It refers to the socially defined characteristics of women and men – such as roles, norms and relationships of and between groups of men and women, typically used with reference to cultural and social differences rather than biological ones
- **income Status:** it refers to the amount of money that the interviewees received per month in Nepalese currency that an individual earns in a month.
- **Education:** It is the highest level of formal schooling a person has attended in terms of gaining education. It has been categorized into four categories.
- **Marital status:** specify as widowed, unmarried. Married, and divorced
- **Ethnicity:** specifies as Brahmin, Chhetri, Newari and others.
- **Duration of Hypertension:** Duration is the length of time something continues or exists. So, the patient will be asked about the time period as to when he/she has been diagnosed with hypertension**.**
- **Duration of Anti-Hypertensive Medications**: It is defined as the time frame from when the hypertension patient is taking the medicine.

- **Alcohol:** It refers to consumption of alcoholic drinks. In this study it is classified in three categories- non- drinkers; past drinker and current drinker. Moreover, current drinkers were further categorized as social drinker; healthy drinker – 1 – 2 drinks/day and heavy drinker ≥ 3drinks/ day(S. Peele, 2000).
- **Smoking:** It refers to the participant cigarette smoking behavior. For this study smoking status were classified in 3 categories- less than 5 years. 5-10 years and more than 10 years.
- **Co morbidities:** It includes diabetes mellitus, history of myocardial infarction, history of stroke, and renal disease.
    1. **Stroke:** It is a cerebrovascular disorder caused by deprivation of blood flow to an area of the brain, generally as a result of thrombosis or embolism.
    2. **Myocardial Infarction:** Myocardial infarction (MI) (i.e., heart attack) is the irreversible death (necrosis) of heart muscle which is secondary to prolonged lack of oxygen supply (ischemia).
    3. **Renal disease:** hypertension can damage millions of tiny blood vessels in the kidney known as the glomeruli that is responsible for filtering waste from the blood. Severe damage can lead to irreversible end-stage kidney disease or kidney failure which may require dialysis or even a kidney transplant.
    4. **Diabetes mellitus:** Diabetes is a group of metabolic diseases which is characterized by abnormally high blood glucose level (hyperglycemia) which results from defects in insulin action, insulin secretion or both. In this study if the person has been previously diagnosed as diabetic by a doctor and is on anti-diabetic medication were considered diabetic. (American Diabetes, 2010)
- **Private hospital**: Kathmandu diabetes and thyroid center was chosen for the research.

CHAPTER 2

LITERATURE REVIEW

2.1 Trends and prevalence of hypertension

Hypertension prevalence rate seems to be growing in faster rate in low and middle income countries. This rate of increment is largely witnessed in countries that are experiencing economic development, increase in life expectancy and epidemiological transition. The rate at which hypertension is growing will be a major health issue in the coming days.(Díaz, 2015)

It is predicted that by the end of 2025, 29.2 % of the world's population will be a victim of hypertension and this rate will higher in developing countries. Although technological advancement for detection , better case management, awareness of control factor have lowered or has remained constant for developed countries the same cannot be expected for developing or poor countries, as result cardiovascular disease will rise significantly in higher proportion economically poor or developing countries.(Zhao, 2013)

Burt, 1995 argues hypertension differs by region as well, although the reason for much differentiation are unknown , it is explained by some studies in European countries that high obesity prevalence rate that moderate antihypertensive medication and lack of poor medication are reasons for poor BP control.(Burt, 1995)

Although the prevalence of hypertension has been documented in a number of studies, there are only few on incidence of hypertension in the general adult population. The CARLA Study (Cardiovascular disease–Living and Ageing in Halle) is a population-

based cohort study in the general population. First results of a study showed an unfavorable distribution of diabetes mellitus, hypertension, and central obesity in this eastern part of Germany compared with other regions of Germany.

2.2 Concept of quality of life.

WHO's initiative to develop a quality of life assessment arose for a number of reasons. In recent years there has been a broadening in focus in the measurement of health, beyond traditional health indicators such as mortality and morbidity(Bank, 1993), to include measures of the impact of disease and impairment on daily activities and behavior(Bergner, 1981), perceived health measures(Hunt, 1981) and disability / functional status measures(Ware, 1998). These measures, whilst beginning to provide a measure of the impact of disease, do not assess quality of life per se, which has been aptly described as "the missing measurement in health" (Fallowfield, 1990)Second, most measures of health status have been developed in North America and the UK, and the translation of these measures for use in other settings is time-consuming, and unsatisfactory for a number of reasons (Kuyken, 1994).Third, the increasingly mechanistic model of medicine, concerned only with the eradication of disease and symptoms, reinforces the need for the introduction of a humanistic element into health care. By calling for quality of life assessments in health care, attention has focused on this aspect of health, and resulting interventions will pay increased attention to this aspect of patients' well-being. WHO's initiative to develop a quality of life assessment arises from a need for a genuine international measure of quality of life and a commitment to the continued promotion of a holistic approach to health and health care.(Group., 1998)

Quality of life is a dimensional concept which usually deals with the evaluation of both the good and bad aspects of life. In 1980 it developed a concept that its determinants include overall aspects of quality of life which can clearly affect the health whether it's mental or physical. To determine the burden of preventable disease, disabilities and injuries measuring the health related quality of life is useful.

It gives new ideas in the relationship between quality of life and risk factors, chronic disease like cancer, arthritis, hypertension and diabetes and also the risk factors like physical inactivity, body mass index and smoking status. Hypertension has an adverse effect on a wide range of health outcome which is also includes health related to quality of life(Trevisol, 2011).

It has now become one of the most important indexes in clinical research for last 15 years(Tchicaya, 2015) it gives more than one dimension views encircling patients physical, emotional, and social functioning(Baladón, 2016). Quality of life is linked to persons thinking of what position in life in relation to culture and system values and is connected in a complicated way in the physical health of a person, its level of independence social relationship and psychological state(Halaweh, 2015).

Psychological and emotional problems are related to hypertension especially in stressful life(Everson, 2000)**.** various studies state that the high blood pressure has a poor quality of life than those who do not have this condition(Trevisol, 2011). So making an efficient link between the disease and quality of life then interventions programs can be aimed for improving health related quality of life and will be new appropriate therapeutic objective in people with hypertension(Rimm, 1996).

Age between 45 years and more is the important stage in people's life, many of this aged people are engaged in the job and have increased family and responsibilities of the job. In context to Nepal middle-aged is the stressful phase of people's life because of various demands of life like the job, caring the older and younger generations and paying for various things including education and health. So studies on health related quality of life is minimal with hypertension. So the aim of this study is to assess health related quality of life as well as socio-demographic determinants, preventive behavior and knowledge attitude and practice of middle aged population with hypertension(R. Wang, Zhao, Y., He, X., Ma, X., Yan, X., Sun, Y., ... & He, J., 2009).

Quality of life (QoL) is the subjectively determined personal satisfaction with daily life, as influenced by the individual's evaluation of his/her physical, psychological, social, and spiritual wellbeing. World Health Organization defines QoL as "an individual's perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns". (Fallowfield, 1990)

In different studies conducted to assess the relation between QoL and hypertension, most of the studies reported lower scores in most dimensions as physical capacity, social functioning, mental health, psychological functioning, vitality as compared to general population. Increasing age, widowed/separated/single, female sex patient with greater symptom had greater impact on QoL with lower scores on physical and mental domain. It is stated that hypertension represent a vulnerable population and impairs QoL in both physical and mental domains .(N. Bhandari, Bhusal, B. R., Takma, K. C., & Lawot, I, (2016)

Health System Development in Nepal

Nepal is a small country with a surface area of 147 thousand square kilometers and a population of 29.04 million people. The ethnic language spoken is Nepali and as per National Census of 2011 there are 123 different languages spoken in Nepal most of them can be traced to Indo- Aryan and Sino –Tibetan groups.

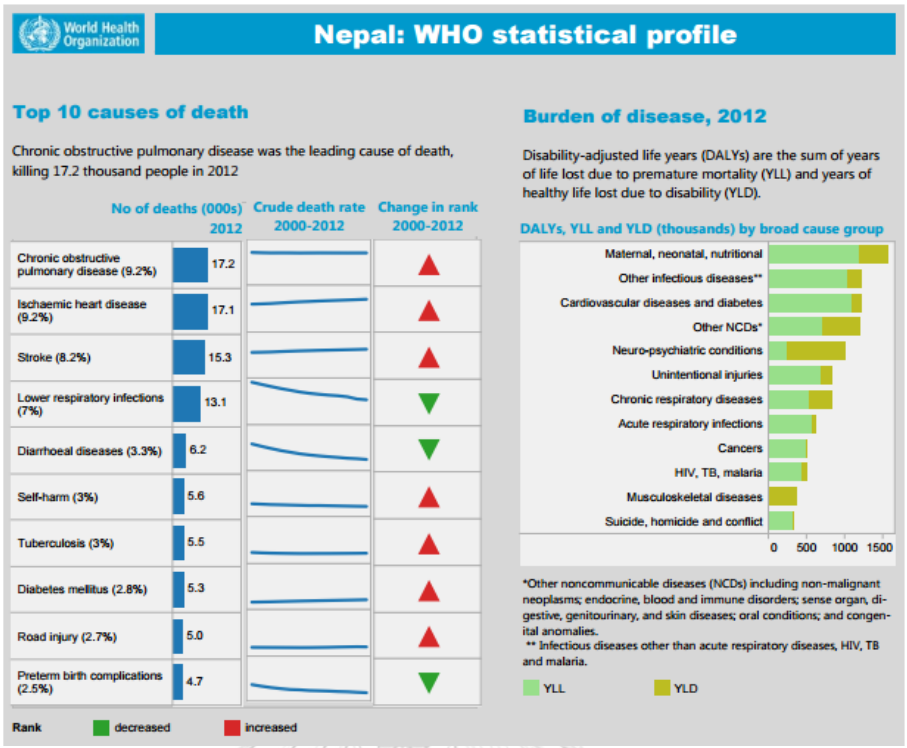
Nepal falls on the lower middle-income group with a population distribution of lower 34.6% % below the age of 15, 61.6% under the age of 15-60 and 4.4 % of the population over the age of 60. Life expectance for women is 70.5 and for men at 67.6. The literacy rate for men is 61.6% and the same for women is 26.4 %. The gross domestic product (GDP) of Nepal is 19489 Million and health expenditure to GDP is 5.8 %. As per world Health organization report 2001, there are 268 physicians based primary health care and 3179 non- physician based primary health care in Nepal and the same report figures there are 18.82 hospital beds per 100,000. (**https://www.unicef.org/infobycountry/nepal_nepal_statistics.html)**

The development of the health service system has been occupying a considerable place in each of Nepal's Thirteen Development Plans adopted by the National Planning Commission and approved by the Government of Nepal followed by implementation under the Ministry of Health through the Department of Health Services at the central, regional, district and at local levels throughout the country since 1956 to date. Despite efforts of Government, later one of quite a few national and international non-government organizations, UN agencies like the World Health Organization, UNICIEF and UNFPA, most of services delivery with modern facilities

is centralized in the capital city Kathmandu and other major urban areas of the country. However, with the public awareness such services have been extended to the rural areas also since past several years. As a result of which Nepal has achieved commendable progress compared to the past scenario, though it has a long way still to go to achieve the desired goal by way of delivering health service under a working health system to the populace in all the nooks and corners of the country. (Unicef, 2009)

Though every development plan has envisaged health service delivery as a priority since planning at national level started in Nepal, the real health services rendered to the people were just as part of national development thrust, or on charity concepts with philanthropic attitude or by meeting the emergency need of serious patients no separate health system delivery policy was developed before the Fourth National Development Plan (1965-70) came into effects. It was under that plan that the maternal and child health service delivery scheme was enforced. Family planning services were introduced at the Government level. (CBS 2013)

Nepal's health system development is framed in line with the country's population size, structure, rate of growth and need thereof. In pursuance to this policy intention a Population Policy Strategy was brought up in 1983 by the then His Majesty's Government of Nepal followed by Long Term Health Policy which was further revised in 1991, also furthered by another National Health Policy in 2014, currently The Long Term Health Planning (1999 2019) under implementation.



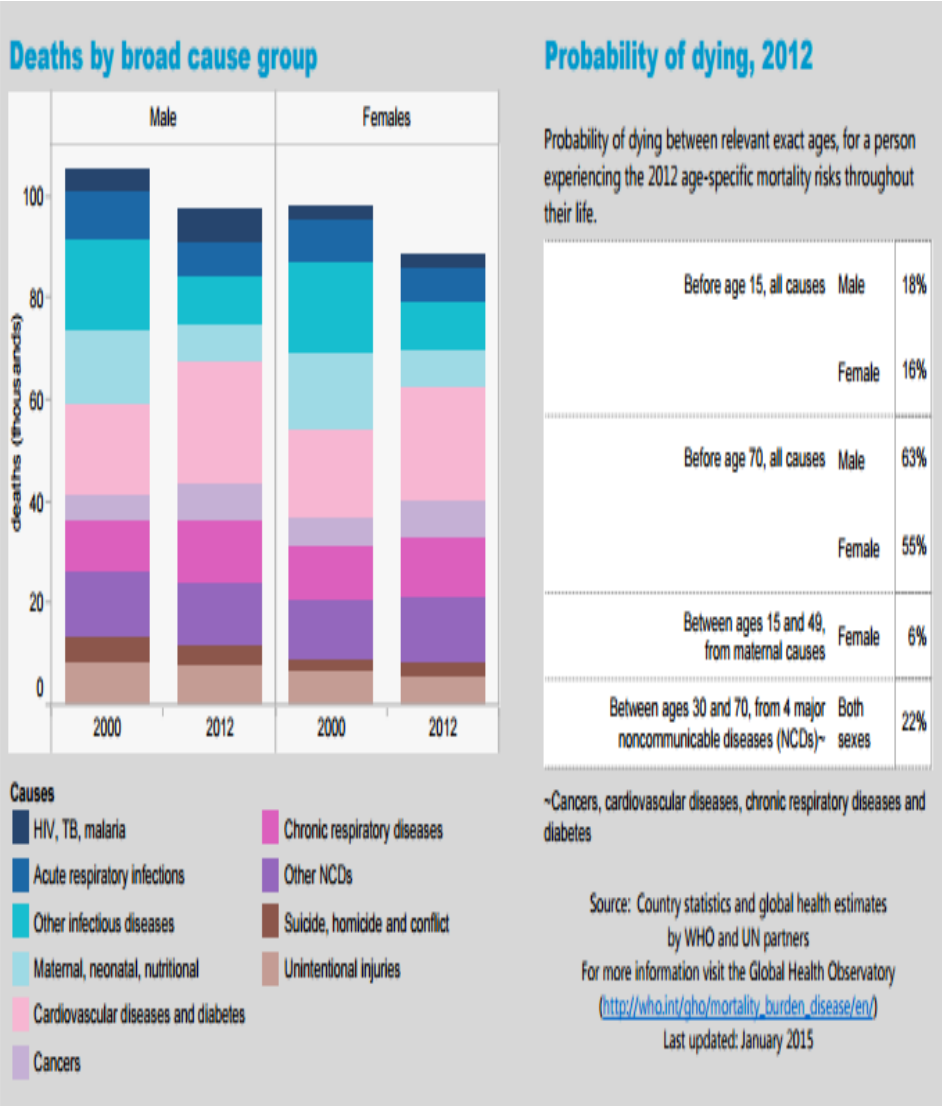


Figure 2 WHO statistical profile 2012(http://www.who.int/gho/countries/usa.pdf)

Prevalence and consequences of hypertension globally.

Hypertension because of its high prevalence and also being the important global health challenge has a risk of cardiovascular disease and kidney disease. Worldwide hypertension marks the preventable risk factor for disability and for premature death. In 2000 about 26.4% of the global adult population or 972 million people showed hypertension. Since, from 2000 the national reports have stated that the prevalence of hypertension shows increase amount in low and middle income countries, but it is static or deducting in the high income countries.

In 2002, world health report recognized hypertension or high blood pressure as the third ranked factor for disability –adjusted life years. For heart disease and stroke the most important cause of death is hypertension. Analysis shows that in the year 2000 there were 972 million people living with high blood pressure worldwide and it has been estimated that it will rise by 1.56 billion by the year 2025. Around or nearly two-thirds of the hypertensive are settled in low-and middle-income countries resulting in a huge economic burden(Nelson, 2007)

Burden of hypertension in European countries the study concludes that the prevalence of hypertension is increasing in the total population of the five biggest EU countries will grow only by 5.7% but the number of people living with hypertension will increase by 15.3%. These data quantify the influence of ageing on disease burden and reflect an increase need for appropriate health care expenditure and capacity planning. The prevalence of hypertension is seemed to be high in all surveyed countries ranging from 20% to 50%. Canada being the industrialized countries has a higher prevalence than the United States. Lower rates of hypertension have been seen in rural areas than urban even in the same country as in developing countries the trend is different because its prevalence is increasing(I. Hajjar, Kotchen, J. M., & Kotchen, T. A.). , 2006)

It is interesting to see that cardiovascular alone states to 46.2% deaths followed by other non-communicable disease. among cardiovascular disease the total number of people having high blood pressure is expected to be increased by 24% from 333 million to 413 million while in developing countries its by 80% from 639 million to 1.15 billion between 2000 and 2025.This data depicts that almost three-quarters of the

hypertensive population worldwide will be in developing countries by the year 2025 prevalence of hypertension by 9% in men and 13% in women between 2000 and 2015 in Nepal, the scenario of hypertension is not different from other developing countries(S. Shrestha, & Devkota, R,), , 2016).

In 1981, the very first survey of hypertension was done by Mrigendra Samjhana medical trust in Nepal. They used the world health organization criteria for the pervasiveness or prevalence of hypertension, which was 160/95 mmHg. In Jumla it was 5.3%, in rural parts of Kathmandu it was 6%, Terai plains it was 8.1% and 9.9% in urban Kathmandu. Studies have been done since then in various parts of Nepal. Studies done in various geographical regions point towards Nepalese having a high rate of hypertension. A study done in Dhahran in 2005 found that the prevalence of hypertension was almost 23%.

The prevalence of high blood pressure varies in different parts in Nepal as it ranged between 3.3% and 44.9% in rural parts of Kathmandu cross sectional study was carried out that stated the prevalence of high blood pressure was three times more that was 6% in 1980 to 18% in 2006.various studies have been done and it showed that the urban areas have the higher rates of hypertension than in rural areas. As in Pakistan it was figured out that the hypertension among 15 years or more was to be 23% in urban and 18% was in a rural, in silence it was noted 17.2% in urban and 16.7%in rural with the age group of 35 years and more. Various studies done in India stated the prevalence rate of 20 to 40% in urban and 12-17% in rural areas; in Singapore 26% among urban and 18% in rural population, in Nepal, 9.9% in urban Kathmandu, 6.6% in rural Kathmandu, 8.1% in Plains, 5.4% in the mountain region among the adults of 21 years or older. With the rise in life expectancy it undergoes a demographic transition due to the increasing size of the population. As from the studies when it comes to year 2025 the mass population will move toward developing countries, by that time the developing countries will have the humongous burden of chronic non-communicable disease. out of these disease the risk having hypertension will be more which is the most treatable cause of mortality and morbidity in the elderly population and also associated with the risk of having cardiovascular disease. the study conducted by randomized control trial stated that starting the treatment of high blood pressure will reduce the risk of morbidity and mortality(Cornia, 2001).

The condition high blood pressure or hypertension results when the pressure in the blood rises in the arteries. Heart pumps blood through the arteries to the rest of the body. Pressure high means the heart has to do more of pumping this can lead to organ damage and critical illness like heart attack, heart failure, renal failure and stroke. Essential hypertension means the increased in blood pressure without any evident cause. 90-95% of patients have essential hypertension. Secondary hypertension means the hypertension caused by the disease condition mainly the renal disease and endocrine gland

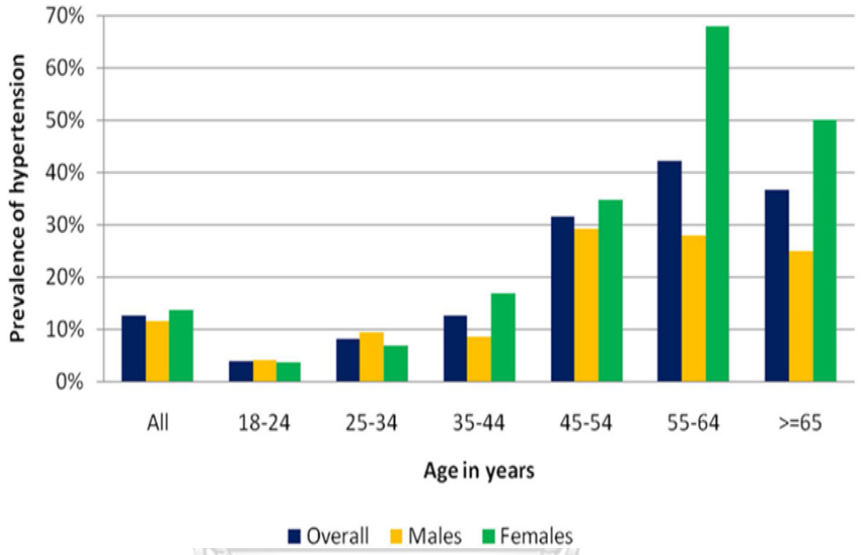


Figure 3 Prevalence of hypertensions among gender and age group
(P. M. Kearney, Whelton, M., Reynolds, K., Whelton, P. K., & He, J. , 2004)

Predisposing Factors of High Blood Pressure

There are various determinants of high blood pressure; uncontrolled hypertension will lead to secondary hypertension and many more serious complications.

Socio-Demographic Factors

Age: The risk of high blood pressure increases with the increasing age. The increase in blood pressure is not a normal part of aging, in elderly population the incidence of high blood pressure is high. Prevalence of hypertension rises up to at the age of 69. An ambulatory population aged 65 to 74 was evaluated by national health and nutrition examination in 1988-1991 the overall prevalence was 49.6% for stage 1 hypertension (140–159/90–99 mm Hg), 18.2% for stage 2 (160–179/100–109 mm Hg), and 6.5% for stage 3 hypertension (>180/110 mm Hg).(Rigaud, 2001) **.**

Gender: Hypertension among elderly identified by the demographic factors found that male could develop hypertension more than female.35.5% of male respondent develop hypertension and 30.5% of female respondents develop hypertension. Hypertensive Rates in the United States have increased or persisted over the last several decades both among the elderly and among young adults.(I. Hajjar, & Kotchen, T. A., 2003) .various studies has shown that men younger than 65 have increased level of high blood pressure consistently compares to the women of same age group. Difference is only seen in early adulthood —for instance, one study found that among 18- to 29-year-old white adults, just 1.5 percent of women but over 5 percent of men reported hypertension (for black women and men, the proportions were 4% and 10%, respectively.(Cutler, 2008)

INCOME STATUS: The determinants such as education and occupation are associated with hypertension. Socio-economic status markers such as urban or rural dwelling and individual, local or national economic condition are also associated with hypertension. For the impact awareness of hypertension prevention and control and better accessibility and adherence to medical treatment among higher socioeconomic status groups, as well as low birth weight and higher job strain among lower socioeconomic status groups(Grotto, 2008).

Hypertension is enormously affecting the working groups. Its global prevalence among older adults aged 25 and over is around 40% in 2008. The highest of this effect

falls on the people in middle and low income countries. Low income countries like Sub-Saharan Africa are experiencing unexpected rise in the incidence of hypertension. The few studies conducted in Ethiopia are also showing high prevalence of the disease in the country. According to one study, 10.5% of the Ethiopian population has been estimated to have hypertension. Another more recent study conducted in the capital shows that approximately 30% of adult's hypertension. Income, education, and occupation are the most commonly used indicators or measures of the socioeconomic status of an individual. Although its measurement is difficult in the developing countries, household income has shown consistent association to the general measures of health. Educational status is also widely used as a measure of socioeconomic status and is related to many health outcomes. Educational attainment reflects a household's ability to avoid risky behaviors and practice good health. Occupation is another common measure of socioeconomic status linking economic factors to health outcomes. It reflects health risks and protection factors related to the occupation and provision of source of income to practice good health behavior.(Fikadu, 2016)

Education: Relationship between education and social class has been observed to be linked with health outcomes in both high and low income countries, health outcomes such as mortality and cardiovascular disease. Hypertension prevalence and blood pressure is observed to be linked education level and in similar note hypertension prevalence and blood pressure has been observed to be related by social class. (Kaufman 1997). A study conducted in china found no relationship between education and blood pressure , however subsequent research has shown education level to be closely linked with hypertension and cardiovascular diseases (Y. Wang, Chen, J., Wang, K., & Edwards, C. L. , 2006)

Ethnicity: Risk profile for high blood has been observed to be high based on Ethnicity. Of the vast studies conducted on risk factor for high blood pressure and ethnicity it has been mostly observed that two ethnic group has high risk of blood pressure based on their ethnicity. Various researches have shown African – Americans to have high blood pressure. It has been observed 36 % African –

Americans population to have blood pressure whereas as the rate of blood pressure for Caucasian, Native Americans and Hispanic population only has 20%. As per the data by national Health and Nutrition Examination Survey (NHANES) which ranged in the year 2003 to 2010 hypertension was found to be high in Mexican- American and Blacks with stage 1 & 2 hypertension. This rate was seen to be lower for Asian population, especially Asian Pacific Islanders, these groups also exhibited to develop lowest risk of blood pressure with a average life time risk of 9.5% for men and 8.5% for women. (Dhillon, 2014)

Individual History of Hypertension: Common problem was lack of motivation to follow up of hypertension which is 72%. 66% have difficulties to accept them being hypertensive. Carelessness towards hypertension was about 63%, there was certain amount who lack information that was around 56%. There were 33% who felt hopeless about their being hypertensive, stated that adverse effects of high blood pressure treatment on sexual functions and lack of support of health care personnel.so the problems regarding high blood pressure, negative attitudes and experiences are very common in high blood pressure patients in primary health care.(Bosworth, 2007)

Smoking: About 5.4 million lives per year, worldwide is taken due to cigarette and its related health consequences. Number of smoker worldwide is believed to be 1.3 billion where as it is believed about 82 % of the population in developing countries are smokers. The present death rate of 5.4 million per year is believed to reach 1 billion if the rate in smoking habit continues. Cigarette smoking is alone responsible to cause cardiovascular mortality worldwide. Increase sympathetic nervous over activity that increases myocardial oxygen consumption are the effects of hypertension through a rise in blood pressure, heart rate, and myocardial contractility(Kaplan, 2005). The process of how cigarette smoking causes hypertension and blood pressure is still uncertain, however the acute effect of smoking is temporary increase in heart rate and blood rate with an increase in epinephrine and norepinephrine production due to activation of the sympathetic system. Blood pressure rise that relates with vascular damage, plague progression, endothelial dysfunction and increase inflammation is understood to be caused by long-term cigarette smoking. Research reports have shown that blood pressure and hypertension rises along with smoking habit. Similarly,

some research has detected lesser development of hypertension in non- smokers compared to smokers (Gumus, 2013).

Alcohol: The fact that ethanol is the constituents rather than other constituents have the link with alcohol and blood pressure to raise the blood pressure. This fact suggests that the alcohol induced hypertension will definitely lead to the hypertensive squeal(Criqui, 1987) Today, alcoholic beverages are consumed regularly by most of the human societies in the world. However, its abuse is a major public health problem in the world. In United States alcohol abuse affects more than 20 million individuals leading to loss of 100000 lives annually. Chronic high dose ethanol consumption most commonly causes hepatic, gastrointestinal, nervous and cardiovascular injuries leading to physiological dysfunctions. A cause and effect relationship between regular alcohol consumption and blood pressure elevation (hypertension) was first suggested in 1915 by Liam et al. Recent epidemiological and clinical studies have demonstrated that chronic ethanol consumption (more than three drinks per day, 30 g ethanol) is associated with an increased incidence of hypertension and an increased risk of cardiovascular diseases. The magnitude of the increase in blood pressure in heavy drinkers averages about 5 to 10 mmHg, with systolic increases nearly always greater than diastolic increase.(Husain, 2014)

Co Morbidities: A number of studies have suggested that the presence of complications and comorbidities influences the quality of life in hypertensive patients more than hypertension itself. Although the effect of co morbidities on the quality of life in hypertensive patients is becoming apparent. Co morbidities in hypertensive patients have been observed to reduce the effect of therapy and to decrease the quality of life. These concurrent diseases can be divided into 3 groups: conditions causally related to hypertension (overweight and obesity, diabetes, hyperthyroidism, chronic glomerulopathies), complications of hypertension (atherosclerosis, ischemic heart disease, myocardial infarction, heart failure, stroke), and conditions unrelated to hypertension (degenerative disc disease, neurotic disorders, chronic obstructive pulmonary disease [COPD] and asthma, peptic ulcer diseases(Trevisol, 2011)

2.4: Influencing factors

Demographic characteristics

Men have higher blood pressure than women through much of life regardless of race and ethnicity. Most studies report that quality of life among middle aged people with hypertension is worse than quality of life in the general population. Several studies have found women to have lower QOL scores than men.(Jayasinghe, 2013)

A considerable number of studies have focused on health differentials in relation to marital status. Married women generally have lower morbidity and mortality and are better in both physical and mental health than unmarried women and they have the good quality of life then unmarried women.(H. U. Wang, 2005).

Duration of hypertension

There are mixed discoveries with respect to association between quality of life and hypertension. A few reviews and studies explained that long term duration of hypertension was related to diminished quality of life in individuals with patients having hypertension. A review done in Nepalese population in Kathmandu applying WHOQOL-BREF detailed that a patient diagnosed with hypertension more than 10 years was related with low quality of life in physical health domain scores.(Raskeliene, 2009)

Health behavior

Research has found that a history of cigarette use is associated with poorer self-reported physical and mental health. Some studies have found that recent quitters have the worst self-reported physical and mental health while longer term quitters have similar health (especially mental health) as those who never smoked.(Husain, 2014)

Recent epidemiological and clinical studies have demonstrated that chronic alcohol consumption (more than three drinks per day, 30 g ethanol) is associated with an increased incidence of hypertension and an increased risk of cardiovascular diseases. The magnitude of the increase in blood pressure in heavy drinker's averages about 5 to 10 mmHg, with systolic increases nearly always greater than diastolic increase.(Hays, 2008)

Complications and Co morbidities

Most cases of mortality and morbidity hypertension is caused by co morbidities and complications related with the disease. greater incidence and severity of hypertension complications has shown to have maximum significant impact on quality of life by various studies.

As indicated by various studies, almost 30-40% of the patients with long term duration of hypertension have a several complication including stroke, MI, renal disease diabetes mellitus and many other hypertensive related diseases. Individual studies have found that reduced quality of life is associated with, cardiovascular disease or end stage renal disease. contrary to non-hypertensive the risk of having coronary disease like myocardial infarction, stroke are 2 and 3 times higher in hypertensive patients. (Zygmuntowicz, 2012)

Prevention, Control and Management of Hypertension

Changing of lifestyle are the cornerstones of overall BP management, but are inadequate to achieve control. Lifestyle based interventions are seen more influenced and the lowering in risk of blood pressure is probably to be higher when quarry in persons less vulnerable. Various strategies enforced in the beginning life to reduce the risk of hypertension. Increase in weight, obesity is the main factor which contributes to hypertension. So regular exercise, healthy diet, avoiding the habit of alcohol consumption and smoking can help in lowering down the hypertension. Studies suggest that beside shedding weight, we must see the waist circumference. Too much

weight around the waistline will put danger in developing hypertension(Whelton, 2002). Studies in an urban population show that marked obesity, high level of salt intake, eating more junk and sugary and fried stuffs, low physical activity, were the various factors which are directly linked to hypertension. Especially in urban regions, development of strategies is a must to prevent, detect, treatment and control of hypertension(S. K. Sharma, Dhakal, S., Thapa, L., Ghimire, A., Tamrakar, R., Chaudhary, S., ... & Remuzzi, G., 2013).

Treatment of high blood pressure includes both medical and non-medical approach and after this approach later is the lifestyle modification. This modification of life style will help patients to lower the amount of anti-hypertensive drug intake, lowering down the drug lesser will be the adverse effect, life style modification will possibly reduce the risk of having cardiovascular problems. Non –medical approach involves the weight reduction in obese patient, changing the dietary habits, low salt intake avoiding junks, exercise, avoid having alcohol and tobacco consumption and lastly the stress management. This practices will surely have the positive impact on the patients(Sarki, 2015).

Weight Reduction

In obese patient with hypertension, weight reduction will lower the effect of antihypertensive agents and can gradually reduce the risk of cardiovascular risk such as diabetes and dyslipidemia. Patients with high blood pressure have various weight reduction programs which include caloric restriction, low fat diet and regular physical activity.(Mertens, 2000)

Dietary Sodium

According to WHO Reducing the amount of sodium content in the diet can help lower the high blood pressure level. Recommended daily intake of sodium is 2,000 mg or less with the maximum of 5g of salt per day (http://www.who.int/mediacentre/factsheets/fs393/en/)

Potassium

High potassium intake may reduce our risk of having hypertension. The less amount of potassium intake will increase the level of blood pressure. Public health interventions aimed at increasing potassium intake from food are, therefore, potential cost effective measures for reducing the burden of morbidity and mortality from non-communicable diseases(Aburto, 2013)

Dietary fats

High triglyceride is the most important risk factor for hypertension. The results, which were published in the Journal of Human Hypertension, showed that those with higher cholesterol levels had significantly higher blood pressure levels during exercise than those with lower cholesterol levels. The researchers concluded that even mildly increased cholesterol levels could influence blood pressure. They added that cholesterol seems to mess up how blood vessels contract and release, which can also affect the pressure needed to push blood through them so dietary control or if necessary drug therapy is best for the control.(Committee., 2003)

Avoid alcohol intake

Excessive intake of alcohol is one of the most important risk factor for high blood pressure; it can cause resistance to anti-hypertensive therapy and is a risk of having stroke(Stewart, 2007). Hypertension significantly develops from withdrawal from heavy alcohol consumption, but will be back normal after few days when the consumption will be reduced.

Avoid smoking

Tobacco smoking is the most important risk factor for developing cardiovascular disease so reducing or cutting down the smoking is very essential. Smokers have 30 times higher risk developing stroke than who do not smoke and generally have high blood pressure. (WHO)

Exercise

According to WHO Regular physical activity is good for achieving at least a significant level of physical fitness and can help in reducing the weight and can improve the health status and reduce the risk of having of cardiovascular disease and the cause of mortality.(Fagard, 2007).

Institutional Setup

The three Departments under the Ministry of Health are in operation to govern and execute the health delivery system in Nepal. They include The Department of Ayurveda, the oldest traditional medical system, The Department of Health Services that runs allopathic and general public health management throughout the country under its different Divisions and The Department of Drug Management that looks after drug administration in the country.

The main purpose of health delivery system of Nepal is to reduce the infant mortality rate that has come down to 33 per 1000 live births from 107 in 2048 crude death rate to 7 in 2014 from 13.3 in 1048, life expectancy at 68.8 from 54.3 in 1948 for both sexes (male 55 and female 53. 5 in 1948 and male 65.5 and female 67.9 in 2014) that reveals positive change among female life expectancy at birth during the past two decades.

There has been change in annual population growth rate also which has decreased from 2.08 in 1991 to 1.3 annually in 2014 as estimated the Central Bureau of Statistics of Nepal. Similarly, total fertility rate has increased from 5.8 in 1991 to 2.3 in 2014.

The Long Term Health Plan aims at increasing TFR to 2.1, reducing growth rate to 1.1 CDR to 5 per 1000 IMR to 25 and increasing life expectancy for male 74, female to 76 and both sexes to 75 by the year 2034.(Unicef, 2009)

Nepal, a small Himalayan country, had a high prevalence of communicable diseases a few decades ago; now the country has higher age-standardized death rates and disability-adjusted life years from NCDs than communicable diseases (CDs). In Nepal, NCDs account for more than 44 % of deaths and 80 % of outpatient contacts. Nearly one third of the population has hypertension and 15 % has diabetes. Chronic

obstructive pulmonary diseases (43 %) are the most common NCDs among outpatients followed by cardiovascular disease (40 %), diabetes mellitus (12 %) and cancer (5 %) .Furthermore, earlier studies have reported a higher level of alcohol and tobacco use in Nepal .Rapid urbanization, change in dietary patterns, behavioral factors and major improvements in prevention of maternal and child health to raise life expectancy are all factors contributing to shift disease patterns in Nepal**.**(Mishra, 2015)

In Nepal, prevalence of coronary heart diseases in eastern region was 5.7% in 2005. Similarly prevalence of hypertension was 22.7% in Dhahran municipality .Studies have shown that the prevalence of hypertension in adult population was around 20% in urban population .According to the data of 'Sun sari Health Survey' of the year 1993, the prevalence of diabetes and hypertension in Sun sari District, from eastern Nepal, was about 6% and 5.1% respectively in adults .(G. P. Bhandari, Neupane, S., Ghimire, U., & Khanal, A., 2010)

INTRODUCTION OF THE HOSPITAL WHERE RESEARCH WILL BE CARRIED

In Kathmandu valley, Kathmandu Diabetes and Thyroid Center Pvt. Ltd will be chosen purposively as a study area for collection of data. This is a private sector clinic located in Pulchowk, Kathmandu which was established in 2012, where specialists and other staffs provide service from morning 9 am to 5 pm in the evening. This clinic has been chosen as the study area due to the availability of large number of hypertensive patient coming for a regular checkup. The number of hypertensive patient per day is approximately 40-50/day among which 20-25 patients will be interviewed each day.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter represents the methodological framework that was used for collection and analyzing the data to and answer the research question. The overall methods available to obtain data is presented and explained before selecting the appropriate ones.

3.1 Research Design

This is a cross sectional study design.

3.2 Study Area

Kathmandu Diabetes and Thyroid Center Pvt. Ltd will be chosen purposively as a study area for collection of data. This is a private sector clinic located in Pulchowk, Kathmandu established in 2012 with the primary goal to provide affordable standard medical service and to bring a world class center that specializes in the treatment of diabetes, thyroid and other endocrine diseases in Nepal. This center has been selected because it is one of the best centers for hypertension management comprising of renowned endocrinology specialists of Nepal catering majority of hypertensive patients of Kathmandu. The center has 5 specialists and 30 other health staffs who are available from morning 9 am to evening 5 pm. It provides equipped lab facilities and various outpatient services such as curative, disease education, dietician consultation and free phone call consultation, weight loss programs and various other health packages. The number of hypertensive patient per day is approximately 40-50/day among which 20-25 patients will be interviewed each day. **(http://kathmandudiabetescentre.com/about-us.html)**

3.3 Study Period

The study period was four months from April 2017 to July 2017.

3.4 Study Population

The populations targeted for this research activity were the people who were 45 years and above and are the hypertension patients visiting the endocrinology department of the Kathmandu Diabetes and Thyroid Centre Pvt. Ltd.

3.4.1 Inclusion criteria

- People who are 45 years or above with hypertension and have visited the Kathmandu Diabetes and Thyroid Centre Pvt. Ltd during the study period/shift from both Gender (male and female).
-

3.4.2 Exclusion criteria

- The subject/patients who have problem of hearing and vision, cognition and dementia.
- The subject/patients who are not willing to participate in the research activity.
- The subject/patients who were in a severe condition.
- People who cannot respond to the questionnaire due to language barrier (who do not understand English or Nepali language).

3.5 Sample Size Determination

From previous prevalence of hypertension in Kathmandu in 2006 it was found that the prevalence was round figure 22.7% round figure 23%.(Dhitali, 2013)Cochran formula was used to calculate the sample size.

Sample size calculation:

$n = n_0 / 1 + (n_0 - 1) / N$

$$n_0 = \frac{Z^2 pq}{(e)^2} \quad \text{(Cochran)}$$

$$n_0 = \frac{(1.96)^2 \, 0.23 \, (1 - 0.23)}{(0.05)^2}$$

$n_0 = 271.6$

Hence, sample size (**n**) = 272

Where,

p = estimated proportion of the population that is likely to have hypertension

q = 1-p

e = desired level of precision.

Z = value from normal distribution associated with 95% confidence interval which is 1.96.

N= Total population of the area.

The sample size from above calculation is 272 participants but there is always a chance of potential refusal or drop out in the middle of the interview in order to adjust such cases 10% of the total calculated sample size was added to the before calculated size.

With the predefined sampling technique total sample size has been taken more than the total sample size calculate considered for the research work conducted by Cochran formula i.e. 300 hypertensive patients visiting the study area during the study period.

3.5 Sampling technique

Endocrinology OPD of Kathmandu diabetes and Thyroid center is purposively selected for this study. Non-probability convenient sampling will be done for selection of participants. This sampling technique was adopted as it is the easiest method to recruit the participants for the researcher. The estimated total number of hypertensive patients visiting the Endocrinology OPD 40-50 per day among which the patients meeting the criteria of being 45 years and above and those residing in

Kathmandu is approximately 20-25 per day. Afternoon and evening shift will be chosen for the collection of the sample which is from 11am-6pm.The time taken for data collection to conduct this study is approximately 30 days.

- Kathmandu diabetes and thyroid center will be selected by non-probability convenient sampling
- 40-50 hypertensive patients/day will be visiting the hospital
- The participants will be selected conveniently 20-25(both male and female) patients/day meeting the inclusion criteria which is hypertensive age 45 years and above.
- Afternoon and morning shift will be the time for the interviewing the patients with the help of the other two assistants
- Based on the estimation by the clinic staff through available record book, the proportion of male and female with hypertension visiting the center is approximately 60 and 40 percent respectively.
- Interview will be done from the participants until calculated sample size is obtained

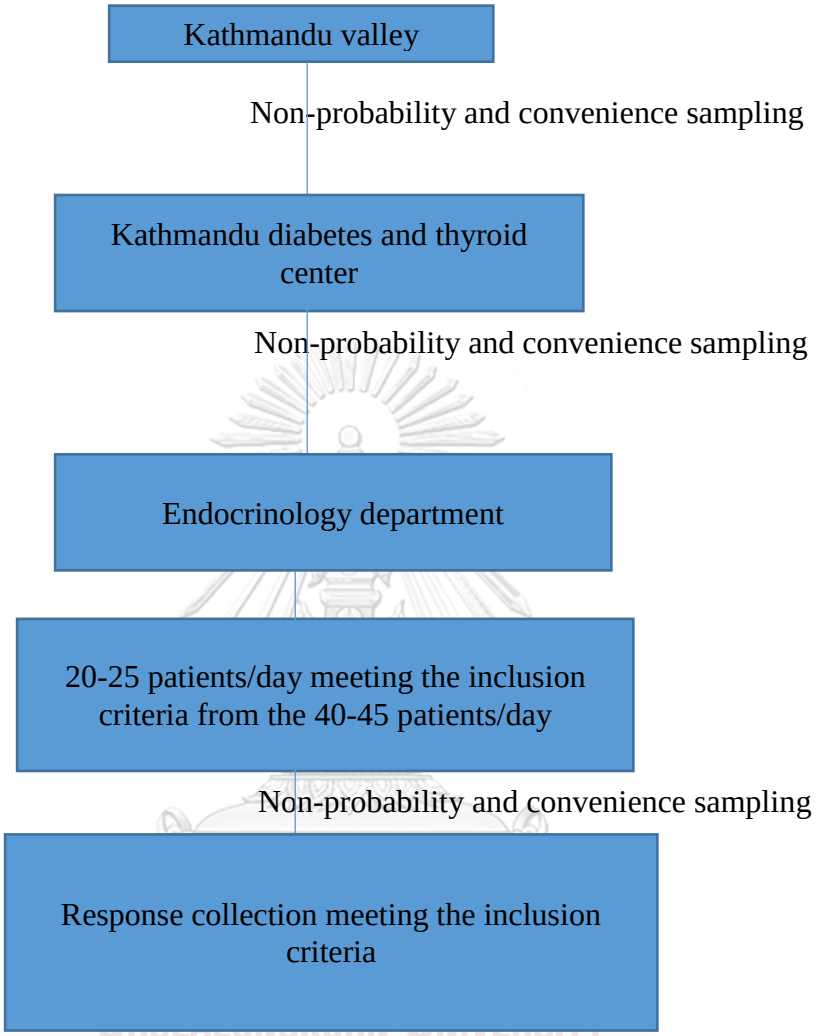


Figure 4 Data collection Procedure

3.6 Measurement Tools

The questionnaire has multiple choice questions and has been divided into 4 parts: After studying various theories, journals, concepts and literature review in detail which is related to type hypertension, a structured questionnaire has been developed in English that is related to the objective of the research. Two translators who have clear understanding of the instrument will be hired and the English version of the

questionnaire will be translated to Nepali language which is the local language (forward translation). A bilingual health professional (clinician) will be asked to review for any inconsistencies between the source language version and the translated version. Then a monolingual Nepalese individual who is unfamiliar with the instrument and is the representative of the population to be studied will be asked to read through it to identify aspects which are not clearly comprehensible or are ambiguous which will be considered by a bilingual clinician ensuring its accuracy with the English version. The questionnaires are then translated back to English to verify that actual content has retained while translating (backward translation). In case of discrepancies between the questionnaires translated by two translators, it will be agreed upon a common question consulting both of them. The data collection will be done by face to face interview through interviewer administered questionnaires

Part 1: The questionnaires is related to socio demographic factors which covers:

- Age
- Sex: male or female
- Marital status: married, unmarried, widower, divorcee
- Monthly income: Less than 10,000rs- low income, 10.000rs-30,000rs- moderate income, More than 30,000rs- high income
- Educational level: Illiterate- not able to read and write, literate -Able to read and write but no schooling, primary level 1-10, secondary level 10-12, higher studies – bachelor degree and above.

Part 2: The questionnaires is related to the health behavior which covers:

- Smoking: yes, and no and less than 5 years, 5-10 years and more than 10 years.
- Alcohol: yes, no and 1-2 glass/day, more than 3 glass and on social occasions.

Part3: The questionnaires are related to the co-morbidities which covers:

- History of stroke/MI/renal disease and diabetes: yes, and no

Part 4: is related to WHOQOL-BREF domains.

The WHOQOL - 100 might be excessively long sometimes, for instance in large group based reviews where quality of life is not the only interest variable. For such cases, WHOQOL-BREF which is a shorter form of WHOQOL consisting of 26 items is easier and appropriate for the evaluation to be conducted

Utilizing information from the pilot WHOQOL appraisal and every single accessible data from the Field Trial Version of the WHOQOL-100, the WHOQOLBREF Field Trial Version has been developed to give a short form quality of life evaluation that looks at domain level profiles. Twenty field centers arranged inside eighteen nations have included information for these reasons.

Domain	Facets incorporated within domains
1. Physical health	Activities of daily living Dependence on medicinal substances and medical aids Energy and fatigue Mobility Pain and discomfort Sleep and rest Work Capacity
2. Psychological	Bodily image and appearance Negative feelings Positive feelings Self-esteem Spirituality / Religion / Personal beliefs Thinking, learning, memory and concentration
3. Social relationships	Personal relationships Social support Sexual activity
4. Environment	Financial resources Freedom, physical safety and security Health and social care: accessibility and quality Home environment Opportunities for acquiring new information and skills Participation in and opportunities for recreation / leisure activities Physical environment (pollution / noise / traffic / climate) Transport

Figure 5 Domains of QO

Table 1 Scores of Quality of Life

QOL DOMAIN	LOW	MODERATE	HIGH
Physical health	7-16	17-26	27-35
Psychological	6-14	15-22	23-30
Social relationships	3-7	8-11	12-15
Environment	8-18	19-29	30-40
Overall OL & General Health	2-4	5-7	8-10
TOTAL SCORES	**26-60**	**61-95**	**96-130**

The questionnaire contains 26 items and addresses 4 quality of life domains: physical health(7items), psychological health(6items), social relationships(3items) and environment(8items). Two others items measure overall QOL and general health.

Items are rated on 5-point Likert scale (low score of 1 to high score of 5) to determine a raw item score. Subsequently, the mean score for each domain is calculated, resulting in a mean score per domain that is between 4 and 20. finally this mean domain score is then multiplies by 4 in order to transform the domain score into a scaled score, with a higher score indicating a higher QOL. When transformed by multiplying with 4, each score is then comparable with the scores used in the original WHOQOL-100. After transforming the score, the low, moderate and high was then labeled by levels where low was labeled 1, moderate was labeled 2 and high was labeled 3. The WHOQOL-BREF is a reliable and valid survey instrument for measuring the four domains of quality of life as well as the overall global quality of life.

This is the scoring taken from the article which they follow the WHOQOL BREF Thai where they categorized every domain as low, moderate and high.(Phungrassami, 2004)

3.7 Data Validity and Reliability

The questionnaire was validated by content validity method by three experts; Dr. Ansu Mali Joshi, MD (endocrinologist), Dr. Nirmal Jha (Ph.D., Specialty with environmental Health) and Dr. Pradeep Gyawali (MD, general physicians).

The pre-test (pilot test) was conducted by principal researcher with 10% of sample size. Therefore, 30 hypertensive age above 45 and more was taken for pre-test in order to maintain the reliability. The pre-test was being done in om hospital in the medicine outpatient department, another hospital located in the Kathmandu valley in Chabahil. The internal consistency was analyzed by using Cronbach's Alpha coefficient.

The Cronbach's alpha coefficient technique was used to check the reliability of the data collected. On performing the reliability testing, Cronbach alpha coefficient value was **0.662**, and considered as the high level of internal consistency for our scale

3.8 Data Collection

Data collection method was face to face interview by using interviewer administered questionnaire and the valid questionnaire of quality of life by WHO. Data collection was carried out by principle researcher and two researcher assistants. Two female research assistants who worked, and are working as research assistants for SAVE THE CHILDREN was recruited for this study. In order to obtain the reliable information from the study group, research assistants who already has experience with research was recruited. The interview was performed by researcher and participant.

Principal researcher trained research assistants for two days prior to data collection in order to reduce interviewer bias. Training was given which included about research objectives, methodology, details about questionnaires and ethics concerns. The documents such as research objectives, questions, methodology, papers for ethic approval, and questionnaires was given to the research assistants to get the clear picture about the research. To assess the research assistants' understanding and performance, they had to role-play as interviewer and interviewee. one research assistant makes interviewer, another research assistant acted as an interviewee. To be familiar with the questionnaire and to minimize the interviewer's bias, every researcher has to role-play as an interviewer at least two times in the training order to access the research assistants' performance.

Questionnaire was in Nepalese language, and all participants was asked the same questionnaire. Kathmandu Valley, endocrinology department of Kathmandu Diabetes and Thyroid Centre Pvt. Ltd was selected as the data collection location on the basis of non-probability and convenient sampling. If participant refused to participate in this research, that participant was excluded. Data collection was done about five days per week: five days in weekdays, Therefore, it took about one month for data collection.

Before the interview, the researchers explained the respondents about consent, anonymity, freedom to participation, right to withdraw, confidentiality, access to final report and no use the data for other purposes. The respondents who agreed to participate has been selected and signed the written consent form. The respondents

were explained that the written consent form which includes respondent's sign and was kept separately from the questionnaire After each interview, the researchers checked the answer and clarify with the respondent immediately.

As this research is purely for the academic purpose, a proper process has been adopted to conduct the research work. For the data collection questionnaire was prepared and approved before initiating the collection of responses. Before the collection of responses, sampling size was determined and spot finding was made to collect the responses from the hypertension patient who are 45 years and above population in Kathmandu based one of the busiest hospital, The Kathmandu Diabetes and Thyroid Centre Pvt. Ltd. A request letter to conduct a research from the Chulalongkorn university public health science college was written to the managing director of the Kathmandu Diabetes and Thyroid Centre Pvt. Ltd, Lalitpur to conduct research work smoothly.

The overall Data collection procedure had the following stages:

a. Factors identification (Literature review and expert opinion)
b. Preliminary Questionnaire preparation
c. Approval of the questionnaire
d. Finalization of the questionnaire
e. Approval from the Hospital for data collection

3.9 Data Analysis Methods

MS Excel and Statistical Package for the Social Sciences (SPSS) 20 applications were used to organize the collected data and analysing answer the research questions respectively. The collected data were first coded according to the scale and order. To find the output of the research from the data collected.

Descriptive statistics: was performed with the aim to describe or summarize basic features of data and also to measure and record immediate behavior of data, reflect variability and central tendency of scores over a given distribution. Frequency,

percentage, mean, median, standard deviation, minimum, maximum will be calculated for all the independent variables (socio demographic factors, health behavior co morbidities and dependent variable (quality of life)

Analytical Statistics: Analytical statistics or inferential statistics was performed to test the hypothesis and answer the research question in order to reach to conclusions that extend beyond the immediate data alone. One-Way ANOVA was done to see the relationship between the various independent variables which includes sociodemographic factors, health behavior, and comorbidities with the dependent variable which includes total score of quality of life. Each analysis was compared statically significant p-value of 0.05. In One-Way Anova post –hoc comparison was done to see the multiple comparisons and post hoc analyses are usually concerned with finding patterns and/or relationships between subgroups of sampled populations. In post hoc analysis BONFERONIS AND SCHIFFE was done.

Independent Variables	**Measurement scale**	**Descriptive statistics**

General characteristics of hypertensive patient	Categorical	
Age	Nominal Scale	Frequency, Percentage
Gender	Nominal Scale	Frequency, Percentage
Marital Status	Ordinal Scale	Frequency, Percentage
Income	Nominal Scale	Frequency, percentage
Education	Nominal scale	Percentage , Frequency
Ethnicity	Nominal scale	Percentage , Frequency
Duration of hypertension		Frequency, percentage
Duration of taking antihypertensive medication		Frequency, percentage
		Frequency, percentage
Health behavior		
Alcohol	Nominal Scale	Frequency, percentage
Smoking	Nominal Scale	Frequency, percentage

Comorbidities Stroke, MI, Renal disease, Diabetes mellitus	Nominal scale	Frequency, percentage Frequency, percentage

3.10 Ethical Considerations

Thesis proposal and its measurement tools were reviewed and approved by the Nepal Health Research Council (NHRC), Ministry of Health and Population (MOHP). The questionnaire did not have any sensitive information which may physically and mentally bring impact on the patients. Before proceeding for the data collection, respondents were explained about the objective, purpose of the study and were requested to participate in the research work. Written consent was taken from the participant who were willing to be the part of the research work before starting the further research procedure. Medical examination and blood pressure measurement were done. Personal information and medical information provided by the respondents are only used for academic purpose and kept confidential.

3.11 Limitations of Study

Every research is performed under certain boundary with various limitations or constraints.

Some of the limitations of this study are given below:

- Sample size is limited to only one hospital, The Kathmandu Diabetes and Thyroid Centre Pvt. Ltd
- Due to the time constraints, it was difficult to gather the data categorizing population with controlled and uncontrolled hypertension.
- The study is based on non-probability sampling techniques which included convenience techniques therefore there will be selection bias.
- Besides the influencing factors considered, there could be other factors like stress, dietary habits, salt intake, and physical activity responsible for influencing the quality of life of hypertensive patient
- The cross-sectional nature of this study makes it difficult to interpret any cause–effect relationship.
- As the study area was chosen by purpose the findings of the study cannot be generalized for the whole population of the Kathmandu valley and also the target population was limited to age 45 years and above, the findings cannot be generalized to younger age groups.
- Data were collected Via face to face interview, which will have introduced interviewer's bias in the results.
- Data for smoking was not properly investigated because since we haven't taken the data for how many cigarettes they smoke per day.
- Due to cultural barrier alcohol consumption was unable to measure.

3.12 Expected Benefit and Applications

This study will give the baseline data on the quality of life of hypertensive aged 45 years and above populations.

This study is expected to assess the relationships between the sociodemographic characteristics, health behaviour and comorbidities and quality of life of the hypertensive population of age 45 years and above.

In combination with the other research , findings of this study should help in developing policy and guidelines improving health services and quality of life of hypertensive population of age 45 years and above.

RESULTS

CHAPTER 4

In this chapter, we have performed a primary analysis of the responses collected to identify the various factors responsible for affecting the quality of life of the hypertensive population aged 45 years and above in Kathmandu valley. The analysis done can be classified into two parts;

a. Descriptive statistics were focused on determining the characteristics of the participants involved in this research work. This provides simple summaries about the sample and the measures.

b. Analytical Statistics were performed to determine the association between dependent and independent variable and answer the research questions.one way-anova was performed to see the relationship between two variables which includes dependent and independent variable.

4.1 Descriptive Statistics

This was performed to find out the characteristics of the hypertension population involved in this study. To conduct this study, total 300 samples were taken from the study area during four months of the study period. Descriptive statistics were conducted to find out the frequency, percentage of independent variables and develop

the charts and graphs. This provided us the summary of characteristics of the respondent.

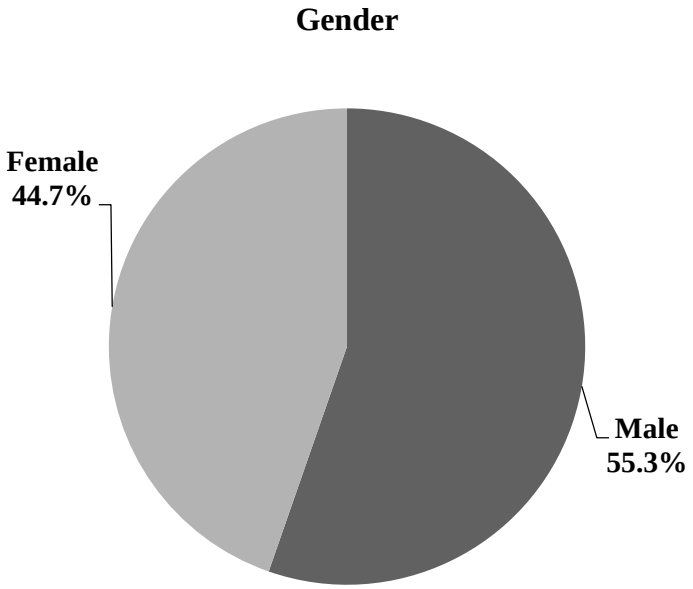


Figure 6 Distribution by Gender

4.2Sociodemographic characteristics:

Among 300 samples collected, 55.3 % of the respondents were male participants and remaining were female participants who visited the Endocrinology Department of the Kathmandu Diabetes and Thyroid Centre Pvt. Ltd during the study period.

Among the four age groups considered for this research work, 95 participants who were suffering from hypertension were from age group 45-50 and 131 participants were from age group 51-60 and 54 were from 61-70 age group and 14 was from the 71 and above age group.

Table 2 Number and percentage of general characteristics of 300 hypertensive respondents

General characteristics	**Number**	**Percent**
age in years		
45-50	95	31.7
51-60	131	43.7
61-70	54	18.0
71 and above	14	4.7
mean=56.2, SD=8.8		
Gender		
Male	166	55.3
Female	134	44.7
Marital status		
Unmarried	11	3.7
Married	260	86.7
Widow	24	8.0
Divorce	5	1.7
Income		
less than 10,000Rs	39	13.0
10,000-30,000Rs	138	46.0
more than30,000Rs	123	41.0
Caste/ethnicity		
Brahmin	130	43.3
Chhetri	43	14.3
Newari	46	15.3
Others	81	27.0
Education		
No school	36	12.0
grade1-10 primary level	46	15.3
grade10-12 secondary	92	30.7
Bachelor and above	126	42.0
Duration of hypertension		
< 2 years	42	14.0
2-5 years	152	50.7
> 5 years	106	35.3
Duration of hypertensive medication		
<2 years	44	14.7
2-5 years	151	50.3
> 5 years	105	35.0

From the results it was found that the 260 participants were married,138 participant's income in a month was between 10000-30000Rs.Among the total participants 130 were Brahmins and 81 was
of the other cast, whereas 126 participants have the education of bachelor and above level and 36
never went to school. Out of total respondents 152 participants had hypertension for past 2-5
years and for past 2-5 years 151 participants were under medications.

Table 3:Number and percentage of Health behavior of 300 hypertensive respondents

Health behavior		**Number**	**Percent**
Smoke			
	No	169	56.3
	Less than 10yrs	22	7.3
	10yrs or more	98	32.7
Alcohol			
	No	177	59.0
	1-2 glasses/day	45	15.0
	3 or more glasses/day	32	10.7
	social occasions	46	15.3

From the results we found that the 169 participants who do not smoke,22 participants smokeless
than10 years and 98 participants smoke more than 10 years, here 11 participants where missing
because of the cultural barrier they were unable to answer. In case of alcohol consumption
l77 the participants who never drank alcohol, 45 drink 1-2, glasses/day, 32 participants
drink
more than 3 or more glasses per day and 46 remaining drink on social occasions

Table 4Number and Percentage of Comorbidities of 300 hypertensive patients

Co morbidities	Number	Percent
NO	192	64.0
DM	61	20.3
OTHERS(stroke, MI, renal disease)	6	2.0
DM&OTHERS	41	13.7

From the calculation the result obtained was 192 patients didn't have any kind of comorbidities, 61 has the

diabetes only 6 has comorbidities including MI, stroke and renal disease and 41 has the diabetes mellitus

and others.

Table 5 QUALITY OF LIFE

	Level Of Quality Of Life					
Quality Of Life	**Low**		**Moderate**		**High**	
	N	**%**	**N**	**%**	**N**	**%**
Overall And General Health	**11**	**3.7**	**289**	**96.3**	**0**	**0**
Physical Health	**6**	**2**	**293**	**97.3**	**1**	**0.3**
Psychological	**15**	**5**	**282**	**94**	**3**	**1**
Social Relationships	**12**	**4**	**149**	**49.7**	**139**	**46.3**
Environment	**27**	**9**	**239**	**79.7**	**34**	**11.3**

The results of the portion of the questionnaire were analysed according to the respectives four domains that comprise the overall quality of life score and then again divided into the three categories (1)low(2) moderate and (3)high, where low is labeled

as 1 moderate is labeled as 2 and high is labeled 3. It can be seen from the table 4 while examining the doman 1 physical health the majority of the respondets

demonstrated as moderate level of qaility of life which is the same for the domain 2 psychological health and domain 3 social relationship and environmental health also has the moderate level quality of life,as well as the overall quality of life also has the moderate level of quality of life.

Table 6:Percent of each item measuring quality of life of 300 hypertensive patients

	Percent				
PHYSICAL HEALTH	not at all	a little	moderate amount	very much	an extreme amount
Preventing from physical pain	3.3%	17.3 %	20.3%	39.7 %	19.3%
Medical treatment needed to function in daily life	0.7%	13.7 %	25.3%	50.7 %	9.7%
	not at all	a little	moderately	mostly	completely
Enough energy for everyday life.	9.0%	10.0 %	57.7%	21.7 %	1.7%
	very poor	poor	neither good neither poor	good	very good
Get around well	2.0%	6.0%	50.3%	37.7 %	4.0%
	very dissatisfied	dissatisfied	neither satisfied nor dissatisfied	satisfied	very satisfied
Satisfied with sleep	1.0%	5.7%	33.7%	48.7 %	11.0%
Satisfied with your ability to perform daily activities	0.3%	7.3%	40.0%	47.7 %	95.3%
Satisfied with work	0.7%	10.7 %	29.3%	55.0 %	95.7%
PSYCHOLOGICAL	not at all	a little	moderate amount	very much	an extreme amount
Enjoy life	0.7%	5.3%	54.7%	35.7 %	4.0%
Life to be meaningful	1.3%	9.7%	47.0%	37.0 %	5.0%
Able to concentrate	1.3%	16.7 %	60.7%	20.3 %	1.0%
	not at all	a little	moderately	mostly	completely
Bodily appearance	3.7%	6.3%	52.0%	35.7 %	2.3%
	very dissatisfied	dissatisfied	neither satisfied nor dissatisfied	satisfied	very satisfied
Satisfied with yourself	0.7%	3.7%	20.7%	64.7	89.7%

				%	
	never	seldom	quite often	very often	always
Negative feelings	1.7%	13.0 %	69.0%	16.3 %	3.6%

SOCIAL RELATIONSHIPS	Very Dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	very satisfied
Satisfied with personal relationships	0.3%	3.3%	23.3%	73.0 %	0.0%
Satisfied with sex life	0.7%	5.0%	37.0%	57.3 %	0.0%
Support from friends	0.0%	4.0%	25.0%	71.0 %	0.0%

ENVIROMENTAL HEALTH	Not at All	A littl e	A moderate amount	Very mu ch	An extreme amount
Safe in daily life	2.7%	18.3 %	56.3%	20.7 %	2.0%
Healthy physical environment	8.3%	35.3 %	37.7%	17.7 %	1.0%

	Not at All	A littl e	Moderately	Most ly	Complete ly
Enough money	2.0%	8.3%	40.7%	33.7 %	15.3%
Daily information	3.7%	28.3 %	35.0%	20.0 %	13.0%
Leisure activities	16.7%	42.0 %	29.0%	10.0 %	2.3%

	Very Dissati sfied	Dissa tisfi ed	Neither satisfied nor dissatisfied	Satisf ied	very satisfie d
Satisfied with conditions of living place	0.7%	5.7%	34.0%	59.7 %	97.3%
Access to health services	3.0%	14.0 %	58.0%	25.0 %	99.0%
Satisfied with transport	11.0%	32.3 %	28.3%	28.3 %	97.7%

0

Table 7OVERALL QOL AND GENERAL HEALTH

	PERCENT				
OVER ALL QOL	very poor	poor	neither poor nor good	good	very good
rate your quality of life	1.3%	2.3%	46.7%	45.7 %	4%
	Very Dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	very satisfied
Satisfied with your health	2.7%	19.7%	59.7%	17%	0.7%

PHYSICAL HEALTH DOMAIN

39.7% participants have said that physical pain prevents very much from doing what they need to do.50.7% need any medical treatment very much to function in their daily life. 57.7% participants have moderately enough energy for everyday life. 50.3% believe that neither or nor they are able to get around. 33.7% respondents said that they are neither satisfied nor dissatisfied with their sleep. 95.3% of the respondents are very satisfied with their ability to perform their daily living activities. 95.7% are very satisfied with their capacity for work.

PSHYCOLOGICAL DOMAIN

54.7% of the participants they enjoy their life in a moderate amount,47%of the participants said that their life is meaningful in moderate amount,60.7 said that they

are able to concentrate in a moderate amount,52% said that they are able to accept their bodily appearance moderately.89.7%participants said that they are very satisfied with themselves and 69% participants are quite often having negative feelings such as blue mood, despair, anxiety, depression.

SOCIAL RELATIONSHIPS DOMAIN

73% participants were very satisfied with their personal relationships,57.3%participants were satisfied with their sex life and 71.0% participants were satisfied with the support they get from friends.

ENVIROMENTAL HEALTH

56.3% participants feel safe in a moderate amount in their daily life,37.7% participants feel that physical environment is healthy in a moderate amount,40.7% participants feel that they have moderate money to meet their needs,35% participants have the moderate information that need on the day to day life information,42% have the moderate opportunity for leisure activities,97.3% participants are very satisfied with the conditions of their living place,99.0% are very satisfied with their access to health services and97.7% participants are very satisfied with their transport.

OVERALL QOL AND GENERAL HEALTH

46.7% participants feel that their life is neither good nor bad, only .7% participants are satisfied with their health where as 59.7% are neither satisfied nor dissatisfied.

Table 8 relationship between sociodemographic characteristics and total score of QOL of 300 hypertensive respondents, analysed by one-way ANOVA n=300

					Confidence-interval

variables		N	Mean	Std. Deviation	Lower Bound	Upper Bound	p-value
age in category	45-50	95	1.74	.443	1.65	1.83	.022
	51-60	131	1.85	.361	1.78	1.91	
	61-70	54	1.70	.461	1.58	1.83	
	71 and above	20	1.60	.503	1.36	1.84	
gender							
	male	166	1.76	.420	1.69	1.82	0.61
	female	134	1.78	.410	1.71	1.85	
marital status	Unmarried	11	1.82	0.405	1.55	2.09	0.25
	Married	260	1.78	0.412	1.73	1.83	
	Widow/Widower	24	1.63	0.495	1.42	1.83	
	Divorcee	5	1.6	0.548	0.92	2.28	
income	Less than 10,000	39	1.62	0.493	1.46	1.78	**.001**
	10,000-30,000	138	1.86	0.346	1.8	1.92	
	more than 30,000	123	1.72	0.453	1.63	1.8	
caste/ethnicity	Brahmin	130	1.74	0.441	1.66	1.82	0.46
	Chhetri	43	1.84	0.374	1.72	1.95	
	Newari	46	1.74	0.444	1.61	1.87	
	Others	81	1.8	0.401	1.71	1.89	
education	No school	36	1.69	0.467	1.54	1.85	0.60

	Grade 1-10 primary level	46	1.74	0.444	1.61	1.87	
	Grade 10-12 secondary level	92	1.79	0.407	1.71	1.88	
	bachelor and above	126	1.79	0.412	1.71	1.86	
duration of hypertension	<2YEARS	42	1.76	0.431	1.63	1.9	
	2-5 years	152	1.76	.0.427	1.69		
	> 5 years	106	1.78	0.414	1.7	1.86	.925
duration of anti-hypertensive medication	Past 1 year	44	1.77	0.424	1.64	1.9	
	2-5 years	151	1.77	0.423	1.7	1.84	.998
	More than 5 years	105	1.77	0.422	1.69	1.85	

One-way ANOVA was used to analyze the relationship between socio demographic characteristics and total score of WHOOL-BREF. The Analysis showed statistically

significant relationship in age (p value=0.022), income(p-value=0.001), There are no statistically significant relationships between gender, marital status, caste/ethnicity, education, duration of hypertension and duration of taking anti-hypertensive medications (p value> 0.05) and total score of WHOOL-BREF

Table 9: relationship between health behavior and total score of QOL of 300 hypertensive respondents, analyzed by one-way ANOVA n=300

					95% Confidence		
variables		N	Mean	Std. Devia	Lower Bound	Upper Bound	p-value
alcohol	NO	177	1.80	.404	1.74	1.86	0.24
	1-2 GLASSES/DAY	45	1.71	.458	1.57	1.85	

	3 OR MORE GLASSES/DAY	32	1.66	.483	1.48	1.83	
	SOCIAL OCCASIONS	46	1.80	.401	1.69	1.92	
smoke							
	NO	169	1.80	.398	1.74	1.87	0.134
	LESS THAN 10	22	1.64	.492	1.42	1.85	
	10 OR MORE	98	1.73	.444	1.65	1.82	

The table displays relationship between health behavior and total score of OL. There is no statistically significant relationship between alcohol (p value= 0.239), smoke (p-value =0.134) and total score of QOL

Table 10 relationship between comorbidities and total score of QOL of 300 hypertensive respondents, analyzed by one-way ANOVA n=300

					95% Confidence Interval		
variables		N	Mean	Std. Deviation	Lower Bound	Upper Bound	p-value
comorbidities	No	192	1.82	.387	1.76	1.87	**0.027**
	DM	61	1.74	.444	1.62	1.85	
	Others	6	1.67	.516	1.12	2.21	
	DM&Others	41	1.61	.494	1.45	1.77	

. The table shows statistically significant relationship (p value=0.027) between co-morbidities (DM, stroke, MI, renal disease), and total score of QOL of 300 hypertensive respondents

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

The main objective of this thesis was to identify the several factors responsible for affecting the quality of life of the hypertensive population aged 45 years and above in Kathmandu valley. And also to measure the quality of life of people suffering from the hypertension. Another factor responsible for performing this

research work is to identify the degree of association between quality of life and the several independent factors. After reviewing the extensive literature, several independent variables associated with the research work included; Socio-demographics factors, Protective behavior, Duration of hypertension and the risk factors.

This Chapter is divided into following five sections:

5.1 General Discussion on characteristics of study population

5.2 General Discussion of key findings of the study

5.3 Benefits from the study

5.4 Conclusions

5.5 Recommendations

5.1 General Discussion on characteristics of study population

Among the 300 samples collected, Analysis of the Global hypertension burden reveals that over 25 % of the world's adult population in 2000 suffered from hypertension, so this research was conducted to check whether the age is the prime factor in causing the hypertension in the aged population, hypertension patients 45 and above population were considered as the study population. This study population maximum number of participants in the age bracket of 51-60 years. The average life expectancy in Nepal is 60 years for male and female respectively(WHO, 2011). Hence it was obvious that maximum number of participants do fall under the age bracket of 51-60 years. According to preliminary results of Census 2011 sex ratio in Nepal was 0.94 male: female(CBS, 2012). In this study population of male was higher than female 166 (55.3%) male participants and 134 (44.7%) female participants. This study shows that 12% of the participants were illiterate and never went to school ,46.1% belongs to low income group. World Bank has classified Nepal as a low income, with 25.2% people still living below poverty line. World Bank report also suggests that 59% of Nepalese above 15 years of age are literate(WB, 2012). This study had good mix of all caste with others being the highest and chhteri followed in close second position. Similar result was shown by Population Census 2001(CBS, 2001).Duration of hypertension and duration of taking anti-hypertensive medication

was 50.7% which was from 2-5 years. All these findings do suggest that the study population do match the socio demographic characteristics of general population.

In this study it was found that the level of quality of life was moderate among all the domains and high was among the social domains. To contradict the study, study done in the southern part of the Vietnam all the domains have the moderate quality of life except the psychological health it showed the low quality of life.(Ha, 2014). The study done in India all the domains have the low quality of life which contradict the result of my study.(Pangtey, 2016)

Smoking and alcohol consumption is another factor considered as the independent factor responsible for affecting the quality of life of the 45 and above years' hypertension patient. Almost 56.3% of the participants do not smoke and 59.0% do not consume alcohol where 32.7% have been smoking for more than 10 years and the majority (15.4%) of participant's drink alcohol on a special occasion. 20.3 % of the respondents were diagnosed with diabetes mellitus.

5.2 General Discussion and key findings of the study of QOL

For analytical statistics, four domains were used as given by the WHO Quality of Life; Physical Health, Psychological, Social relationship, Environment, Overall QOL and General Health. This section is more focused on determining the association between the dependent and independent variable.

5.3 Factors related to goal of the hypertensive patients.

In this study hypertension seen among 51-60 years of age 43.7%of all the participants. A previous study among 1710 participants to determine prevalence of hypertension elderly in Kathmandu, Nepal has shown 25.9%(Vaidya, 2012). The result of both the studies were quiet similar. Another study in Nepal shows, 19% prevalence of hypertension among people aged 30 years and above(G. P. Bhandari, Neupane, S., Ghimire, U., & Khanal, A., 2010) which is less than the current study finding. The reason for lower prevalence in study than the current study may be due to the fact that it involves participant of 30 years and above while current study involves

participant who were 45 years and above. Moreover, the study was done 5 years before; it is obvious by seeing the global trend that hypertension at a rise. It was estimated that worldwide prevalence hypertension in all age group will increase from 2.8% in 2000 to 4.4% in 2030(Ezzati, 2002) A community based study involving 1000 participants of age 30 years and above in Africa reveals that prevalence of hypertension 8.73%(Kaufman, 1997) A prevalence study at Thailand among participants above 35 years shows prevalence of hypertension in Thai adults was 9.6%(Aekplakorn, 2008). This variation is possible because the study at Africa and Thailand has participants from much younger age groups and studies have proved that with advancement of age prevalence increases. Population based studies from four Asian countries shows that peak age of hypertension Indian participants were 60 – 69 years.(Anand, 2010)

In this study income was significantly associated with the quality of life. Low income means low
quality of life, high income high quality of life. People with low income has many cons because
less money no good treatment and no good medication, ultimately quality of life gets hampers.
Socio-economic status markers such as urban or rural dwelling and individual, local or
national economic condition is also associated with hypertension. For the impact awareness
of hypertension prevention and control and better accessibility and adherence to medical
treatment among higher socioeconomic status groups, as well as low birth weight and higher
job strain among lower socioeconomic status groups(Grotto, 2008). Past Study done in kathmandu it was stated that low income status has the bad impact on the people's health and the has the low and moderate quality of life.

In this study comorbidities were also significantly associated with the quality of life of hypertensive patients. Untreated hypertension leads to many complications which

includes CVD, stroke, MI and many more, more complications is directly hampers the quality of life, less or no complications makes the quality of life better of an individual. According to the study done in Our study shows that comorbidities and the number of medications are the primary factors associated with lower HRQoL in hypertensive patients. This finding is consistent with that of Wang et al.,6 who used a longer version of the health survey (SF-36).6 Similarly, a study by Aydemir et al.14 suggested that heart failure, previous stroke, CAD, myocardial infarction, and peripheral artery disease influenced the HRQoL in hypertensive patients. In addition, we found that lower HRQoL in hypertensive patients was associated with diabetes, chronic respiratory diseases (e.g., COPD and asthma), kidney stones,

5.4 Conclusions

- Cross sectional study was undertaken among 300 participants from the study area areas; Kathmandu Diabetes and Thyroid Centre Pvt. Ltd situated in Lalitpur, Nepal. For response collection from the participants, structured questionnaire was used and supervised by the researcher herself. Collected data were managed in excel and data analysis has been done in SPSS. Descriptive statistics were done to review the characteristics of the participants and analytical statistics were conducted to find the relationship between the dependent and independent variable.
- Our research finding is similar to the past researches finding, we found that Socio-demographic factors like; Age, income, as we know increasing age or ageing affects quality of life of the patients as due to ageing less physical activity, prone to disease retired life less income, so it effects quality of life. according to research by the Centers for Disease Control and Prevention, age is especially a concern in the elderly population. Chronic diseases like stroke, heart disease, and cancer were among the leading causes of death among Americans aged 65 or older in 2002, accounting for 61% of all deaths among this subset of the population. the majority of chronic conditions are found in individuals between the ages of 18 and 64, it is estimated that at least 80% of older Americans are currently living with some form of a chronic condition, with 50% of this

population having two or more chronic conditions. The two most common chronic conditions in the elderly are high blood pressure, with diabetes, coronary heart disease, and cancer also being reported among the elder population. So age is also one of the influencing factor affecting quality of life of the hypertensive patient.

Social factors, e.g., socioeconomic status, education level, and race/ethnicity, are a major cause for the disparities observed in the care of chronic disease Lack of access and delay in receiving care result in worse outcomes for patients from minorities and underserved populations Those barriers to medical care complicate patients monitoring and continuity in treatment. People with low income status can't afford the treatment which are needed for them and can't receive the treatment right on time. Due to which many disease people are suffering. So from my research it is found that income level also affects quality of life of the hypertensive patients.

From the result of my research However, Gender. Marital Status, Ethnicity and Education level, duration of hypertension and taking hypertensive medication were not associated with the quality of life of the hypertension patient. Among the research specific independent variable, Smoking tobacco and drinking alcohol were not associated for affecting the quality of life of hypertension patient.

The frequency of chronic disease is higher in low socioeconomic groups Moreover, comorbidity is more frequently observed in low socioeconomic groups and various studies indicate that QOL is lower in these groups. Hypertension, or high blood pressure, already carries such a high risk of stroke that complications from additional problems adds more medications, expense and stress to a dangerous disease. from thus research finding comorbidity has a strong relation with QOL of hypertensive patients.

5.5 Recommendations for policy makers

recommendations for, public health authorities, governing and monitoring bodies and various stakeholders are as follows:

policy makers

- In our research we found that the age 51-60 were mostly hypertensive patients, policy makers should focus on the elderly because at a certain age they are retired from work and there will be no source of income so beneficiary should be provided for the elderly and free medical checkups should be managed.
- Policy makers should build the free physical activity site where the elderly can jog and do their daily physical activity for free.
- To detect the hidden cases hypertension, several screening program should be launched in close coordination with Nepal Medical Council across Kathmandu. Furthermore, if adequate budget is available then nationwide screening program should be launched.
- Hypertension should be tackled through a programmed that addresses total cardiovascular risk and should be an integral part of the national strategy for prevention and control of non-communicable diseases.
- Public health policy must address hypertension because it is a major cause of disease burden. Interventions must be affordable, sustainable and effective so that there is a less chance of comorbidities like stroke, MI, CVD, and renal disease.

- **future researchers**

- There are several other factors like blood cholesterol, psychological factors, etc. which can be associated with prevalence of hypertension that can be studied in future research.
- A large population based research (hypertensive patient) can be more fruitful in determining the risk factors for complications.

- Anthropological studies can also give us a clearer picture about elderly's perception to hypertension and their belief in allopathic medicine.
- A Case Control or Cohort study in a larger hypertensive population can be a better design to see the association of various risk factors that contribute to the prevalence of hypertension and complications among hypertensive populations.
- A study on cost effectiveness of hypertensive management can be conducted.

- Besides the independent factors considered as the factors responsible for affecting the quality of life of the hypertension patient, there could be other factors which could be equally responsible for affecting the quality of life. The future researchers need to figure out the other prominent factors responsible for affecting the quality of life.
- Future researchers can extend their study area, time horizon and take the larger sample size for getting better result and also other statistical tool for getting the better and accurate result.
- As this research was conducted for the academic purpose, the concerned bodies need to carry out further research at the significant level. So that they will be able to formulate the various policies and programs.
- This research finding can work as first hand research outcome that the patient and their family member can use to enhance the quality of life and minimize the physical and mental implication on the parties who are directly and indirectly involved.

- **Clinical practice**

- would like to recommend clinicians to focus in areas for patient which is mostly affected by hypertension while making treatment decisions, this would increase the physician's understandings how disease affects patient's quality of life enabling the physicians to assess changing the quality of life over the course of treatment making health care more meaningful for the patients.
- Skilled and trained health workers at all levels of care are essential for the success of hypertension control program. Training of health workers should be institutionalized within medical, nursing and allied health worker curricula. The majority of cases of hypertension can be managed effectively at the primary health-care level. Primary health-care physicians as well as trained non-physician health workers can play a very important role in detecting and managing hypertension.
- As the rate of hypertension patients is increasing day by day, hospital and health personnel should also start making people aware to minimize the impact of hypertension to the quality of life.

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APPENDIX

Appendix A: Questionnaire

General Information:

1.1 Name: ……

1.2 Age: …….

1.3 Gender: Male ☐ Female ☐

1.4 Marital status: Unmarried ☐ Married ☐
Widow/Widower ☐ Divorcee ☐

1.5 How much do you earn?
Less than 10,000rs ☐ 10,000-30,000rs ☐ more than 30,000rs ☐

1.4 Caste/Ethnic group: Brahmin ☐ Chhetri ☐

Newari ☐ Others ☐

1.5 Education Level

No school ☐ Grade 1-10 primary level ☐

Grade 10-12 secondary level ☐ bachelor and above ☐

2. Lifestyle:

SMOKING

2.1 Do you smoke?

yes ☐ no ☐

2.2 How long you have been smoking?

< 10 years ☐ more than 10 years ☐

ALCOHOL

2.3 Do you ever Drink Alcohol?

Yes ☐ No ☐

2.4How many drinks do you consume in an average per day?

(*Here social occasions refer to celebration, ceremony, etc*.)

1 - 2 glasses/day ☐ 3 or more glasses/day ☐

Social Occasions ☐

MEDICAL HISTORY

3.1 Have you been diagnosed with diabetes mellitus? Yes ☐

No ☐

3.2 how long have you been diagnosed with hypertension?

Past 1 year ☐ 2-5 years ☐ more than 5 years ☐

3.3 how long have you been on anti-hypertensive medication?

Co morbidities

Do you have a past history of stroke, myocardial infarction and some kind of renal disease?

Yes ☐ NO ☐

WOQOL-BREF

QUESTIONNAIRE

Please read each question, assess your feelings, and circle the number on the scale for each question that gives the best answer for you.

		Very poor	Poor	Neither poor nor good	Good	Very good
1(G1)	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2 (G4)	How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last two weeks.

		Not at all	A little	A moderate amount	Very much	An extreme amount
3 (F1.4)	To what extent do you feel that physical pain prevents you from doing what you need to do?	1	2	3	4	5
4(F11.3)	How much do you need any medical treatment to function in your daily life?	1	2	3	4	5
5(F4.1)	How much do you enjoy life?	1	2	3	4	5
6(F24.2)	To what extent do you feel your life to be meaningful?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	Extremely
7(F5.3)	How well are you able to concentrate?	1	2	3	4	5
8 (F16.1)	How safe do you feel in your daily life?	1	2	3	4	5
9 (F22.1)	How healthy is your physical environment?	1	2	3	4	5

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks.

		Not at all	A little	Moderately	Mostly	Completely
10 (F2.1)	Do you have enough energy for everyday life?	1	2	3	4	5
11 (F7.1)	Are you able to accept your bodily appearance?	1	2	3	4	5
12 (F18.1)	Have you enough money to meet your needs?	1	2	3	4	5
13 (F20.1)	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
14 (F21.1)	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

		Very poor	Poor	Neither	Good	Very good

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				poor nor good		
15 (F9.1)	How well are you able to get around?	1	2	3	4	5

The following questions ask you to say how **good or satisfied** you have felt about various aspects of your life over the last two weeks.

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16 (F3.3)	How satisfied are you with your sleep?	1	2	3	4	5
17 (F10.3)	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18(F12.4)	How satisfied are you with your capacity for work?	1	2	3	4	5
19 (F6.3)	How satisfied are you with yourself?	1	2	3	4	5
20(F13.3)	How satisfied are you with your personal relationships?	1	2	3	4	5
21(F15.3)	How satisfied are you with your sex life?	1	2	3	4	5
22(F14.4)	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23(F17.3)	How satisfied are you with the conditions of your living place?	1	2	3	4	5
24(F19.3)	How satisfied are you with your access to health services?	1	2	3	4	5
25(F23.3)	How satisfied are you with your transport?	1	2	3	4	5

The following question refers to **how often** you have felt or experienced certain things in the last two weeks.

		Never	Seldom	Quite often	Very often	Always
26 (F8.1)	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	1	2	3	4	5

Appendix B: Cost Calculation

1. Trip cost for testing the questionnaires	10,000.00bhat
2. Training cost for data collection team	10,000.00bhat
3. Souvenir to data collection team (NURSES)	12,000.00bhat
4. Trip to collect the questionnaires form	40,000.00bhat
5. Printing and photo copy cost	5000.00bhat
Total	77,000.00bhat

Appendix C: Time Schedule

Activity	2016					2017						
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Literature Review												
Develop proposal												
Proposal examination												
Ethical Consideration												
To respond to the comments from research ethics review												
Try-out the questionnaires												
Set and train the team for collecting data												
Data collection												
Data entry and analysis												
Report writing												
Final examination												
Revise and publication												

Appendix D: Consent Form

Namaste, my name is Dr. SASMRITA BASTOLA and I am from College of Public Health Science Chulalongkorn University for study survey for MPH.

If you agree to participate in this interview, we will talk about your quality of life, dietary habits, alcohol, smoking status, physical activity and stress. The interview is expected to take 15 minutes.

Any information you provide that can identify you will be kept strictly confidential by the parties conducting this study to the maximum extent permitted by the laws of Nepal. These users will use data for academic statistical purposes only.

Your participation is voluntary and you may choose not to answer any or all questions for any reason. In other words, you have the alternative to not participate and there will be no consequences for nonparticipation.

You may contact at +977-9818439386 if you have questions, concerns or complaints about the study or your rights as a participant. If you have any questions for me, please feel free to ask at any time.

Details:

Name:

Age:

Gender:

Date:

नमस्कार, मेरो नाम डाक्टर सस्मिता बास्तोला हो र म College of Public Health Science Chulalongkorn University बाट **MPH** अध्ययनको लागि सर्वेक्षण गर्न आएको हुँ । यस सर्वेक्षणमा सहभागी हुन तपाई सहमत हुनुहुन्छ भने म आज तपाईसंग तपाईको जीवन शैली धूम्रपान , रक्सी /मदिरा शारीरिक गतिविधि ,आहाराको बानी चिकित्सा इतिहास र तनाब तथा भावना सम्बन्धी बारेमा कुराकानी गर्ने छौं यो सर्वेक्षण पूरा गर्न १५ मिनेट भन्दा धेरै समय लाग्ने छैन।

नेपालको कानुनले प्रदान गरेको अधिकतम हदमा रही , तपाइले दिनु भएको कुनै जानकारी जसले तपाइको पहिचान गर्छ भने त्यस्तो जानकारीहरू सर्वेक्षण गर्ने टोलि, र अनुसन्धानकर्ताहरूले अत्यन्त गोपनीय राखिने छ| यी प्रयोगकर्ताहरूले अध्ययनको तथ्याङ्किय उद्देश्यका लागि मात्र तपाईको उत्तरहरु प्रयोग गर्नेछ।

यस सर्वेक्षणमा तपाइको सहभागीता स्वैच्छिक हुनेछ र तपाईं कुनै पनि कारणले गर्दा कुनै पनि वा सबै प्रश्नहरूको उत्तर नदिनु सक्नु हुनेछ | अर्को शब्दमा भन्नु पर्दा , तपाई यसमा भाग नलिन पनि सक्नु हुनेछ र भाग नलिएकोमा कुनै परिणाम पनि आउने छैन |

यदि तपाई लाई यस सर्वेक्षणबारे कुनै प्रश्न, चासो वा गुनासो छ भने वा एक सहभागीको अधिकारको रूपमा , कृपया+ ९७७ ९८१८४३९३८६ मा मलाई सम्पर्क गर्न सक्नु हुने छ |यदि मेरो लागि तपाइको केहि प्रश्न भए सोध्नुहोस|

नाम:

उमेर:

लिङ्ग:

VITA

Full Name : Dr. SASMRITA BASTOLA

Address: Bishalnagar.kathmandu

Phone: 0646970991

Email: koena_42@hotmail.com

Date of birth: 3rd jan 1986

Nationality: Nepali

Sex: Female

Education/Qualifications

Course Completed Institution Date of Completion

Bachelor of Medicine, Bachelor of Surgery (MBBS) Zainul Haque Sikder womens medical college and hospital pvt ltd 2012

HSEB Class 12 Sagarmatha higher secondary school 2004

HSEB Class 10 St mary's high school 2002

Professional Work Experience

Medical Officer: GANDAKI MEDICAL COLLEGE AND HOSPITAL in emergency department Jan, 2013 to July,2013.

Medical Officer: METRO CITY HOSPITAL in emergency department from July 2013 to Dec 2013.

Medical Officer:PADMA POLYCLINIC in emergency department from july 2013 to October 2013.