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A Study to Assess the Level of Knowledge Regarding the Prevention of Hypertension among the Peoples Visiting the OPD in Selected Hospitals, Indore, with View to Developing an Information Booklet

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Abstract

A study to assess the level of knowledge regarding the prevention of hypertension among the peoples visiting the opd in selected hospitals, Indore, with view to developing an information booklet. The objectives of the study are, to assess the level of knowledge score regarding prevention of hypertension among the peoples visiting the OPD. To find out the association between selected demographic variables with the pre-test knowledge score of peoples visiting the OPD. To develop an information booklet. sample size was 60 Peoples, non-probability Convenience sampling technique was used, and data was collected by Structured questionnaire. Data analysed by Descriptive statistical calculations i.e., mean & standard deviation will be used to identify existing knowledge scores of peoples visiting the OPD from selected hospitals of Indore. -Chi-square test will also be used to identify association between test knowledge scores of peoples visiting the OPD with their demographic variables studying selected nursing colleges. Result of the study in the knowledge test, 10 (16.7%) peoples visiting the OPD got poor knowledge Grade, 45 (75.0%) peoples visiting the OPD got average knowledge Grade, 5 (8.3%) peoples visiting the OPD got good knowledge Grade, none of them peoples visiting the OPD got excellent Grade. The knowledge score was 15.80 ± 2.14.In this study mostly peoples having average knowledge score regarding prevention of hypertension, analysis indicated that peoples are need to improve the knowledge regarding prevention of hypertension. thus, after the analysis and interpretation of the data, we can conclude that the hypothesis H0 that, “There will be no significant association between the knowledge score on prevention of hypertension and the selected demographic variables among peoples visiting the OPD is being accepted. Study concludes that mostly peoples having average knowledge score regarding prevention of hypertension, analysis indicated that peoples are need to improve the knowledge regarding prevention of hypertension.

CHAPTER-1
INTRODUCTION
1.1 BACKGROUND OF THE STUDY

High blood pressure, also referred to as hypertension, is a major global health concern and a key risk factor for renal failure, stroke, cardiovascular illnesses, and other complications. A systolic blood pressure of 140 mmHg and/or a diastolic blood pressure of 90 mmHg are common definitions of this chronic medical illness, which is characterised by consistently high blood pressure values (Whelton et al., 2018). Hypertension continues to rank among the world's leading causes of morbidity and mortality despite though it is a preventable and treatable condition.

Early Descriptions and Ancient Understanding

Although the definition and management of hypertension, or high blood pressure, have changed considerably over the years, the condition has been acknowledged in medical literature for decades. Ancient civilisations including Egypt, China, and Greece are the first to mention diseases that resemble hypertension. An ancient Egyptian medical literature called the Ebers Papyrus (c. 1550 BCE) lists symptoms of hypertension, including headaches, lightheadedness, and stroke-like illnesses. Similarly, although they had accurate techniques to measure blood pressure, Hippocrates (460–370 BCE) and Galen (129–216 CE) connected obesity and dietary practices to cardiovascular illnesses.

The Discovery of Blood Circulation (17th Century)

A major breakthrough in understanding hypertension came with William Harvey (1578–1657), who discovered the circulation of blood and described how the heart pumps blood through the body. This laid the foundation for future cardiovascular research. However, physicians at the time still lacked the tools to measure blood pressure directly.

The First Blood Pressure Measurement (18th–19th Century)

The first direct measurement of blood pressure was performed by Stephen Hales in 1733. He inserted a glass tube into the artery of a horse and observed fluctuations in blood pressure. While crude, this experiment marked the beginning of scientific studies on blood pressure regulation.

In the 19th century, Jean Léonard Marie Poiseuille (1797–1869) refined the technique by using a mercury manometer, allowing for more accurate blood pressure readings. Later, Scipione Riva-Rocci (1863–1937) developed the first practical sphygmomanometer in 1896, which led to the modern method of non-invasive blood pressure measurement.

Hypertension as a Disease (20th Century)

Before the 20th century, hypertension was not considered a distinct medical condition but rather an inevitable part of aging. In the early 1900s, physicians began to recognize that persistently high blood pressure was associated with heart disease, stroke, and kidney failure.

- Frederick Mahomed (1849–1884) was among the first to suggest that hypertension could be a primary disease rather than a secondary symptom of other conditions.
- Sir Thomas Clifford Allbutt (1836–1925) introduced the concept of “hyperpiesia,” referring to high blood pressure leading to organ damage.
- Harry Goldblatt (1891–1977) conducted experiments in the 1930s that linked kidney function to hypertension, leading to the discovery of the renin-angiotensin system.

Modern Advances in Hypertension Treatment (Mid to Late 20th Century)

By the mid-20th century, researchers had developed a clearer understanding of hypertension and its consequences. The Framingham Heart Study, launched in 1948, provided crucial epidemiological data,

proving that high blood pressure significantly increases the risk of heart disease and stroke.
The 1950s and 1960s saw the introduction of the first antihypertensive drugs, including:

- Diuretics (e.g., chlorothiazide) – First approved in 1958, these drugs helped lower blood pressure by reducing fluid retention.
- Beta-blockers (e.g., propranolol) – Developed in the 1960s, these medications slowed heart rate and reduced blood pressure.
- ACE inhibitors and calcium channel blockers – Introduced in the 1970s and 1980s, these revolutionized hypertension management by targeting the renin-angiotensin system and vascular resistance.

Hypertension in the 21st Century

Today, hypertension is recognized as a major public health challenge, affecting approximately 1.28 billion adults worldwide (WHO, 2021). Advances in technology, genetics, and pharmacology have led to better diagnostic methods, personalized treatments, and public health strategies for preventing hypertension-related complications.
The 2017 ACC/AHA Hypertension Guidelines lowered the definition of hypertension to 130/80 mmHg, emphasizing the importance of early intervention and lifestyle modifications (Whelton et al., 2018). Modern research continues to explore genetic predispositions, the gut microbiome's role in blood pressure regulation, and novel drug therapies for resistant hypertension.

Epidemiology and Public Health Impact

According to the World Health Organization (WHO), approximately 1.28 billion adults globally suffer from hypertension, with a significant proportion unaware of their condition (WHO, 2021). The prevalence is notably higher in low- and middle-income countries, where healthcare access and awareness programs are often limited. Uncontrolled hypertension contributes to nearly 7.5 million deaths annually, accounting for around 12.8% of total deaths worldwide (Mills et al., 2020).

Pathophysiology and Risk Factors

Hypertension develops due to complex interactions between genetic, environmental, and lifestyle factors. Key contributors include:

- **Unhealthy Diet:** High sodium intake, low potassium consumption, and excessive saturated fat intake increase the risk of hypertension (Appel et al., 2017).
- **Physical Inactivity:** Sedentary lifestyles are associated with increased blood pressure and cardiovascular risks (Booth et al., 2017).
- **Obesity:** Excess body weight significantly raises the likelihood of developing hypertension (Hall et al., 2019).
- **Smoking and Alcohol Consumption:** Both habits contribute to vascular dysfunction and elevated blood pressure (Oparil et al., 2018).
- **Genetic and Age-related Factors:** Family history and aging play a crucial role in the onset of hypertension.

Challenges in Hypertension Management

Despite advancements in antihypertensive medications and lifestyle modification strategies, controlling hypertension remains a challenge. Poor adherence to treatment, limited healthcare access, and lack of awareness contribute to low hypertension control rates (Burnier & Egan, 2019). Additionally, hypertension often presents with no obvious symptoms in its early stages, leading to delayed diagnosis and treatment.

1.2 NEED OF THE STUDY

Rising Prevalence and Public Health Burden

Hypertension affects nearly 1.28 billion adults globally, with two-thirds of cases found in low- and middle-income countries (World Health Organization [WHO], 2021). In India, the prevalence of hypertension is estimated to be 22.6%, with urban areas reporting higher rates than rural regions (Basu et al., 2022). The disease burden is further aggravated by poor awareness, inadequate healthcare infrastructure, and low treatment adherence.

Need for Early Detection and Intervention

One of the biggest challenges in hypertension management is that it is often asymptomatic in the early stages, earning it the title of a "silent killer" (Mills et al., 2020). Many individuals remain undiagnosed until they develop severe complications, such as heart disease or stroke. Therefore, studies focusing on early detection, community-based screening programs, and risk factor identification are crucial to reducing the long-term impact of hypertension.

Role of Lifestyle and Socioeconomic Factors

Modifiable risk factors such as dietary habits, physical inactivity, obesity, stress, smoking, and alcohol consumption significantly contribute to hypertension (Oparil et al., 2018). Research is needed to evaluate the effectiveness of lifestyle interventions, public health policies, and targeted community programs in controlling hypertension, particularly in resource-limited settings.

Challenges in Hypertension Control and Management

Despite the availability of antihypertensive medications, treatment adherence remains low, with only 50% of diagnosed individuals achieving adequate blood pressure control (Burnier & Egan, 2019). Factors such as medication costs, side effects, and lack of patient awareness contribute to this issue. Investigating barriers to treatment adherence and developing patient-centered healthcare models can help improve long-term disease management.

Regional and Socioeconomic Disparities

Studies indicate that hypertension prevalence varies widely across different states in India, with Madhya Pradesh reporting hypertension rates ranging from 20.8% to 25.7% depending on the urban or rural setting (BMC Public Health, 2024). Understanding regional disparities, socioeconomic determinants, and healthcare accessibility issues can guide the formulation of effective public health interventions.

At National Level

Hypertension, commonly known as high blood pressure, is a significant public health concern in India, with its prevalence varying across different regions, age groups, and between genders.

Prevalence Rates:

Overall Prevalence: Recent studies indicate that approximately 22.6% of the Indian population is affected by hypertension. Specifically, 24.1% of men and 21.2% of women are hypertensive.

Urban vs. Rural Disparities: The prevalence is notably higher in urban areas, ranging between 25% and 30%, compared to 12% to 14% in rural regions.

Age-Related Trends: Hypertension prevalence increases with age, reaching approximately 48.4% among individuals aged 60 and above.

Regional Variations: Certain states exhibit higher prevalence rates. For instance, Sikkim reports a prevalence of 37.9%, Punjab 34.2%, and Kerala 31.1%.

Projected Trends:

Projections suggest a rising trend in hypertension cases. The prevalence among Indian men is expected to

increase from 24% in 1980 to 28% in 2015, and among women from 22% to 27% during the same period.

Incidence Rates:

While specific nationwide incidence rates are limited, the increasing prevalence indicates a growing number of new hypertension cases annually. Factors such as urbanization, lifestyle changes, and dietary habits contribute to this upward trend.

At Madhya Pradesh

Times of India July 2023, Indore: Hypertension cases have surged exponentially between April 2022 to March 2023 from corresponding period in fiscal year 2021-22 as many asymptomatic cases detected due to intense screening.

The district witnessed an increase of hypertension cases to 24,307 in fiscal year 2022-23, which was around six times higher than 3998 new patients in 2021-22, showed CMHO office records.

A prospective cohort study conducted in 2021 on Incident hypertension in urban slums of central India: in this author established a cohort of adults residing in urban slums of Bhopal, who participated in the baseline cardiovascular risk assessment study, conducted from November 2017 to March 2018. At least three blood pressure checks were performed at baseline in order to diagnose hypertension, which was defined as a systolic blood pressure of 140 mm Hg or a diastolic blood pressure of 90 mm Hg on two separate occasions. Participants who were not diagnosed with hypertension were monitored from April to June 2019. Of the 5673 persons evaluated at baseline, 4185 did not have hypertension, of whom 3199 (76.4%) were subsequently monitored for a median of 1.25 years (IQR 1.08–1.60), and 170 (5.31%) were found to have incident hypertension. For every 100 person-years of follow-up, the overall incidence rate of hypertension was 4.1 (95% CI 3.54 to 4.75). Significant predictors of incident hypertension on multivariate analysis included age (relative risk/RR 1.98; 95% CI 1.19 to 3.3, for age >60 years), being in the first and second wealth tertile (T-1 RR 1.85; 95% CI 1.17 to 2.91), and illiteracy (RR 1.94; 95% CI 1.31 to 2.86). The likelihood of developing hypertension was considerably higher in those with prehypertension at baseline (RR 2.72; 95% CI 1.83 to 4.03).

Given the asymptomatic nature of hypertension in its early stages, many individuals are unaware that they have the condition until they experience a serious cardiovascular event. This highlights the need for proactive prevention strategies to reduce the incidence of hypertension and its associated complications.

Importance of Preventive Research

Preventive research in hypertension is essential for several reasons:

Reducing Incidence and Prevalence: Primary prevention strategies aim to reduce the number of new cases of hypertension by addressing risk factors before they lead to elevated blood pressure. Research in this area focuses on understanding the underlying causes of hypertension and developing interventions that can be implemented at the population level. These interventions may include public health campaigns promoting healthy eating, physical activity, and smoking cessation, as well as policies aimed at reducing salt and sugar consumption.

Addressing Modifiable Risk Factors: Many of the risk factors for hypertension, such as diet, physical inactivity, and stress, are modifiable through lifestyle changes. Research is needed to identify the most effective strategies for encouraging these changes in diverse populations. This includes studying the impact of different dietary patterns, such as the DASH (Dietary Approaches to Stop Hypertension) diet, which has been shown to lower blood pressure. Additionally, research into behavioral interventions that promote sustained physical activity and stress management is crucial.

Early Detection and Intervention: Research into early detection methods, such as improved screening programs and biomarkers for prehypertension, is vital. Early intervention can prevent the progression to full-blown hypertension, reducing the long-term health risks. Developing and validating tools that allow for the early identification of individuals at high risk for hypertension can lead to more targeted and effective prevention efforts.

Addressing Health Inequities: Hypertension disproportionately affects certain populations, including older adults, individuals with lower socio-economic status, and racial and ethnic minorities. Research is needed to understand the social determinants of health that contribute to these disparities and to develop culturally appropriate prevention strategies. This includes exploring the role of social stressors, access to healthy foods, and healthcare access in the development of hypertension.

Cost-Effectiveness of Prevention: Preventing hypertension is not only beneficial for public health but also cost-effective. Treating hypertension and its complications, such as heart disease and stroke, requires significant financial resources. Research into the cost-effectiveness of preventive measures can provide evidence to support the allocation of resources toward prevention rather than treatment. By demonstrating that prevention is a more economical approach, research can influence policy decisions and healthcare priorities.

Long-Term Benefits: Preventive research also aims to understand the long-term benefits of early lifestyle interventions. Studies that track individuals over time can provide valuable data on how early prevention efforts impact health outcomes in the long term. This research can help refine and improve prevention strategies, ensuring they are effective in reducing hypertension rates and improving overall cardiovascular health.

Challenges and Future Directions

Despite the clear need for research in hypertension prevention, there are challenges that must be addressed. These include the complexity of changing long-standing lifestyle habits, the need for interdisciplinary research approaches, and the difficulty in implementing and scaling prevention programs across diverse populations and healthcare settings.

Future research should focus on personalized prevention strategies that take into account genetic predispositions, environmental factors, and individual behaviors. Additionally, there is a need for more research on the impact of emerging risk factors, such as air pollution and climate change, on blood pressure levels.

Conclusion

The prevention of hypertension is a critical area of research that has the potential to significantly reduce the global burden of cardiovascular disease. By focusing on primary prevention, early detection, and addressing health inequities, research can lead to more effective strategies for controlling blood pressure and improving public health outcomes. Investing in preventive research is not only essential for saving lives but also for ensuring the sustainability of healthcare systems worldwide.

According to researchers experience in the clinical area and based on the review she needs to do the research on the topic **A STUDY TO ASSESS THE IMPACT OF PLANNED TEACHING PROGRAM ON KNOWLEDGE REGARDING PREVENTION OF HYPERTENSION AMONG THE PEOPLES VISITING THE OPD IN SELECTED HOSPITALS, INDORE"**

1.3 STATEMENT OF A PROBLEM

A STUDY TO ASSESS THE LEVEL OF KNOWLEDGE REGARDING THE PREVENTION OF HYPERTENSION AMONG THE PEOPLES VISITING THE OPD IN SELECTED HOSPITALS, INDORE, WITH VIEW TO DEVELOPING AN INFORMATION BOOKLET

1.4 OBJECTIVES OF THE STUDY

The objectives of the study are,

1. To assess the level of knowledge score regarding prevention of hypertension among the peoples visiting the OPD.
2. To find out the association between selected demographic variables with the pre-test knowledge score of peoples visiting the OPD
3. To develop an information booklet.

1.5 OPERATIONAL DEFINITION

knowledge: It refers to the ability of the peoples visiting the OPD to respond to question

Peoples: in this study it refers to Peoples who are visited in OPD and age above 25 years.

Hypertension: In this study it is a condition in which the pressure in your blood vessels is consistently too high. It's usually defined as a blood pressure of 140/90 mmHg or higher.

1.6 HYPOTHESIS

1. **H_{02}:** There will be no significant association between the knowledge score on prevention of hypertension and the selected demographic variables among peoples visiting the OPD
2. **H_2:** There will be a significant association between the knowledge score on prevention of hypertension and the selected demographic variables among peoples visiting the OPD.

1.7 ASSUMPTION

1. Peoples may have deficit knowledge regarding prevention of hypertension.

1.8 DELIMITATION OF THE STUDY

1. Sample size is delimited to 60
2. The study is delimited to selected hospitals.

1.9 CONCEPTUAL FRAME WORK

The health belief model (HBM) is a social mental health behavior change model created to clarify and foresee health related practices, especially as to the take-up of health services. The HBM was created during the 1950s by Irwin M. Rosenstock, Godfrey M. Hochbaum, S. Stephen Kegeles, and Howard Leventhal social analysts at the U.S. General Health Service and stays a standout amongst other known and most broadly utilized speculations in health behaviour research. The HBM proposes that individuals' convictions about medical issues, saw advantages of activity and hindrances to activity, and self-viability clarify commitment (or absence of commitment) in health advancing behavior.[91]

The Health Belief Model is a framework for motivating people to take positive health actions that uses the desire to avoid a negative health consequence as the prime motivation. The Health Belief Model can be an effective framework to use for emotional compliance and mental health screening of B. Sc Nursing students.

The health belief model was used in the research by the researcher wanted to understand how peoples visiting the OPD responded to a campaign towards the questionnaires for online education. The health belief model diagram in this lesson is depicted in the context of online education on children. In the diagram, the students on the left doubts there is risk and is thus not likely to take action. Note the factors in the middle, however, that influence the person's perception of the situation. The researcher helps the peoples visiting the OPD to find out and may convince them if there is any risk related to their health by

online education. These cues to action may influence the person to change an unhealthy behaviour into a healthy one.

The setting of the study set as selected hospital of Indore and the sample of the study was peoples visiting the OPD of children. In this model researcher assess the level of knowledge score regarding prevention of hypertension among the peoples visiting the OPD along with socio demographic characteristics.

The model is based on the theory that a parent's willingness to assess the level of knowledge score regarding prevention of hypertension among the peoples visiting the OPD so that they can change their behaviour and habit according to that. The following factors are primarily included in the study and that factors are as follows.

In the present research study, it includes:

Perceived Susceptibility: In this, assess the level of knowledge regarding prevention of hypertension among peoples visiting the OPD in accordance with variables set by investigator. In a view that positive outcome of information booklet are essentials for peoples health.

Perceived severity: Here it refers to the most of the peoples visiting the OPD have complaint of increase the blood pressure due to this daily routine is disturbed. Hypertension causes headache blurred vision, shortness of breath, chest pain etc.

Tools: In this present part of the frame work depicts the self-structured knowledge questionnaires used in the present study to assess the level of knowledge regarding prevention of hypertension among peoples visiting the OPD.

Perceived benefits: In this study it refers to possibly by allowing them to do exercise, have healthy diet, decrease stress for prevention of hypertension. They Being able to practice daily.

Perceived Barrier: It depicts that people had a problem due to daily routine of work. They do to do the exercise and not having meal on time.

Self-Efficacy: peoples should aware about healthy diets and exercise. Information booklet is providing a information regarding how to prevent hypertension

Evaluation: It refers to the Assessment of the level of knowledge regarding prevention of hypertension among peoples visiting the OPD determined through analysis and interpretation of statistical data using descriptive and information statistics.

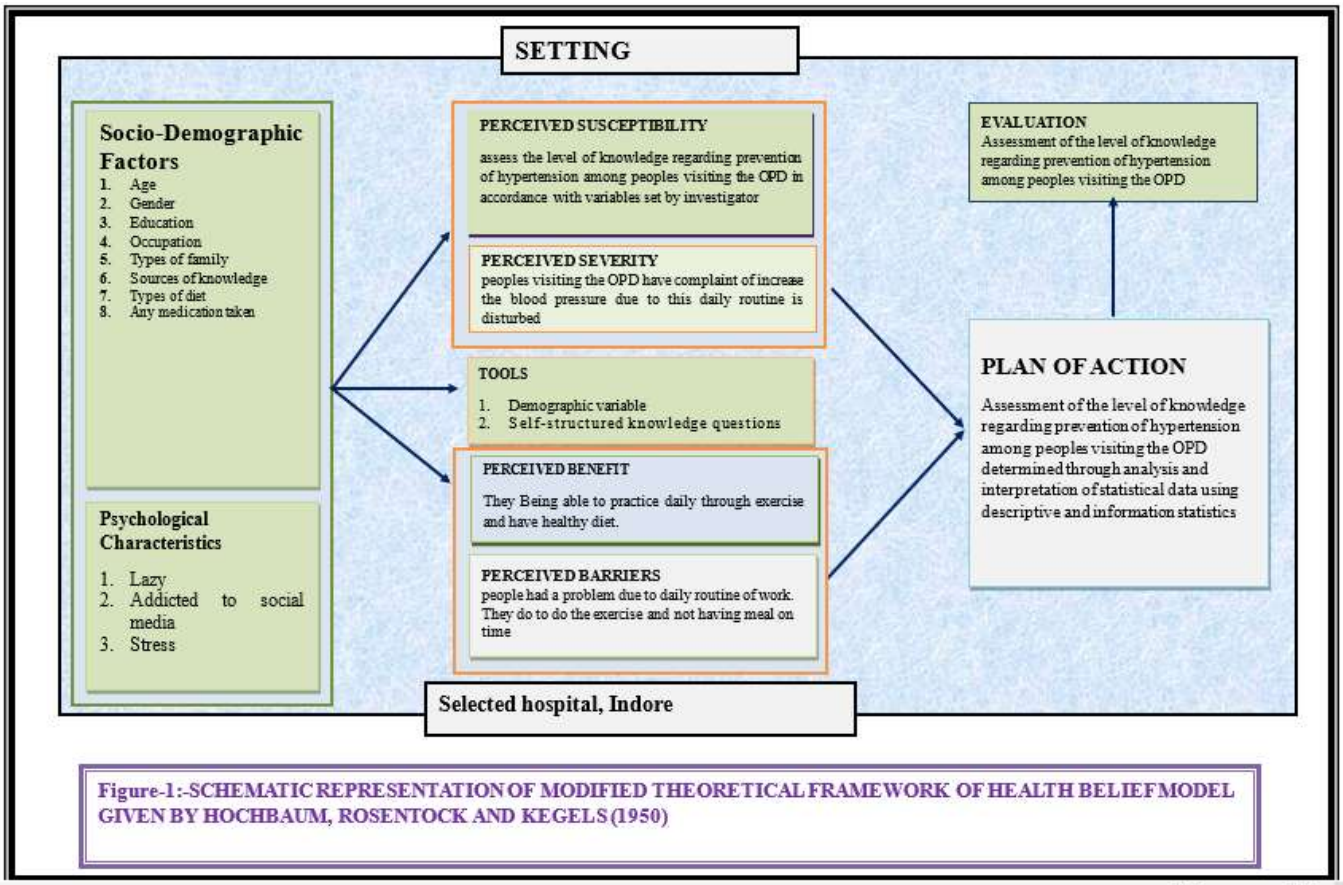

Figure-1:-SCHEMATIC REPRESENTATION OF MODIFIED THEORETICAL FRAMEWORK OF HEALTH BELIEF MODEL GIVEN BY HOCHBAUM, ROSENTOCK AND KEGELS (1950)

1.10 SUMMARY

This chapter dealt with statement, objectives of the study, operational definitions, hypothesis, assumption, delimitation, projected outcome of the study and conceptual framework.

CHAPTER -2
REVIEW OF LITERATURE

A literature review is a body of text aims to review the critical points of knowledge on a particular topic of research.

ANA, (2000)

Before any exploration can be begun whether it is a solitary report or a lengthy venture, a literature review of past examinations & encounters identified with proposed examination ought to be finished. Literature review is a record of what is as of now had some significant awareness of a specific peculiarity. The fundamental reason for literature review is to pass on to pursuers about the work previously done & information and thoughts that have been now settled on a specific subject of examination.

Review of literature can help to clarify a problem, shed light on appropriate methodologies and contribute towards the development of conceptual framework.

In review of literature we review, critique, and synthesize the literature for our topic of interest with the goal of generating new perspectives related to our research problems

(Torraco, 2005)

Literature review is a tiring task, but this is significant course of research is to be doing well. It provides a foundation for future investigations, justifying the need for the collection of data, and relates the findings

of the other studies in the hope of establishing a comprehensive body of scientific knowledge in professional disciplines.

A review of related research was done by the investigator to gain in depth knowledge of the selected problem under study.

The review of literature has been organized under the following headings:

1. Review of Literature related to epidemiology, incidence and prevalence of hypertension.
2. Review of Literature related to causes, risk factors and sign and symptoms of hypertension.
3. Review of Literature related to knowledge regarding management and prevention of hypertension for hypertension.

2.1 Review of Literature related to epidemiology, incidence and prevalence of hypertension

Sy R G et al (2022) Epidemiology of Hypertension in Asia. Asia is the largest and most populous continent, with roughly 60% of the total population in the world. It is divided into five regions, namely Middle East, East Asia, South Asia, Southeast Asia, and Central Asia. Southeast Asian (SEA) nations (such as Malaysia, Indonesia, Thailand, Singapore, Philippines, Vietnam, Laos, Cambodia, Myanmar, Brunei, and East Timor), Japan, and Middle Eastern nations comprise a large portion of the examined literature. The incidence, prevalence, and risk factors of hypertension in Asian nations are covered in this chapter. It should be noted that diverse definitions of hypertension and blood pressure regulation, as well as different approaches to taking blood pressure readings, are found in the various literature examined here. Each study has a different evaluation period. Particularly for the prevalence and incidence data, care must be taken when interpreting the numbers that are displayed.

Leber L et al (2021) Epidemiology of pulmonary arterial hypertension and chronic thromboembolic pulmonary hypertension: identification of the most accurate estimates from a systematic literature review. In order to get the most reliable figures, the incidence and prevalence estimates of pulmonary arterial hypertension and chronic thromboembolic pulmonary hypertension were thoroughly evaluated in this systematic analysis of the literature and internet publications. We looked through the Medline® and Embase® databases to find publications published between January 1, 2003, and August 31, 2020. The studies were categorised as clinical databases (hospital-based estimates), claims/administrative databases, or registries (population-based estimates). Depending on whether each national centre took part, registries were divided into systematic and non-systematic categories. After removing duplicates, 5414 of the 7309 papers that were found were evaluated, and 33 were included. A clear numerator (diagnosed population) and a denominator based on the population or hospital, or all primary data needed to compute estimates, were prerequisites for inclusion. From a database, just the most current publication was included. Very few research included children, and the majority were based on data from Europe. The range of estimates per million for the incidence (1.5–32) and prevalence (12.4–268) of pulmonary arterial hypertension and chronic thromboembolic pulmonary hypertension (0.9–39) and prevalence (14.5–144) in adults was around 20 times. The following ranges in adult estimates per million were obtained from recent (≤5 years) national systematic registry data from centralised healthcare systems: roughly 5.8 for the incidence of pulmonary arterial hypertension, 47.6–54.7 for the prevalence of pulmonary arterial hypertension, 3.1–6.0 for the incidence of chronic thromboembolic pulmonary hypertension, and 25.8–38.4 for the prevalence of chronic thromboembolic pulmonary hypertension. For the scientific community to plan for resource allocation and increase detection rates, these estimations were thought to be the most accurate and consistent.

Mills K T et al (2020) The global epidemiology of hypertension. Hypertension is the leading cause of cardiovascular disease and premature death worldwide. Owing to the extensive use of antihypertensive drugs, worldwide mean blood pressure (BP) has stayed constant or has declined slightly during the past four decades. On the other hand, hypertension has become more common, particularly in low- and middle-income (LMIC) nations. In 2010, an estimated 1.39 billion adults globally, or 31.1% of the total population, suffered from hypertension. Compared to high-income nations (28.5%, 349 million people), the prevalence of adult hypertension was greater in LMICs (31.5%, 1.04 billion people). Some of the regional heterogeneity in the prevalence of hypertension may be explained by differences in the levels of risk factors for the condition, such as an unhealthy diet, excessive salt intake, low potassium intake, obesity, alcohol consumption, and physical inactivity. There are few thorough evaluations of the economic burden of hypertension, and despite its rising prevalence, the percentages of people with hypertension who are aware of it, treat it, and control their blood pressure remain low, especially in LMICs. Future research is necessary to precisely estimate the prevalence and economic impact of hypertension globally, as well as to test implementation techniques for hypertension prevention and control, particularly in low-income populations.

Legese, N., & Tadiwos, Y. (2020) Epidemiology of hypertension in Ethiopia: a systematic review. Several papers from various databases, such as PubMed, Cochrane, and Google Scholar, were searched in order to do a quantitative epidemiological literature review. Studies on hypertension carried out in Ethiopia that were population-, hospital-, and institution-based were included in the search. Two reviewers used data collecting formats to independently extract all of the data. Lastly, 22 studies were considered in this study. Due to variations in study sites, source populations, and participant mean ages, different studies revealed varying prevalences of hypertension. The prevalence of hypertension was found to be 9.3–30.3% in population-based studies, 7–37% in institution-based studies, and 13.2–18.8% in hospital-based studies. Between 37 and 78 percent of hypertensive patients in the research that made up this study were unaware of their blood pressure status. Urban dwellers had a high prevalence of hypertension, and a number of characteristics were linked to the condition, including obesity, diabetes mellitus, age, sex, alcohol use, physical inactivity, and being overweight or having a family history of hypertension. Ethiopia had a high prevalence of hypertension, which necessitates the adoption of prompt and suitable measures for the disease's prevention and management.

Gupta R et al (2019) Emerging trends in hypertension epidemiology in India. These studies have also reported that hypertension is increasing and there is low awareness and control. To ascertain the actual prevalence of hypertension in the nation, two recent investigations were carried out using standardised instruments and nationwide sampling. In a large population-based sample (n = 799,228), the Fourth National Family Health Survey assessed hypertension and found that 13.8% of men and 8.8% of women (11.3% total) aged 15–49 and 15–54 had the condition. According to the Fourth District Level Household Survey, which included more representative data (age > 18 years, n = 1,320,555), 25.3% of people had hypertension, with a higher prevalence in men (27.4%) than in women (20.0%). In India, this corresponds to 207 million people with hypertension (112 million males and 95 million women). Using the 2017 American criteria, the prevalence would be far greater. According to the Global Burden of Diseases survey, 1.63 million fatalities in India were attributed to hypertension in 2016, up from 0.78 million in 1990 (+108%). In 1990, there were 21 million disease-adjusted life years (DALYs) related to hypertension; by 2016, that number had risen to 39 million (+89%). Social factors of hypertension are significant, and states in India with higher levels of urbanisation, social development, and human advancement also have higher

rates of hypertension. Although there is a favourable correlation between healthcare access and quality and the prevalence of hypertension, there is a poor correlation between the two. To lower cardiovascular morbidity and mortality, the Indian health system should prioritise improved hypertension screening and management.

Tatsumi, Y., & Ohkubo, T. (2017). Hypertension with diabetes mellitus: significance from an epidemiological perspective for Japanese. They examined significant observational research on the prevalence of hypertension and diabetes mellitus, the binominal risk of both conditions, and the risk of their coexistence, primarily from Western and Japanese countries. According to our research, 20% of patients with hypertension also had diabetes mellitus, and 50% of patients with diabetes also had hypertension. Individuals with diabetes mellitus or hypertension were 1.5–2.0 times more likely to have both diseases. These outcomes were comparable for Western nations and Japan. It was found that the coexistence of diabetes mellitus and hypertension unquestionably increased the risk of complications regardless of the country, even though it was challenging to compare the results between Japan and Western nations because the risks were estimated using widely disparate statistical analyses. Future developments will bring about changes to the definition, prevalence, and medical management of diabetes mellitus and hypertension. It is crucial to update the evidence for Japan and other nations and to build up epidemiological knowledge of diabetes mellitus and hypertension in order to implement early intervention based on the most recent research to avoid serious complications.

Padwal, R. S., et al (2016) Epidemiology of hypertension in Canada: an update. Several papers from various databases, such as PubMed, Cochrane, and Google Scholar, were searched in order to do a quantitative epidemiological literature review. Ethiopia had a high prevalence of hypertension, which necessitates the adoption of prompt and suitable measures for the disease's prevention and management.The most recent directly measured prevalence, awareness, and control estimates were obtained from the Canadian Health Measures Survey (2012–2013); crude and age-standardized self-reported prevalence was evaluated from the National Population Health Survey and Canadian Community Health Survey (1994–2013); administrative data-ascertained prevalence and mortality trends were evaluated from the Canadian Chronic Disease Surveillance System (1998–2010); and antihypertensive drug prescribing trends and costs were examined from the Intercontinental Medical Statistics Health data (2007–2014). In 2012–2013, 68.1% of Canadian adults had illness control, and 22.6% of them had hypertension (defined as medication treatment for high blood pressure or blood pressure ≥ 140/90 mm Hg). The prevalence of diabetes in Canadians (defined as BP ≥ 130/80 mm Hg or pharmacological treatment) was 67.1%, while 60.1% of cases were under control. Over the course of over two decades, the prevalence of self-reported hypertension has increased by about two times. Canadians with hypertension are seeing a decrease in age-standardized mortality rates (from 9.4 to 7.9 deaths per 1000 people), however not as much as those without the condition. Since 2007, the volume of prescriptions for antihypertensive drugs has consistently climbed despite declining drug costs. In Canada, the prevalence of hypertension is still on the rise. Antihypertensive medication use has increased, and control has improved. To significantly enhance the management and treatment of hypertension in Canada, concerted efforts are required.

Uva M S et al (2014) Epidemiological research on the incidence and prevalence of hypertension in the Portuguese population: A scoping review. Using two information sources, B-on and PubMed, the scoping review was carried out in June 2013 to find published research on the incidence and prevalence of hypertension with data gathered between 1995 and 2013 and 2005 and 2013, respectively. Findings: Out of 527 papers, 14 on the incidence and two on the prevalence of hypertension were chosen. The findings

indicate a greater number of studies on populations in Portugal's north; a seeming dearth of published studies that specifically target the populations of the Alentejo and Algarve; lengthy intervals between data collection and results publication (up to nine years); significant variation in measurement techniques; and infrequent data stratification by age and gender.. Conclusions- Monitoring the incidence and prevalence of hypertension in Portugal is made more difficult by the geographic asymmetry in coverage of the Portuguese population, the infrequency of stratifying results by gender and age, and variations in blood pressure testing techniques that are not mentioned in the majority of research.

2.2: Review of Literature related to causes, risk factors and sign and symptoms of hypertension.

Mohammed, L. L. M., et al (2020) Exercise-induced hypertension in healthy individuals and athletes: is it an alarming sign?. Elevated blood pressure (BP) during exercise that is greater than 190 mm Hg for women and greater than 210 mm Hg for men is known as exercise-induced hypertension (EIH). Athletes and healthy people without cardiovascular (CV) risk factors are more likely to have EIH. Exercise has been shown to lower cardiovascular risk and hypertension, but the development of EIH and the associated cardiovascular risk call for a study of the pathophysiological pathways that lead to EIH. There are currently no set standards for the management of EIH, nor are these mechanisms causing EIH entirely understood. The pathophysiological causes, prognostic significance, clinical implications, potential treatments, and future approaches in the management of EIH are all covered in detail in this article.

Abate A T et al (2019) Hypertensive Patients' Knowledge of Risk Factors and Warning Signs of Stroke at Felege Hiwot Referral Hospital, Northwest Ethiopia: A Cross-Sectional Study. The purpose of this study was to evaluate the awareness of stroke risk factors and warning symptoms among hypertensive patients at Felege Hiwot Referral Hospital in Northwest Ethiopia in 2018. Approach. A cross-sectional study with an institutional basis was carried out from May 1 through May 30, 2018. 278 hypertensive patients in all were enlisted, and study participants were chosen using a systemic random sample technique. A questionnaire given by the interviewer was used to gather data. After being imported into Epi Info 7, the gathered data was transferred to SPSS version 22 for examination. P values ≤ 0.05 were deemed statistically significant in the usage of binary and multivariable logistic regressions. The outcome. 278 of the 284 hypertension patients who were chosen reacted fully, yielding a response rate of 97.9%. Only 18.3% of them had good knowledge on stroke, with more than three-fourths of them—214 (77%) and 201 (72.3%)—not recognising any risk factors or warning symptoms of stroke, respectively. Physical inactivity was the risk factor for stroke that respondents knew about the most (21.58%), whereas hypertension was the risk factor that they knew about the least (3.6%). According to the answers, the most frequently recognised stroke warning sign was abrupt weakness on one side of the body (35.97%). Reading and writing proficiency, youth, urban residency, and having a healthy monthly income were all strongly correlated with hypertension patients' general awareness of stroke. These results highlight the importance of educating the public and social media about stroke risk factors and warning symptoms, as well as providing health education to high-risk, low-income individuals.

Zehra S N et al (2019) Effect of hypertension duration on relationship between blood pressure and signs and symptoms in hypertensive patients: a cross-sectional survey. 250 patients who were 18 years of age or older, self-reported having hypertension, and taking antihypertensive medication participated in a cross-sectional study. A structured questionnaire was used to gather data, and a stethoscope was used to assess the blood pressure using a sphygmomanometer. The chi-square test was used for inferential analysis, and a significance level of 0.05 was established. Findings: Among patients with a history of hypertension lasting at least five years, headaches (P=0.021), oedema (P=0.034), increased frequency of urination

(P=0.031), sleep apnoea (P=0.016), palpitations (P=0.005), and confusion (p=0.021) were all significantly linked to systolic blood pressure, while only increased frequency of urination (P=0.009) was linked to diastolic blood pressure. Additionally, sleep apnoea (P=0.015) and palpitations (P=0.035) were substantially linked with systolic blood pressure in patients with less than five years of history of hypertension, while sleep apnoea (P=0.048) and palpitations (P=0.028) were significantly associated with diastolic blood pressure in the same patients (P=0.03). Conclusions: According to the study's findings, those with higher blood pressure were more likely to exhibit hypertension's symptoms. Additionally, there were more signs and symptoms of systolic hypertension in patients with longer durations of hypertension.

Adnan A et al (2018). Prevalence of clinical signs and symptoms of hypertension: A gender and age-based comparison. 372 patients who were 18 years of age or older, self-reported having hypertension, and were taking antihypertensive medication participated in a cross-sectional study. For six months, from June to November 2017, a multicenter study was conducted at the Myanmar Health Centre and the Urban Health Centre. A clinical examination and a questionnaire were used to assess the signs and symptoms of hypertension. A stethoscope and sphygmomanometer were used to assess blood pressure. Conclusion: There were differences in the prevalence of smoking, chest pain, eyesight issues, exhaustion, and confusion between the sexes. Additionally, there were differences between the two age groups in the prevalence of smoking, headache, vertigo, chest discomfort, vision issues, dyspnoea, increased frequency of urination, nausea, sleep apnoea, irregular heartbeat/palpitations, exhaustion, and confusion.

Pinto V J and George P (2017) Awareness on risk factors and warning signs of stroke among individuals with hypertension. They have attempted to determine if people with hypertension are aware of the risk factors and stroke warning symptoms. Goal 1: To determine how well-informed people with hypertension are about the risk factors for stroke. 2. To find out how well-informed people with hypertension are about stroke warning symptoms. SUPPLIES AND TECHNIQUES A tertiary care hospital in Southern India served as the site of this descriptive cross-sectional investigation. A total of 200 hypertensive people were chosen at random, and they were interviewed in person using a closed-ended questionnaire. SPSS version-23 was used to tabulate and analyse the gathered data. RESULTS Of the 200 hypertension individuals, 87 (43.5%) were female and 113 (56.5%) were male. In this study, 59.5% of participants recognised four stroke warning symptoms, while 85% of participants identified four risk factors. The most commonly identified risk factor was hypertension (94%) and was followed by stress (73%), diabetes mellitus (75%), smoking (81.5%), and inactivity (82.5%). 96% of participants saw facial deviation as a warning indicator for stroke. Individuals who were younger, more educated, and wealthier had a statistically significant (p-value) CONCLUSION It was discovered that individuals with hypertension had a strong understanding of stroke risk factors and warning indicators. Health care professionals have a significant role in educating the public about different stroke prevention strategies. KEYWORDS: Southern India, Stroke, Awareness, Hypertension, Risk Factors, Warning Signs.

Amen M R (2016) Assessment of hypertensive patients' knowledge about lifestyle risk factors and warning signs of stroke. Goals to evaluate the awareness of hypertensive patients on stroke warning symptoms and lifestyle risk factors. Approach 114 hypertension patients who visited the chronic disease centre in Sulaimani City participated in a descriptive study. The survey was conducted between February and April of 2015. Relative information about patients' traits and awareness of lifestyle risk factors and stroke warning symptoms has been gathered via a questionnaire. Descriptive statistics (frequency, percentage, and mean) and inferential statistics (F-test and t-test) were used to examine the data, and a value of $p > 0.05$ was deemed statistically significant. Conclusions Hypertensive patients complained of

a lack of knowledge regarding stroke lifestyle risk factors and warning signs; physical inactivity was less identified risk factor; young, female, high level of education, and longer duration of disease tended to have higher knowledge. Patients' knowledge of stroke lifestyle risk factors and stroke warning signs was low, at 55.3 and 76.3%, respectively; physical inactivity has a lower percentage (17.5) among lifestyle risk factors. Patients' age, gender, education levels, and duration of hypertension all had an impact on their knowledge.

2.3 Review of Literature related to knowledge regarding management and prevention of hypertension for hypertension

Hannan M et al (2024) Lifestyle Management and Prevention of Hypertension. The available evidence is robust in supporting therapeutic lifestyle changes for the prevention and management of hypertension and as adjuncts to pharmacotherapy of hypertension. The available data from more than 50 years of study on the use of lifestyle modifications to control hypertension is thoroughly discussed in this chapter. Evidence now available suggests that exercise training and physical activity lower blood pressure by 2–9 mmHg via a number of advantageous physiological processes. Lower blood pressure by as much as 2 to 11 mmHg is linked to a healthy diet that includes a lot of fruits, vegetables, and whole grains, as well as less salt and more potassium. Blood pressure can drop by as much as 2 to 10 mmHg if weight loss and maintaining a healthy body weight are achieved by extensive lifestyle modifications. Guidelines suggest that individuals with hypertension should get lifestyle modifications in addition to their drugs, even though pharmacotherapy is the cornerstone of treatment for this condition.

Valenzuela P L et al (2021) Lifestyle interventions for the prevention and treatment of hypertension. Despite significant advancements in pharmaceutical therapies, hypertension remains a major cause of premature death, affecting approximately one-third of the adult population worldwide. The use of lifestyle modifications to prevent and cure hypertension is becoming more and more supported by research. The epidemiological evidence for the preventive and antihypertensive benefits of major lifestyle interventions—such as regular exercise, controlling body weight, and maintaining a healthy diet—as well as less conventional suggestions like stress reduction and the encouragement of healthy sleep patterns in conjunction with circadian entrainment is summarised in this review. The physiological mechanisms that underlie the positive effects of these lifestyle interventions on hypertension are also covered. These mechanisms include decreased sympathetic overactivation, non-traditional mechanisms like increased myokine secretion, and improvements in vascular health through improved redox and inflammatory status in addition to the prevention of traditional risk factors like obesity and insulin resistance.

Carey R M et al (2018) Prevention and control of hypertension: JACC health promotion series. The primary risk factor for cardiovascular disease, hypertension, is caused by a confluence of social, environmental, and genetic factors. Overweight/obesity, poor diet, high sodium and low potassium intake, lack of physical activity, and alcohol use are examples of environmental variables. Population-based and/or targeted methods can be used to prevent and control hypertension. Interventions to improve awareness, treatment, and control in individuals are part of the targeted strategy for managing hypertension. Interventions aimed at achieving a modest drop in blood pressure (BP) across the board are part of corresponding population-based programs. Higher rates of blood pressure control are linked to minimising therapeutic inertia, optimising adherence, and having a regular source of care. A multilevel strategy for managing hypertension is incorporated into the Chronic Care Model, which is a cooperative partnership between the patient, clinician, and health system. A paradigm shift to team-based care and the

application of proven BP-controlling techniques are necessary to optimise the prevention, diagnosis, and treatment of hypertension.

Butalia S et al (2018) Hypertension Canada's 2018 guidelines for the management of hypertension in pregnancy. They exhibit hypertension. The first evidence-based Canadian guidelines for treating hypertension during pregnancy. About 7% of pregnancies in Canada have hypertension, which is common and needs to be effectively managed to lower difficulties for the mother, foetus, and infant. These guidelines were created in collaboration with the Society of Obstetricians and Gynaecologists of Canada because of their significance, with the primary goal being to enhance the care of pregnant women who have hypertension. Separate guidelines are issued for the diagnosis, evaluation, treatment, and prevention of hypertension in adults and children. Seven suggestions for the treatment of both mild and severe hypertension in pregnancy are included in the initial Hypertension Canada guidelines. We offer recommendations for blood pressure objectives, first- and second-line antihypertensive drugs, and the threshold for starting antihypertensive therapy for pregnant women with nonsevere hypertension (systolic blood pressure 140-159 mm Hg and/or diastolic blood pressure 80-109 mm Hg). To lessen the negative effects on mothers, foetuses, and newborns, severe hypertension (systolic blood pressure > 160 mm Hg and/or diastolic blood pressure ≥ 110 mm Hg) necessitates immediate antihypertensive treatment. There is discussion of the particular supporting data and reasoning for each of these recommendations.

Leung A A et al (2017) Hypertension Canada's 2017 guidelines for diagnosis, risk assessment, prevention, and treatment of hypertension in adults. Evidence-based guidelines for the diagnosis, evaluation, prevention, and treatment of hypertension are revised every year by Hypertension Canada. Ten new guidelines are being introduced this year. Five of the earlier guidelines have been eliminated, and three have been updated. The age and frailty criteria that were previously used to determine whether to start antihypertensive medication have been eliminated. All people with increased average systolic nonautomated office blood pressure (non-AOBP) readings ≥ 140 mm Hg should be evaluated for antihypertensive medication, especially if they have independent cardiovascular risk factors or macrovascular target organ damage. Fixed-dose single-pill combinations are now advised as a first line of treatment for people with diastolic hypertension (with or without systolic hypertension). Pills with an angiotensin receptor blocker or an angiotensin-converting enzyme inhibitor combined with a calcium channel blocker or diuretic are preferred. Longer-acting medications are favoured if a diuretic is chosen as monotherapy. Lowering diastolic non-AOBP to ≤ 60 mm Hg in patients with established ischaemic heart disease should be done with caution, particularly if left ventricular hypertrophy is present. Systolic non-AOBP lowering to less than 140 mm Hg is not advised within the first 24 hours following a hemorrhagic stroke. Lastly, recommendations for the screening, early diagnosis, evaluation, and management of renovascular hypertension resulting from fibromuscular dysplasia are now given. There is discussion of the particular supporting data and reasoning for each of these recommendations.

CHAPTER- III

RESEARCH METHODOLOGY

Research methodology is the way to systematically solve the research problems. The methodology of the research indicates the general pattern of organizing the procedure together with valid and reliability data for problem under investigator.

Polit D.F. & Hungler B.P. (2009)

Research methodology could be defined as a way to solve the research problem systematically. It deals with the defining the problems, formulation of hypothesis, methods adopted for data collection and statistical techniques used for analysing the data with logical reason behind it.

Basavanthappa B.T. (2000)

Research methodology describes rationale for use of explicit methodology or procedures used to distinguish, select, & analyse data applied to understanding examination issue, subsequently, permitting pursuer to basically evaluate study's overall validity & reliability.

The aim of research methodology partition is to promulgate to readers what researcher did, to solve research problem or to report research question. Section deals with major methodological decisions & often affects rationales for those decisions. It also indicates universal outline for forming way for empirical project together with manner of achieving valid & reliable facts for enquiry.

This part agreement with methodology of present study, which includes: research approach, research design, setting of study, Variables under study, Study populace, sample & sample selection technique, Development & description of tool, Validation of tools, pilot project, Reliability of tool, Ethical consideration, Data gathering process & analysis.

In an exposition, theory, scholarly diary article (or practically any conventional bit of examination), you'll discover an exploration system part (or segment) which covers the perspectives referenced previously. Critically, a decent procedure part in a paper or proposal clarifies what methodological decisions were made, yet in addition clarifies why they were made.

All in all, the strategy part ought to legitimize the plan decisions, by indicating that the picked strategies and procedures are the best fit for the examination points and goals, and will give substantial and solid outcomes. A decent examination philosophy gives logically solid discoveries, while a helpless technique doesn't.

3.1 RESEARCH APPROACH

Research approach is the description of the plan to investigate the phenomenon under study in a structured (quantitative), unstructured (qualitative) or a combination of the two methods (quantitative-qualitative integrated approach). Therefore, the approach helps to identify the presence or absence of and comparison between groups. The approach of research study depends on several factor, but primarily on the nature of phenomenon under study.

Sharma S.K. (2011)

Research is a study designed to explore the dimension of a phenomena on the manner in which it is manifested and another factor which with it selected.

Polit D.F. & Hungler B.P. (2009)

Research approach describes plan to investigate phenomenon under study. It decides presence or absence of manipulation & control over variables. It depends on problem, objectives & methods of data collection & analysis. Specialist is utilizing quantitative examination approach when he/she is intrigued to watch cause and impact of connection between attributes.

An approach to research is umbrella that shelters basic procedure for directing project. It involves explanation of plan to consider phenomenon under study in a structured way. The approach assists to elect about presence/absence as well as manipulation & control over variables. The approach of project studies depends on severe factors, but primarily on nature of phenomenon under the study.

Research approach is strategy & procedure that composed of steps of extensive expectations to described techniques of facts gathering, analysis & interpretations. In short research approaches govern research design.

In this study quantitative evaluative research approach was discovered to be suitable for current study to assess the level of knowledge score regarding prevention of hypertension among the peoples visiting the OPD.

3.2 RESEARCH DESIGN

The research design is an overall plan for obtaining answers to the questions being studied and handling sources of the difficulties encountered during research process. It deals with plans for collecting and analysing the data including specification for enhancing the internal and external validity of the study.

Polit D.F. & Hungler B.P. (2009)

Research design refers to analyst's general arrangement for getting replies to explore questions or for testing research theory. It provides explicit blue print of how research activities will be done. It is plan for study providing overall framework for data gathering.

It is master plan to obtain answer to research questions or to test hypotheses. It specifies activities including methods & procedures to collect & analyse information will be done.

It is blueprint to conduct study. It describes research approach, study setting, sampling technique & size, tools & techniques to collect data & analyse it to test research hypotheses.

It is a broader plan to do a study.

This is idea of how, where, when, whom info is to be gathered & analysed.

This is also known as a blue print that research scholar selects to carry out research study.

A significant examination configuration as a rule makes a base inclination in information and builds trust in the exactness of gathered information.

A plan that creates minimal safety buffer in test research is commonly viewed as the ideal result.

In this study Descriptive design was used to assess the level of knowledge score regarding prevention of hypertension among the peoples visiting the OPD.

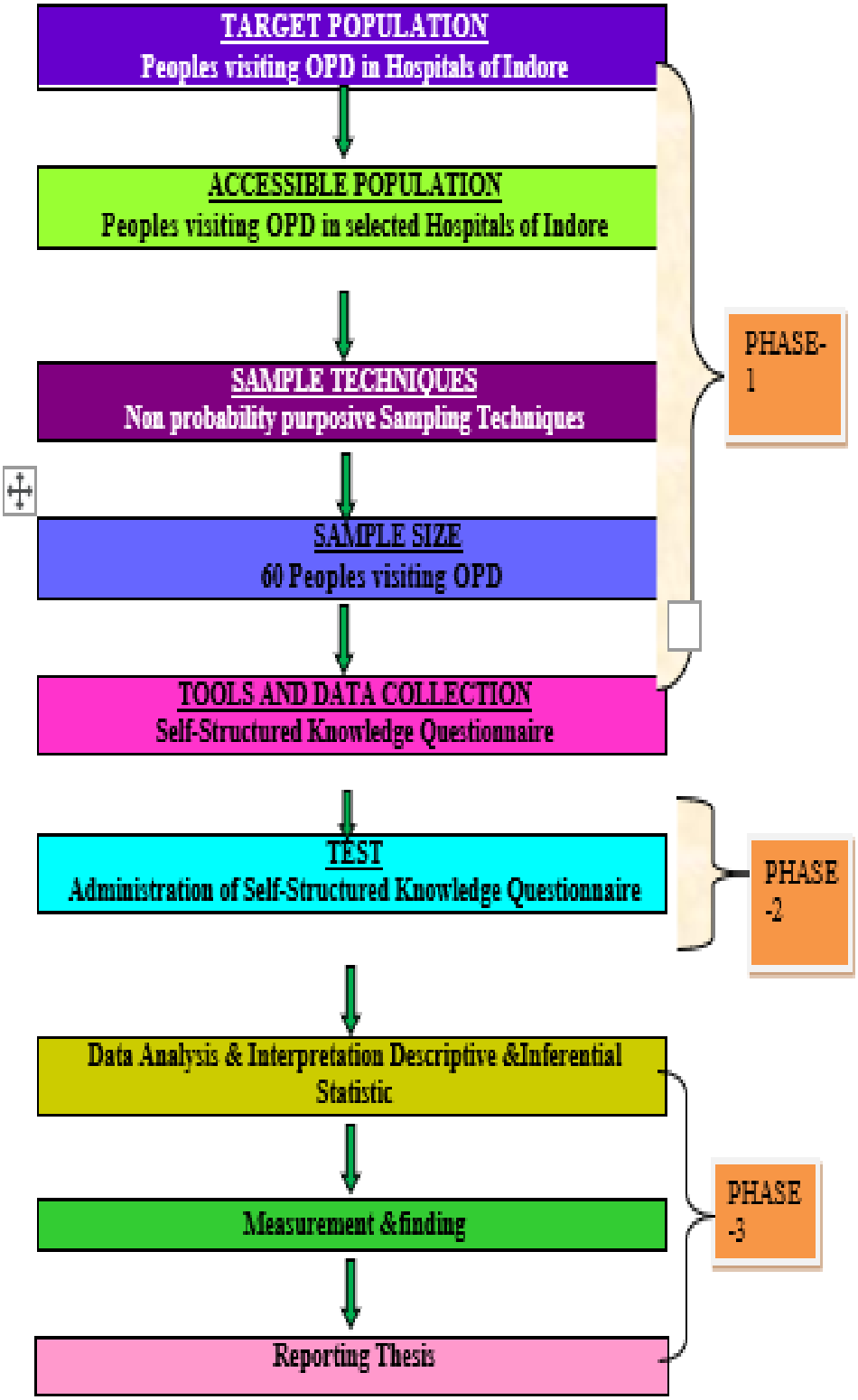

Fig: 3.2 SCHEMATIC PRESENTATION OF RESEARCH DESIGN

PHASE-I

1. In this phase quantitative evaluative research approach is used and samples were selected from non-probability purposive sampling technique.
2. General assessment and self-structured knowledge questionnaire were prepared, the tool was validated by experts and reliability is checked by split-half method.

PHASE-II

1. Test was conducted by administering the self-structured questionnaire to assess the demographic variable and to assess the General assessment tool to evaluate knowledge regarding prevention of hypertension among peoples visiting the OPD.

Phase III

1. Analysis and interpretation of collected data was done to assess the test score of prevention of hypertension.
2. To find the association between test knowledge score on prevention of hypertension and selected demographic variables.
3. Reporting the thesis.

3.3 VARIABLES UNDER STUDY:

Variables are qualities/characteristics of somebody's, things/situations that can change/vary called variables. These are consciously defined to improve measurement or manipulation within study.

Variable is term regularly utilized in project ventures. This is relevant to characterize & distinguish factors while planning quantitative exploration ventures. Variable affects energy in any exploration than constants. This is hence basic for fledglings in examination to have lucidity about these term & connected ideas. Variable, to place in layman articulation is something that can change and additionally can having more than 1 worth. Variable, as name infers, is 1" somewhat that fluctuates".

3.3.1 Research Variable:

In this study, research variable is knowledge on prevention of hypertension among peoples visiting the OPD with cardiac from selected hospitals of Indore.

3.3.2 Socio-Demographic Variable:

Socio-demographic variables are Characteristics & attributes of study objects that may interfere with findings of study are socio-demographic variables. These are age, sex, education, occupation, types of family, types of diet, source of information and any medication.

3.4 SETTING OF STUDY:

Setting is the physical location and condition in which data collection takes place in a study.

Polit D.F. & Hungler B.P. (2009)

Setting alludes to space where review is led. It is actual area & condition wherein info assortment happens in study.

The exploration setting can be viewed as the physical, social and social site in which the research scholar leads the investigation.

The examination setting, the climate inside which studies are run has significant ramifications for test plan, the kind of information that can be gathered and the translation of results.

Setting refers to area where study is conducted. Setting for this study was SAIMS hospital. Selection of setting for present project was done on basis of availability of sample & feasibility of study.

The rational for selecting area as setting of study were: -

1. Peoples visiting the OPD had lack knowledge regarding prevention of hypertension.
2. Availability of sample.
3. Feasibility of conducting study
4. Easy access to sample selected.
5. Cooperative and administrative approval for conducting the study

3.5 POPULATION:

The entire set of individuals or objects having some common characteristics selected for a research study,

Basavanthappa B.T. (2007)

Population is aggregation of subjects in which researcher is interested & confirms to set of specifications. It is set of persons to which outcomes of project are to be widespread.

An examination populace is commonly a huge assortment of people or items that is the primary focal point of a logical inquiry.

In research phrasing the Population can be clarify as an extensive gathering of people, establishments, protests, etc. with have a typical quality that are the enthusiasm of a scientist. The basic qualities of the gatherings recognize them from other individual, foundations, protests, etc. The term universe is likewise utilized as equivalent words to populace.

Any worth which is distinguished or estimated from the qualities of whole populace can be called as Parameter. The way toward directing an overview to gather information from the whole populace is known as an evaluation.

An exploration populace is commonly a huge assortment of people or items that is the fundamental focal point of a logical question. It is to serve the populace that investigates are finished. Notwithstanding, because of the huge sizes of populaces, scientists frequently can't test each person in the populace since it is excessively costly and tedious. This is the motivation behind why scientists depend on examining strategies.

An examination populace is otherwise called a very much characterized assortment of people or articles known to have comparative qualities. All people or items inside a specific populace as a rule have a typical, restricting trademark or attribute.

A populace alludes to any assortment of indicated gathering of people or of non-human elements, for example, objects, instructive establishments, time units, topographical regions, costs of wheat or pay rates drawn by people. A few analysts call it universe. Populace containing a limited count of people, entities or units is class. A populace with boundless number of individuals is named as limitless populace. Number of inhabitants in pressures at different focuses in climate is a case of endless populace. Number of inhabitants in solid people is named as extant populace, while as assortment of all potential manners by which a function can emerge as theoretical populace. All 60 peoples visiting the OPD of particular hospital is an illustration of existent sort of populace and people of heads & tails got by flipping a coin on limitless number of times is an illustration of theoretical populace. The populace is appropriately characterized so that there is no equivocalness with regards to whether given unit has a place with populace. If a population is not properly defined, a research scholar doesn't know what units to consider when selecting the sample. The requirement of defining populace of a study arises from necessitate to specify cluster to which study's outcome can be generalized

Present study populace comprised Peoples visiting the OPD from selected hospitals of Indore.

Population is specified as target & accessible population.

3.5.1 Target Population

The entire population in which the researchers are interested and to which they would like to generalize the research findings.

Basavanthappa B.T. (2007)

Target population is total number of people or objects, which meet designated set of conditions about which researcher would like to make generalization.

In the present study, the target population consisted **Peoples visiting the OPD of hospitals of Indore**.

3.5.2 Accessible Population

The aggregate of cases that conform to designated inclusion or exclusion criteria and that are accessible as subjects of the study.

Basavanthappa B.T. (2007)

Accessible population is totality of cases confirming designated criteria & is accessible to researcher as subjects for study.

It is those, available at the time of conducting the study.

It is the populace in exploration to which the scientists can apply their decisions. It is otherwise called the investigation populace. It is from the available populace that researcher draw their samples.

Accessible population in this study was **Peoples visiting the OPD from SAIMS hospitals of Indore**.

3.6 SAMPLE SIZE

A sample is a small proportion of the population selected for observation and analysis.

Sharma S.K. (2011)

Sample is subset of populace to involve in this project which is selected by researcher. It represents entire research population. Sampling is course of choosing illustrative division of populace to involve in study.

Sample should be a representative unit of population on which researcher are interested to conduct the study.

A sample is cluster of persons, objects/items that are taken from bigger populace for measurement.

The research scholar selected sample of 60 Peoples visiting the OPD from selected hospitals of Indore.

3.7 SAMPLING TECHNIQUE

Sampling technique is a process of selecting a portion of the population to obtain data, regarding a problem.

Sharma S.K. (2011)

Convenience sampling is a non-probability sampling technique where subjects are selected because of their convenient accessibility and proximity to the researcher.

Sharma S.K. (2011)

Sampling technique is identification of process by which entities of sample have been selected. Non-Probability convenient sampling technique is used in this project to select area as well as samples.

Sampling process consists of 7 following stages-

1. Identifying & defining target population
2. Describe accessible population.
3. Ensuring specifying sampling unit, sampling frame,
4. Specifying sample selection methods,
5. Determining sample size,
6. Specifying sampling plan,

7. Selecting a desired sample.

3.8 SAMPLING CRITERIA

INCLUSION CRITERIA

These are lot of predefined attributes used to distinguish subjects who will be remembered for an examination study. Consideration standards, alongside avoidance rules, make up the determination or qualification models used to control in or out the objective populace for an exploration study. Incorporation measures ought to react to the logical target of the examination and are basic to achieve it.

Appropriate choice of incorporation standards will enhance the outside and interior legitimacy of the investigation, improve its achievability, bring down its expenses, and limit moral concerns; explicitly, great choice measures will guarantee the homogeneity of example populace, decrease frustrating, & improve probability of tracking down a genuine connection between openness intercession & results.

In this study-

- Peoples visited in OPD who aged above 25 years.
- Peoples visited in OPD are present at time of the data collection.
- Peoples visited in OPD who are willing to participate in the study.
- Peoples visited in OPD who know Hindi and local language.

EXCLUSION CRITERIA

The avoidance measures incorporate every one of members that meet every one of necessities of concentrate yet scientist can't exclude them in review. Why? Since these respondents have other enthusiastic, clinical/mental conditions that can impact aftereffects of review; or these respondents have pool of readiness & interest that can make review one-sided & mistaken.

The researcher must plainly characterize what prohibition measures are. These measures ought to be totally unrelated so right respondents are chosen.

By unmistakably characterizing measures scientist keeps away from any disarray just as predisposition in review. The outer legitimacy of exploration is improved with right choice & rejection of respondents.

In this study-

- Peoples visited in OPD who are serious ill during the data collection period.
- Peoples visited in OPD who are not willing to participate.
- Peoples visited in OPD are not present at time of the data collection

Potential explanations behind prohibition

There can be many reasons that impact prohibition measures of members.

1. The respondent doesn't give agree to cooperation in review.
2. The members might lose interest & won't stick to review.
3. The member isn't solid.
4. The member has whatever other ailment that can meddle with review & can make it wrong or one-sided.
5. The member is reluctant to give individual data to scientist.

3.9 DEVELOPMENT& DESCRIPTION OF THE TOOL

Data collection tools are the devices used to measure the concept of interest in a research project that a researcher uses to collect data's and it is important that the tool should be valid and reliable.

Polit D.F. & Hungler B.P. (2009)

Data collection step is one of the most important steps of study. Data collection tool should provide necessary data as answer to question in study, so development of data collection tool is important for study. Study is aimed to assess knowledge regarding prevention of hypertension among peoples visiting the OPD. The tool consists of three sections:

3.10.1 Section – I: Demographic data

It described the selected information found relevant and expected to be significant with the other variables which are to be studied.

Basavanthappa (2007).

This part composed of items pertaining to socio demographic information including: age, sex, education, occupation, types of family, types of diet, source of information and any medication

3.10.2 Section –II: Structured questionnaire

A structured questionnaire schedule has been developed to judge knowledge of peoples visiting the OPD regarding prevention of hypertension. Extensive review of literature, expert opinion & investigator's professional experience & informal questions to prevention of hypertension provide basis for construction of structured questionnaire schedule.

Consisted of 30 knowledge items questionnaire, score of one (1) was allotted to exact reply & zero assigned to each incorrect response. Total score of knowledge was 20. Level of knowledge was measured in terms of knowledge scores. Level of knowledge was measured namely poor, average, good, & excellent. Average time given to answer one question was 30 minutes.

To interpret level of knowledge scores were spread as follows: -

Table no. - 3. 10.2.1 Level of score

S. No.	Score	Level of knowledge
1.	0-8	Poor
2.	9-16	Average
3.	17-24	Good
4	25-30	excellent

3.11 VALIDITY OF THE TOOL

Validity is a criterion for evaluating the quality of measure of an instrument. Content validity refers to an instrument or test actually testing what is it is supposed to be test. Polit D.F. & Hungler B.P. (2009

Validity alludes to degree to which instrument estimates what it should quantify. It is appropriateness, completeness & usefulness of interference made from research instrument. Validity is important as it helps to identify appropriate method or test to be used, & method is accurate, cost effective & actually measures idea or construct in research question.

To acquire content legitimacy, instrument was approved from 6 Experts; 6 from Medical Surgical Nursing, 1 from statistician. There was 100% agreement from the side of experts regarding the face validity and content validity of the tool. In wake of getting suppositions from generally specialists & discussion from guide a few changes were finished & it was incorporated into tool.

3.12 RELIABILITY

Pre-testing and establishing reliability are the process of measuring the effectiveness of an instrument. The purpose is to reveal problems relating to answers; compiling and returning the instrument and to point out weakness in the administration of the instrument.

Kothari (2003)

This is degree of consistency & accuracy of items to measure variables. This is major criterion to assess precision & ability of instrument for which it is designed to measure.

Reliability quality alludes to consistency of an action. A test is thought of as solid on off chance that they get similar outcome over & over.

Reliability is defined as ability of an instrument to create reproducible results. There are several ways to measure the reliability for the research tools they are: -stability, internal consistency, equivalence.

To find out the internal consistency the questions was divided into 2 halves section, even questions as X and odd questions as Y. Reliability was found to be **r=0.83** was calculated by using Karl-Pearson's coefficient.

Pearson's correlation co-efficient method for approximation of reliability Interprets; results of correlation coefficient 'r' value was 0.79, which is reliable. (Score above 0.70 indicated satisfactory level of tool reliability).

Thus, by using Karl Pearson's coefficient method stability of tool was assessed; by using split half method the internal consistency of the tool also finds. These tests shows that the tool constructed for assessing the knowledge were reliable

3.13 PILOT STUDY REPORT

A pilot study is referred to a small-scale preliminary try out of the method to be used in actually large study, which makes the researcher to face the problems that can be corrected in proportion for the large study.

Sharma S.K. (2011)

Pilot project is limited scale variant of primary review. This is little preliminary attempt of approach got ready for significant examination study. It helps in improvement of study's methodology; judge feasibility of conducting project, to recognize & remove problem before major study & to decide statistical analysis. Purpose of pilot study was to find out feasibility of conducting study, checking reliability of tool & to describe plan of statistical analysis.

Pilot study is the pre research activity to refine research methodology and plan for appropriate use of resources.

Pilot project is review completed toward finish of arranging expression of exploration, to investigate & test examination components.

Pilot study is a limited scale dress practice, that continue in a manner of speaking real review aside from way that subject who will take an interest in real review aren't utilized.

The pilot study was conducted under the permission of Medical Superintendent of BHRC Hospital, Indore**.** Data for pilot study was collected on the month of **Dec 2024**. Total 6 (10% of populace) samples were selected as per convenient sampling technique.

3.14 Ethical consideration:

-Written approval was got from medical superintendent of chosen selected hospitals of Indore.

-Informed on paper consent was got from each patient with cardiac disorder.

-Confidentiality was maintained.

3.15 DATA COLLECTION PROCEDURE

Data collection is precise & systemic gathering of facts & information relevant to research purpose. Data collection is vital step of research process & hence it is necessary to develop appropriate data collection so that variables can be measured adequately & conclusions can be drawn accurately.

The main research study was conducted in **SAIMS Hospital, Indore**. Data was obtained in the month of Jan 2025. Written consent was obtained from peoples visiting the OPD who was willing to participate. Researcher, before collecting data from peoples visiting the OPD, introduced herself to the subject and explained the nature, purpose & assured confidentiality to obtain responses.

They guaranteed that their reactions will be kept classified & will be utilized for study reason only. Sample consisted of 60 Peoples visiting the OPD from SAIMS hospital of Indore.

Data was collected through pre-test. Average time given to peoples visiting the OPD to complete structured teaching questionnaire was 30 minutes. Information booklet was administered.

3.16 PLAN FOR DATA ANALYSIS

Analysis is the systematic organization and synthesis of research data and the testing of research hypothesis using those data.

Polit D.F. & Hungler B.P. (2009)

Data analysis is systematization of gathered data & application of statistical & logical techniques to answer research questions & to test hypothesis. It renders qualitative information & intelligible data. Collected data would be analysed using both descriptive & inferential statistics.

Analysis & interpretation of data is most vital phase of research process, which involves calculation of particular measures alongside looking for examples of relationship that exists among information gatherings.

As per objectives of project, Data will be analysed as:

-Descriptive statistical calculations i.e., mean & standard deviation will be used to identify existing knowledge scores of peoples visiting the OPD from selected hospitals of Indore.

-Chi-square test will also be used to identify association between test knowledge scores of peoples visiting the OPD with their demographic variables studying selected nursing colleges.

CRITICAL VALUES AND NOTATIONS:

Following are notations used to present significance of observed probability value for scores before & after administration of Information booklet on knowledge:

$^{\otimes}$ Insignificant/not significant (p value: p>0.05)

$^{\wedge}$ Suggestively/poorly significant (p value: p<0.06-p<0.08)

* Moderately significant/significant (p value: p<0.02-p<0.05)

$^{\#}$ Highly/strongly significant (p value: p<0.01-p<0.001)

USED FORMULAE:

$$Mean = \frac{\sum_{i=1}^{n} x_i}{n}, \quad S.D. = \sqrt{\frac{\sum_{i=1}^{n} (x_i - \bar{X})^2}{n-1}} \qquad \text{(If n<30)}$$

and $$S.D. = \sqrt{\frac{\sum_{i=1}^{n} (x_i - \bar{X})^2}{n}} \qquad \text{(If n>30)}$$

where $\sum_{i=1}^{n} x_i$ =Sum of all observations &

n=Number of subjects involved for study according to inclusion criteria.

$\sum_{i=1}^{n}(x_i - \bar{X})^2$ =Sum of squares of deviations from Mean.

The probability value, t/z-value (t-test: when n<30 treated as small sample while Z-test: n>30 treated as large sample) for paired observations is calculated by given formula

$t = \frac{\bar{X}}{S.E.(\bar{X})}$ (df=n-1) or $z = \frac{X - \bar{X}}{SD}$

Wherever, SE of difference between means of paired samples calculated by-

$S.E.(\bar{X}) = \frac{S.D.}{\sqrt{n}}$;

The chi-square test tells the presence/absence of an association between two discrete events & formula to calculate chi-square probability value is as given below-

Formula for 2x2 tables is: $\chi^2 = \frac{(ad-bc)^2 \times N}{C_1 \times C_2 \times R_1 \times R_2}$ where C_1, C_2, R_1 and R_2 are the respective columns and row totals. If any cell frequency less than 5 than the formula will be-

The general formula applicable to any table irrespective of number of rows and columns-

$\chi^2 = \frac{\left(|ad-bc| - \frac{N}{2}\right)^2 \times N}{C_1 \times C_2 \times R_1 \times R_2}$

$\chi^2 = \sum \frac{(O-E)^2}{E}$;

Where O is observed value and E is the expected value.

3.16 Summary-

The chapter delt with research approach and design, study setting, populace, sample and sampling techniques, criteria of sample selection, validity, reliability, data collection procedure and plan for data analysis etc.

CHAPTER –IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the computation of certain measures along with searching patterns of relationship that exit among data group. Thus, in the process of analysis relationships or differences supporting or conflicting with original or new hypotheses should be subjected to statistical tests of significance to determine with what validity data can be said to indicate any conclusions.

Statistical analysis and interpretation of the data are mandatory for scientific evolution of any research study and always based on the translation of information collected during the course of research study in to interpretable convenient and descriptive terms. Both descriptive and inferential statistics have been used in the present study. Descriptive statistics have used to present the features and characteristics of the samples while inferential statistics have used to draw the valid inference from collected data.

ORGANIZATION AND ANALYSIS OF FINDINGS

Raw data of 60 samples was collected and entered in to the computer data base. The response of frequencies were calculated and analyzed by using various statistical tools. The mean and standard deviation of knowledge scores are observed to evaluate significant test score. Paired test for observation was used to compare the mean values of test score.

The data was collected from **60** samples on level of knowledge score regarding prevention of hypertension among the peoples visiting the OPD. The collected information was organized, tabulated, analyzed and interpreted using descriptive statistics. The collected information was organized and presented as follows:

1. Karl-Pearson's coefficient of correlation

$$r = \frac{n\sum xy - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n(\sum y^2 - (\sum y)^2]}}$$

2. Spearman-Brown Prophecy Formula

$$r^1 = \frac{2r}{1+r}$$

3. Arithmetic Mean

$$\bar{X} = \frac{\sum x}{n}$$

4. Standard Deviation

$$(SD)\ \sigma = \sqrt{\frac{\sum(x-\bar{x})^2}{n}}$$

In Continuous Frequency

$$(SD)\ \sigma = \sqrt{\frac{\sum(x-\bar{x})^2 f}{n}}$$

5. Chi-square test with 2 X 2 contingency table

$$x^2 = \frac{N(ab-bc)^2}{(a+b)(c+d)(a+c)(a+d)}$$

6. Chi-square test with Yates correction

$$x^2 = \frac{N[ad-bc-(N/2]^2}{(a+b)(c+d)(a+c)(a+d)}$$

This analysis is divided as follows: -

41 Section A: Frequency and percentage distribution of studied samples according to demographic variables.

4.2 Section B: Assessment of the knowledge test score among the peoples visiting the OPD.

4.3 Section C: Find out the association between the knowledge test score with the selected demographic variable.

4.1 Section- A Frequency and percentage distribution of selected samples.

The present section comprises of selected demographic variables with their tabular and graphic representation which involves the interpretation of data in term of frequency and percentage distribution. The present section also concerned with data pertaining to the baseline information such as age, sex, education, occupation, types of family, types of diet, source of information and any medication.

Table No.4.1.1

Frequency and percentage distribution of peoples visiting the OPD according to age

S. No.	Demographic Variable	No.	Percentage
1.	**Age**		
	a. 21-30 years	4	6.7
	b. 31-40 years	28	46.7
	c. Above 40 years	28	46.7

There were 4 (6.7%) peoples visiting the OPD in the age group 21-30 years, 28 (46.7%) peoples visiting the OPD were in the age group 31-40 years, 28 (46.7%) peoples visiting the OPD were in the age group Above 40 years.

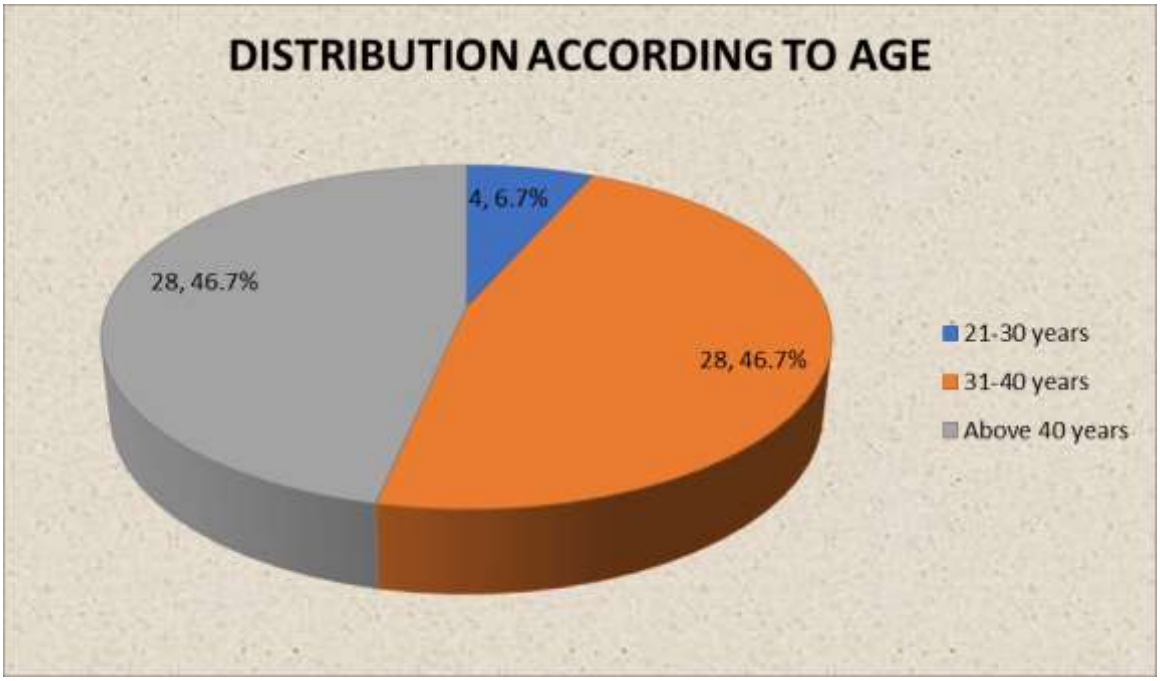

Fig. 4.1.1: Pie diagram showing distribution according to age

Table No. 4.1.2

Frequency and percentage distribution of peoples visiting the OPD according to gender

S. No.	Demographic Variable	No.	Percentage
2.	**Gender**		
	a. Male	36	60.0
	b. Female	24	40.0

There were 36 (60.0%) males and 24 (40.0%) females in the present study. Majority of male found in the study.

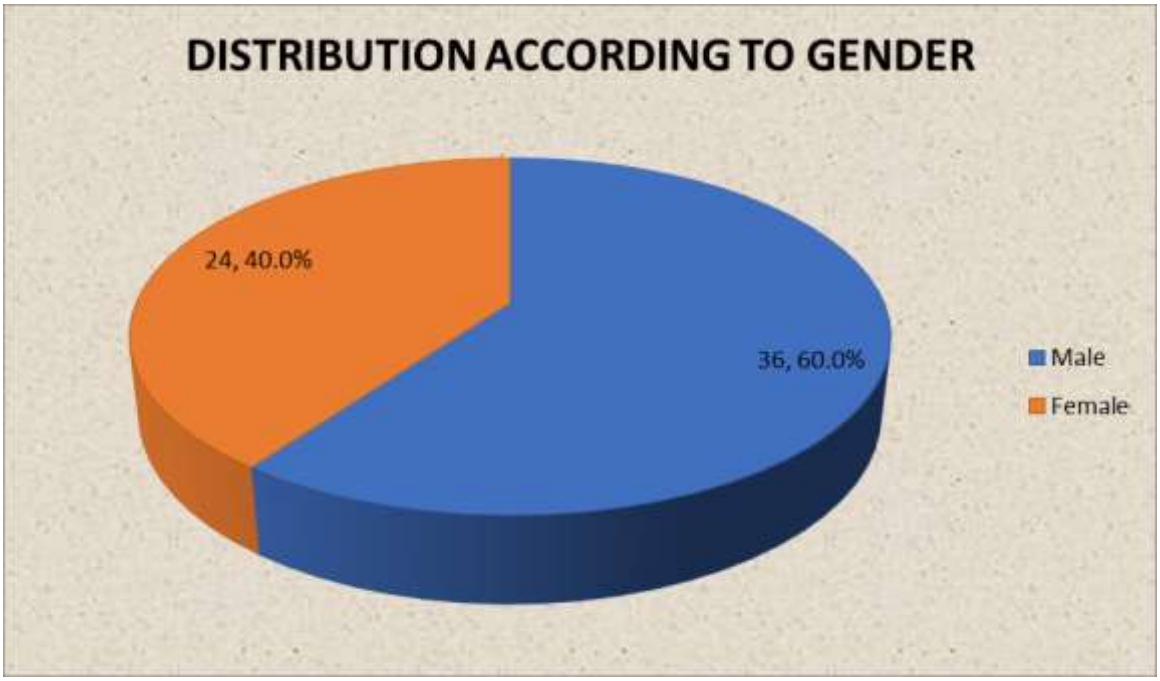

Fig. 4.1.2: Pie diagram showing distribution according to gender

Table No. 4.1.3
Frequency and percentage distribution of peoples visiting the OPD according to educational qualification.

S. No.	Demographic Variable	No.	Percentage
3.	**Educational qualification**		
	a. No formal education	1	1.7
	b. Primary and middle	4	6.7
	c. Secondary and higher secondary	14	23.3
	d. Graduate and above	41	68.3

There 1 (1.7%) people visiting the OPD found to be with No formal education, 4 (6.7%) peoples visiting the OPD had competed primary and middle school, 14 (23.3%) peoples visiting the OPD had competed Secondary and higher secondary school while 41 (68.3%) peoples visiting the OPD had competed Graduation and above Degree.

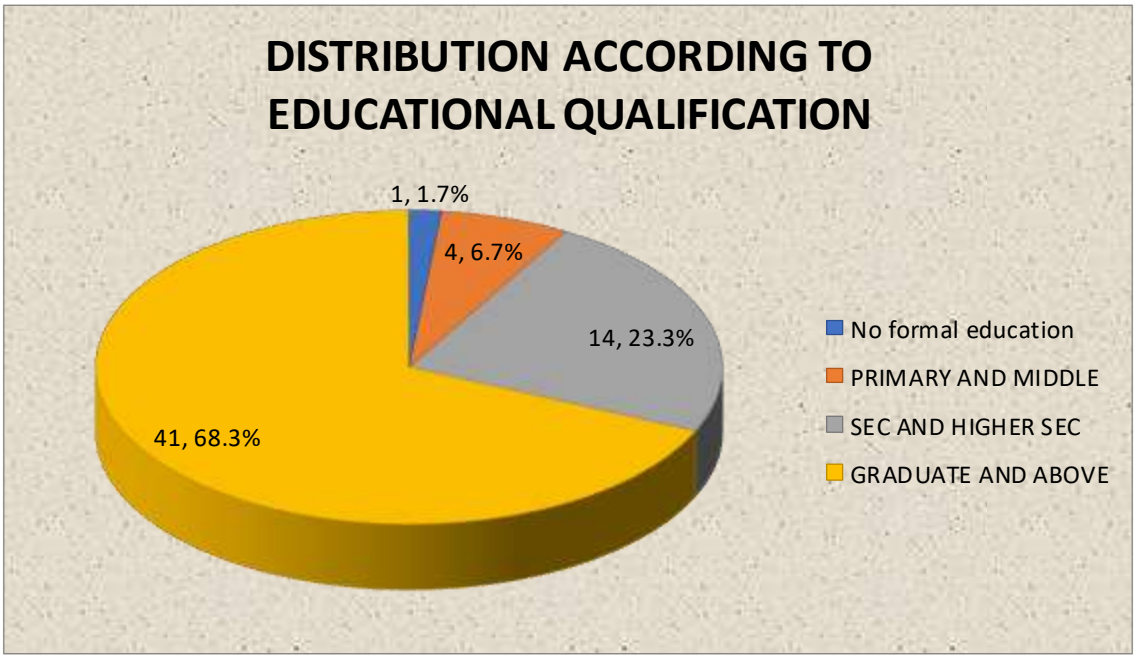

Fig. 4.1.3: Pie diagram showing distribution according to educational qualification

Table No. 4.1.4

Frequency and percentage distribution of peoples visiting the OPD according to Occupation.

S. No.	Demographic Variable	No.	Percentage
4.	**Occupation**		
	a. house wife	23	38.3
	b. private employee	16	26.7
	c. Government employee	9	15.0
	d. Shopkeeper	12	20.0

In this study 23 (38.3%) peoples visiting the OPD were house wife, 16 (26.7%) peoples visiting the OPD were private employee, 9 (15.0%) peoples visiting the OPD were having Government employee while 12 (20.0%) peoples visiting the OPD were shopkeeper.

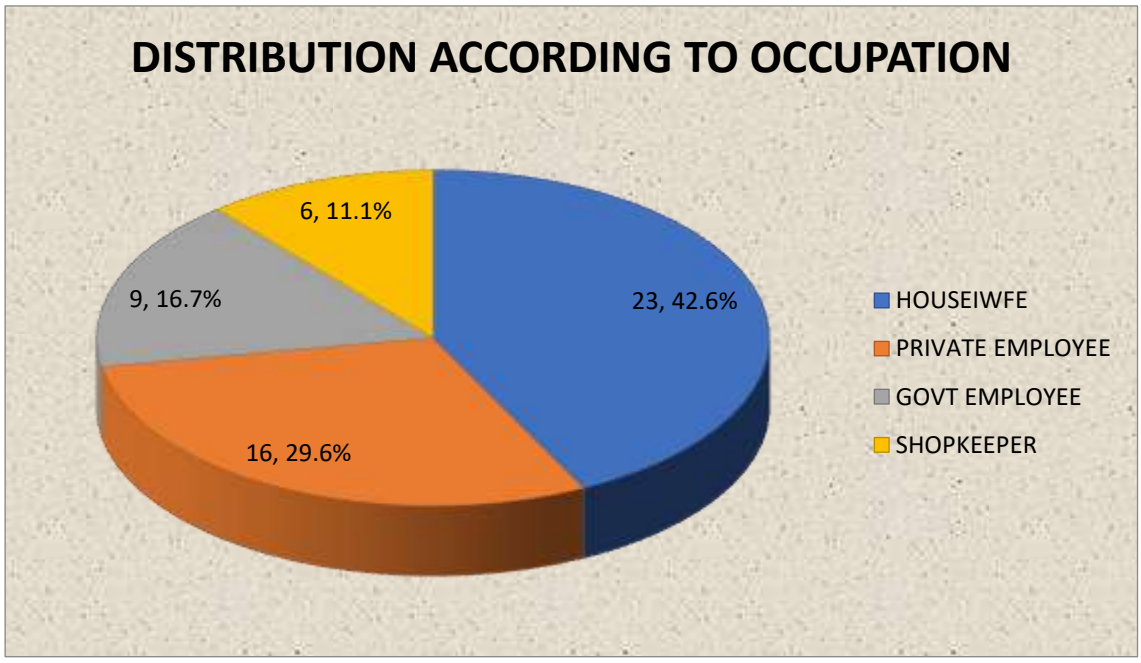

Fig. 4.1.4: Pie diagram showing distribution according to Occupation.

Table No. 4.1.5
Frequency and percentage distribution of peoples visiting the OPD according to types of family

S. No.	Demographic Variable	No.	Percentage
5.	**types of family**		
	a. Nuclear	30	50.0
	b. Joint	23	38.3
	c. Extended	6	10.0
	d. Single	1	1.7

There were 30 (50.0%) peoples visiting the OPD were belonging to nuclear family, 23 (38.3%) peoples visiting the OPD were belonging to joint family, 6 (10.0%) peoples visiting the OPD were belonging to extended family, 1 (1.7%) people visiting the OPD were single.

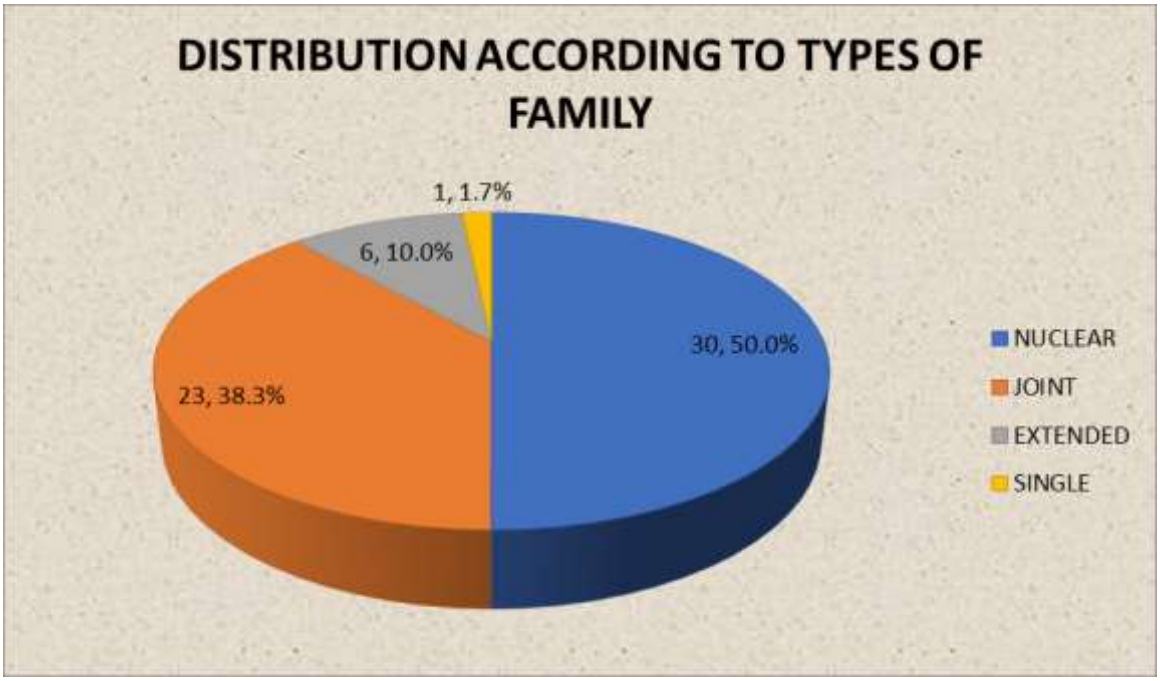

Fig. 4.1.5: Pie diagram showing distribution according to types of family

Table No. 4.1.6
Frequency and percentage distribution of peoples visiting the OPD according to Sources of knowledge

S. No.	Demographic Variable	No.	Percentage
6.	**Sources of knowledge**		
	a. Health workers	10	16.7
	b. Newspaper	18	30.0
	c. TV	8	13.3
	d. None	24	40.0

There were 10 (16.7%) peoples visiting the OPD were having knowledge from health workers, 18 (30.0%) peoples visiting the OPD were having knowledge from newspaper, 8 (13.3%) peoples visiting the OPD were having knowledge from TV while majority of 24 (40.0%) peoples visiting the OPD were having knowledge from none of them sources of knowledge.

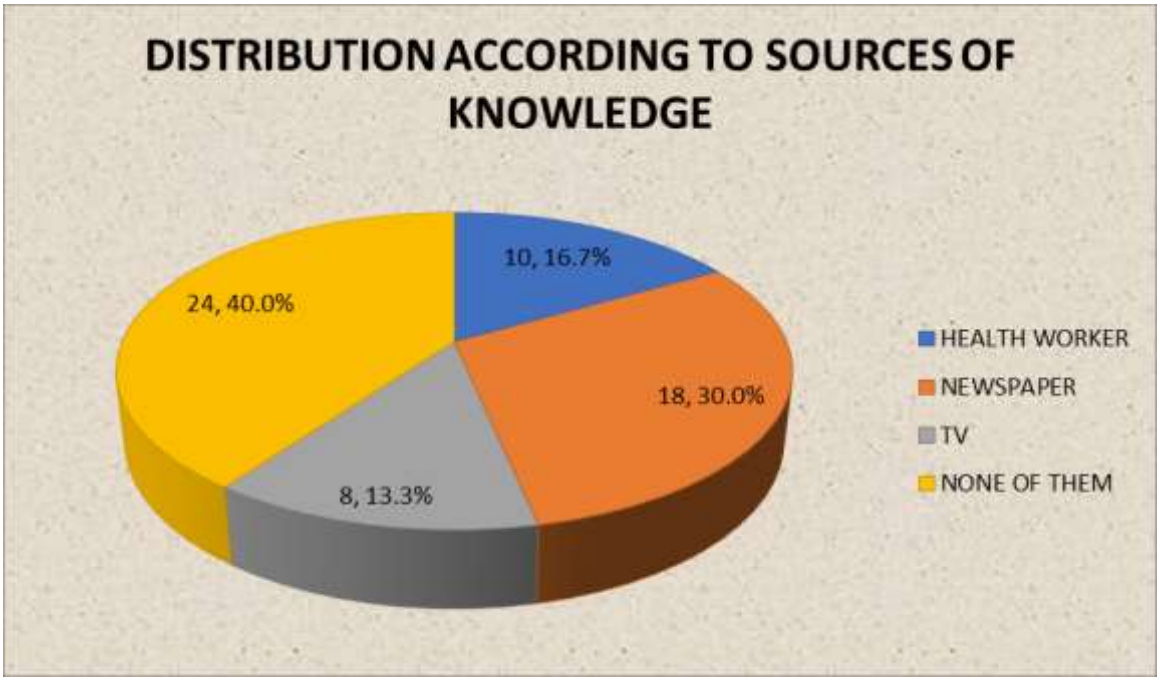

Fig. 4.1.6: Pie diagram showing distribution according to Sources of knowledge regarding the prevention of hypertension.

Table No. 4.1.7 Frequency and percentage distribution of peoples visiting the OPD according to Types of diet

S. No.	Demographic Variable	No.	Percentage
7.	**Types of diet**		
	a. Vegetarian	22	36.7
	b. Non vegetarian	38	63.3

There 22 (36.7%) were vegetarian and 38 (63.3%) were non vegetarian in the present study.

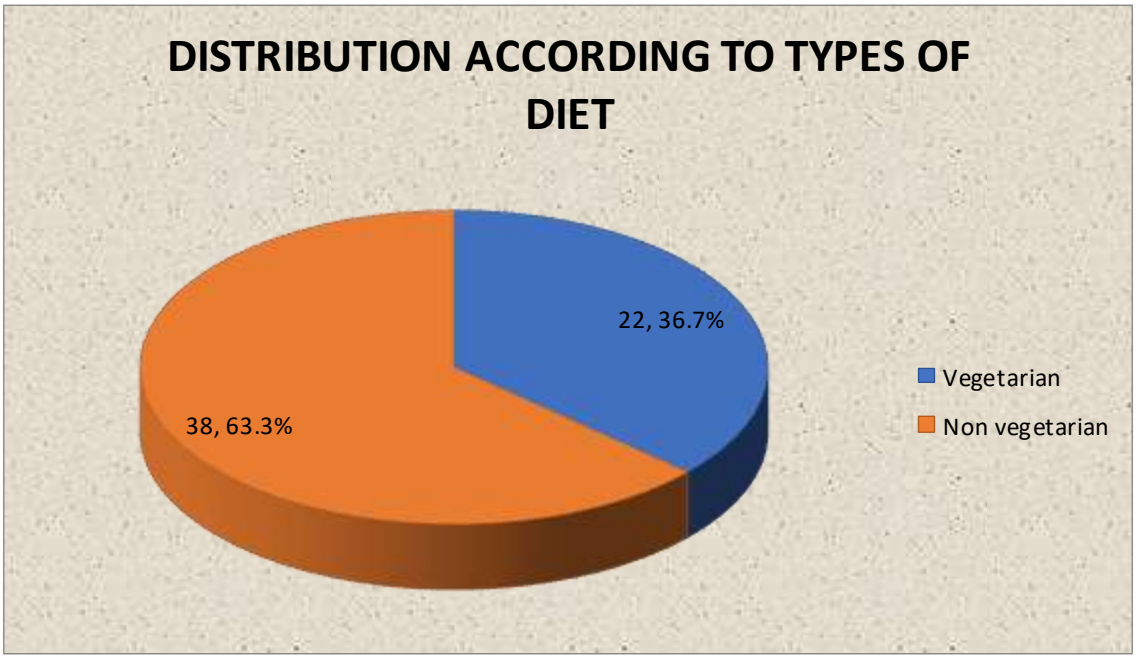

Fig. 4.1.7: Pie diagram showing distribution according to Types of diet

Table No. 4.1.8 Frequency and percentage distribution of peoples visiting the OPD according to any medication related to hypertension

S. No.	Demographic Variable	No.	Percentage
8.	**any medication related to hypertension**		
	a. Yes	23	38.3
	b. No	37	61.7

There were 23 (38.3%) peoples found with medication related to hypertension and 37 (61.7%) did not peoples found with medication related to hypertension in the present study.

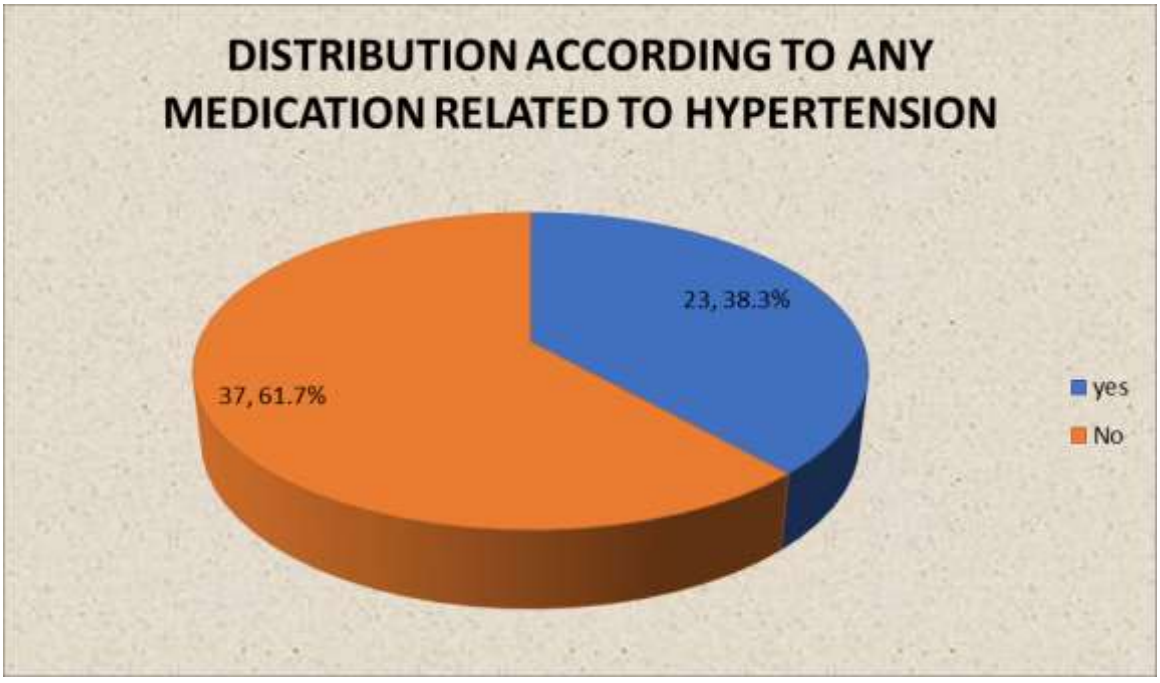

Fig. 4.1.8: Pie diagram showing distribution according to any medication related to hypertension

4.2 Section- B assessment of knowledge test score among the peoples visiting the OPD.

For assessing knowledge, self-structured knowledge questionnaire consist of 30 questions were given to the peoples visiting the OPD for each correct answer the peoples visiting the OPD was given 1 mark and for every wrong answer was given 0 mark. Only 1 question was correct for every question. Thus, a student could obtain a minimum of 0 marks and maximum of 30 marks. These marks were graded as poor (0-8), average (9-16), good (17-24) and excellent (25-30).

Table No. 4.2.1
Assessment of knowledge Grade

S. No.	Knowledge grade		Pretest	
			No.	%
1.	Poor	(0-8)	10	16.7
2.	Average	(9-16)	45	75.0
3.	Good	(17-24)	5	8.3
4.	Excellent	(25-30)	0	0.0
	Total		60	100.0

The above table shows the knowledge Grade.

The knowledge questionnaire consisted of 30 questions. For each correct answer 1 mark was given, for each wrong answer 0 mark was given. The score was further graded as Poor (0-8), Average (9-16), Good (17-24) and Excellent (25-30).

In the knowledge test, 10 (16.7%) peoples visiting the OPD got poor knowledge Grade, 45 (75.0%) peoples visiting the OPD got average knowledge Grade, 5 (8.3%) peoples visiting the OPD got good knowledge Grade, none of them peoples visiting the OPD got excellent Grade.

In this study mostly peoples having average knowledge score regarding prevention of hypertension, analysis indicated that peoples are need to improve the knowledge regarding prevention of hypertension.

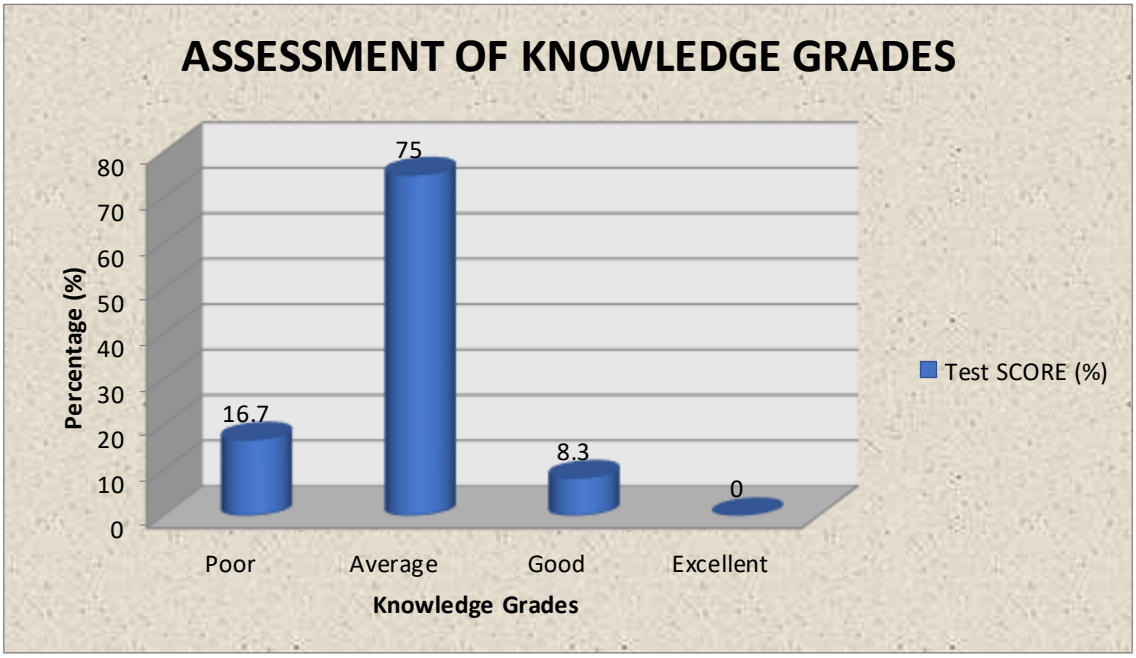

Fig. 4.2.1: Bar diagram showing assessment of knowledge Grade

Table No. 4.2.2

Assessment of knowledge score

S. no	Knowledge score	Mean	SD
1	Knowledge test score	15.80	2.14

The above table shows the assessment of knowledge score.

The knowledge score was 15.80 ± 2.14.

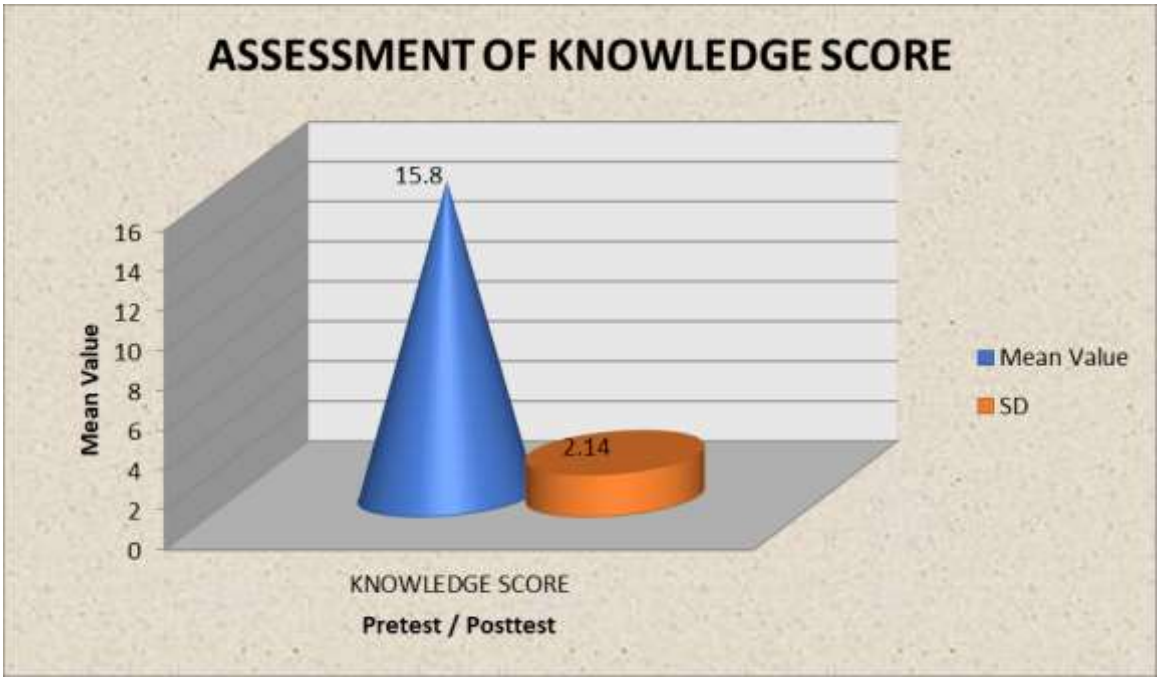

Fig. 4.2.2: Bar diagram showing comparison of pretest and posttest knowledge score

4.3 Section- C Association between pretest knowledge score with selected demographic variables.

Table No. 4.3.1

Association of pretest knowledge grade with age

S. No.	Age	Pretest Knowledge grade				χ2	P value
		Poor (0-8)	Average (9-16)	Good (17-24)	Excellent (25-30)		
1.	**Age**					0.95, df=4	>0.05, NS
	a. 21-30 years	1	3	0	0		
	b. 31-40 years	4	22	2	0		
	C. Above 40 years	5	20	3	0		
	Total	10	45	5	0		60

χ2=0.95, df=4, P value = 0.05, Not Significant

The above table shows the association between pretest knowledge grade and age.

There is a statistically no significant association seen between pretest knowledge grade and the age ($\chi 2$= 0.95, df=4, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the age of the peoples visiting the OPD.

Table No. 4.3.2
Association of pretest knowledge grade with gender

S. No.	Gender	Pretest Knowledge grade				$\chi 2$	P value
		Poor (0-8)	Average (9-16)	Good (17-24)	Excellent (25-30)		
2.	**Gender**						
	a. Male	7	28	1	0	3.84, df=2	>0.05, NS
	b. Female	3	17	4	0		
	Total	10	45	5	0		60

$\chi 2$=3.84, df=2, P value = >0.05, Not Significant

The above table shows the association between pretest knowledge grade and gender.

There is a statistically no significant association seen between pretest knowledge grade and the gender ($\chi 2$=3.84, df=2, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the gender of the peoples visiting the OPD.

Table No. 4.3.3
Association of pretest knowledge grade with educational qualification

S. No.	Educational qualification	Pretest Knowledge grade				$\chi 2$	P value
		Poor (0-8)	Average (9-16)	Good (17-24)	Excellent (25-30)		
3.	**Educational qualification**						
	a. No formal education	0	1	0	0		
	b. Primary and middle	0	4	0	0		
	c. Secondary and higher secondary	2	9	3	0	5.59, df=6	>0.05, NS
	d. Graduate and above	8	31	2	0		
	Total	10	45	5	0		60

$\chi 2$=5.59, df-6, P value = >0.05, Not Significant

The above table shows the association between pretest knowledge grade and educational qualification. There is a statistically no significant association seen between pretest knowledge grade and the educational qualification ($\chi 2$=5.59, df=6, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the educational qualification of the peoples visiting the OPD.

Table No. 4.3.4
Association of pretest knowledge grade with occupation

S. No.	occupation	Pretest Knowledge grade				$\chi 2$	P value
		Poor (0-8)	Average (9-16)	Good (17-24)	Excellent (25-30)		
4.	**occupation**					6.07, df=6	>0.05, NS
	a. house wife	3	16	4	0		
	b. private employee	4	12	0	0		
	c. Government employee	2	7	0	0		
	d. Shopkeeper	1	10	1	0		
	Total	10	45	5	0		60

$\chi 2$=6.07, df=6, P value = >0.05, Not Significant

The above table shows the association between pretest knowledge score and occupation.
There is a statistically no significant association seen between pretest knowledge grade and occupation ($\chi 2$=6.07, df=6, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the occupation of the peoples visiting the OPD.

Table No. 4.3.5 Association of pretest knowledge grade with types of family

S. No.	types of family	Pretest Knowledge grade				$\chi 2$	P value
		Poor (0-8)	Average (9-16)	Good (17-24)	Excellent (25-30)		
5.	**types of family**					8.47, df=6	>0.05, NS
	a. Nuclear	5	21	4	0		
	b. Joint	4	18	1	0		
	c. Extended	0	6	0	0		
	d. Single	1	0	0	0		
	Total	10	45	5	0		60

$\chi 2$=8.47, df=6, P value = >0.05, Not Significant

The above table shows the association between pretest knowledge grade and types of family.
There is a statistically no significant association seen between pretest knowledge grade and types of family ($\chi 2$=8.47, df=6, P value = >0.05), showing that pretest knowledge grade is independent of the types of family of peoples visiting the OPD.

Table No. 4.3.6
Association of pretest knowledge grade with Sources of knowledge

S. No.	Sources of knowledge	Pretest Knowledge grade				$\chi 2$	P value
		Poor (0-8)	Average (9-16)	Good (17-24)	Excellent (25-30)		
3.	**Sources of knowledge**					5.33, df=6	>0.05, NS
	a. Health workers	3	6	1	0		
	b. Newspaper	4	13	1	0		
	c. TV	0	8	0	0		
	d. None	3	18	3	0		
	Total	10	45	5	0		60

$\chi 2$=5.33, df-6, P value = >0.05, Not Significant
The above table shows the association between pretest knowledge grade and **Sources of knowledge**.
There is a statistically no significant association seen between pretest knowledge grade and the **Sources of knowledge** ($\chi 2$=5.33, df=6, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the **Sources of knowledge** of the peoples visiting the OPD.

Table No. 4.3.7
Association of pretest knowledge grade with Types of diet

S. No.	Types of diet	Pretest Knowledge grade				$\chi 2$	P value
		Poor (0-8)	Average (9-16)	Good (17-24)	Excellent (25-30)		
7.	**Types of diet**					4.45, df=2	>0.05, NS
	a. Vegetarian	3	15	4	0		
	b. Non vegetarian	7	30	1	0		
	Total	10	45	5	0		60

$\chi 2$=4.45, df=2, P value = >0.05, Not Significant
The above table shows the association between pretest knowledge grade and Types of diet.

There is a statistically no significant association seen between pretest knowledge grade and the **Types of diet** ($\chi 2$=4.45, df=2, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the **Types of diet** of the peoples visiting the OPD.

Table No. 4.3.8

Association of pretest knowledge grade with any medication related to hypertension

S. No.	Any medication related to hypertension	Pretest Knowledge grade				$\chi 2$	P value
		Poor (0-8)	Average (9-16)	Good (17-24)	Excellent (25-30)		
8.	**Any medication related to hypertension**					0.72, df=2	>0.05, NS
	a. Male	5	16	2	0		
	b. Female	5	29	3	0		
	Total	10	45	5	0		60

$\chi 2$=0.72, df=2, P value = >0.05, Not Significant

The above table shows the association between pretest knowledge grade and any medication related to hypertension.

There is a statistically no significant association seen between pretest knowledge grade and the any medication related to hypertension ($\chi 2$=0.72, df=2, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the any medication related to hypertension of the peoples visiting the OPD.

CONCLUSION

Thus, after the analysis and interpretation of the data, we can conclude that the hypothesis **H_0** that, "There will be no significant association between the knowledge score on prevention of hypertension and the selected demographic variables among peoples visiting the OPD is **being accepted**.

From the above results, we can conclude that mostly peoples having average knowledge score regarding prevention of hypertension, analysis indicated that peoples are need to improve the knowledge regarding prevention of hypertension

Lastly, all the depicted tables and above stated all inferences indicated the achievement of the entire selected objective followed with fulfillment of the aim and the objectives of the proposed research titled **"A STUDY TO ASSESS THE LEVEL OF KNOWLEDGE REGARDING THE PREVENTION OF HYPERTENSION AMONG THE PEOPLES VISITING THE OPD IN SELECTED HOSPITALS, INDORE, WITH VIEW TO DEVELOPING AN INFORMATION BOOKLET"**

SUMMARY

This chapter deals with the analysis and interpretation of data collected to generate the possible solution of the research study. The analysis was organized and presented under various sections. Data was analyzed by applying descriptive and inferential statistics.

CHAPTER - 5
DISCUSSION, SUMMARY CONCLUSION RECOMMENDATION AND LIMITATIONS

Heart attacks and strokes are usually acute events and are mainly caused by a blockage that prevents blood from flowing to the heart or brain. The most common reason for this is a build-up of fatty deposits on the inner walls of the blood vessels that supply the heart or brain. Strokes can be caused by bleeding from a blood vessel in the brain or from blood clots.

The term polypharmacy was used over one and a half centuries ago to refer to issues related to multiple-drug consumption and excessive use of drugs. Since then, it has evolved with different meanings and situations, including but not limited to "unnecessary drug use" and "medication use without indication." Based on the review of current data, the use of 5 or more medications is an acceptable definition of polypharmacy. This cut-off point of 5 drugs is associated with the risk of adverse outcomes such as falls, frailty, disability, and mortality in older adults.

STATEMENT OF A PROBLEM

A STUDY TO ASSESS THE LEVEL OF KNOWLEDGE REGARDING THE PREVENTION OF HYPERTENSION AMONG THE PEOPLES VISITING THE OPD IN SELECTED HOSPITALS, INDORE, WITH VIEW TO DEVELOPING AN INFORMATION BOOKLET

OBJECTIVES OF THE STUDY

The objectives of the study are,

1. To assess the level of knowledge score regarding prevention of hypertension among the peoples visiting the OPD.
2. To find out the association between selected demographic variables with the pre-test knowledge score of peoples visiting the OPD
3. To develop an information booklet.

5.1 DISCUSSION

Discussion of baseline data of the peoples visiting the OPD:

- There were 4 (6.7%) peoples visiting the OPD in the age group 21-30 years, 28 (46.7%) peoples visiting the OPD were in the age group 31-40 years, 28 (46.7%) peoples visiting the OPD were in the age group Above 40 years.
- There were 36 (60.0%) males and 24 (40.0%) females in the present study. Majority of male found in the study.
- There 1 (1.7%) people visiting the OPD found to be with No formal education, 4 (6.7%) peoples visiting the OPD had competed primary and middle school, 14 (23.3%) peoples visiting the OPD had competed Secondary and higher secondary school while 41 (68.3%) peoples visiting the OPD had competed Graduation and above Degree.
- In this study 23 (38.3%) peoples visiting the OPD were house wife, 16 (26.7%) peoples visiting the OPD were private employee, 9 (15.0%) peoples visiting the OPD were having Government employee while 12 (20.0%) peoples visiting the OPD were shopkeeper.
- There were 30 (50.0%) peoples visiting the OPD were belonging to nuclear family, 23 (38.3%) peoples visiting the OPD were belonging to joint family, 6 (10.0%) peoples visiting the OPD were belonging to extended family, 1 (1.7%) people visiting the OPD were single.

- There were 10 (16.7%) peoples visiting the OPD were having knowledge from health workers, 18 (30.0%) peoples visiting the OPD were having knowledge from newspaper, 8 (13.3%) peoples visiting the OPD were having knowledge from TV while majority of 24 (40.0%) peoples visiting the OPD were having knowledge from none of them sources of knowledge.
- There 22 (36.7%) were vegetarian and 38 (63.3%) were non vegetarian in the present study
- There were 23 (38.3%) peoples found with medication related to hypertension and 37 (61.7%) did not peoples found with medication related to hypertension in the present study.

Assessment of knowledge score among the peoples visiting the OPD:

In the knowledge test, 10 (16.7%) peoples visiting the OPD got poor knowledge Grade, 45 (75.0%) peoples visiting the OPD got average knowledge Grade, 5 (8.3%) peoples visiting the OPD got good knowledge Grade, none of them peoples visiting the OPD got excellent Grade.

The knowledge score was 15.80 ± 2.14.

In this study mostly peoples having average knowledge score regarding prevention of hypertension, analysis indicated that peoples are need to improve the knowledge regarding prevention of hypertension.

Discussion of association between knowledge score and selected demographic variables:

- There is a statistically no significant association seen between pretest knowledge grade and the age ($\chi 2$= 0.95, df=4, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the age of the peoples visiting the OPD.
- There is a statistically no significant association seen between pretest knowledge grade and the gender ($\chi 2$=3.84, df=2, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the gender of the peoples visiting the OPD.
- There is a statistically no significant association seen between pretest knowledge grade and the educational qualification ($\chi 2$=5.59, df=6, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the educational qualification of the peoples visiting the OPD.
- There is a statistically no significant association seen between pretest knowledge grade and occupation ($\chi 2$=6.07, df=6, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the occupation of the peoples visiting the OPD.
- There is a statistically no significant association seen between pretest knowledge grade and types of family ($\chi 2$=8.47, df=6, P value = >0.05), showing that pretest knowledge grade is independent of the types of family of peoples visiting the OPD.
- There is a statistically no significant association seen between pretest knowledge grade and the **Sources of knowledge** ($\chi 2$=5.33, df=6, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the **Sources of knowledge** of the peoples visiting the OPD.
- There is a statistically no significant association seen between pretest knowledge grade and the **Types of diet** ($\chi 2$=4.45, df=2, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the **Types of diet** of the peoples visiting the OPD.
- There is a statistically no significant association seen between pretest knowledge grade and the any medication related to hypertension ($\chi 2$=0.72, df=2, P value = >0.05, Not Significant), showing that pretest knowledge grade is independent of the any medication related to hypertension of the peoples visiting the OPD.

Thus, the hypothesis **RH2** made by the investigator that, There will be a significant association between the pre-test knowledge score on prevention of hypertension and the selected demographic variables among

peoples visiting the OPD is being rejected,

5.2 SUMMARY

STATEMENT OF A PROBLEM

A STUDY TO ASSESS THE LEVEL OF KNOWLEDGE REGARDING THE PREVENTION OF HYPERTENSION AMONG THE PEOPLES VISITING THE OPD IN SELECTED HOSPITALS, INDORE, WITH VIEW TO DEVELOPING AN INFORMATION BOOKLET

OBJECTIVES OF THE STUDY

The objectives of the study are,

1. To assess the level of knowledge score regarding prevention of hypertension among the peoples visiting the OPD.
2. To find out the association between selected demographic variables with the pre-test knowledge score of peoples visiting the OPD
3. To develop an information booklet

This study assumes that, the majority of peoples visiting the OPD are not aware about prevention of hypertension and it occurs because of less knowledge. It is assumed that information booklet improves the knowledge of peoples visiting the OPD regarding prevention of hypertension.

The conceptual framework of these study based on general system theory of **Ludwig Von Bertalanffy (1968).** An evaluatory pre-experimental research approach was adopted in thisstudy. The population of the study consisted of 60 peoples visiting the OPD in the selected hospitals of Indore city.

The investigator prepared a structured questionnaire containing 30 questions to assess the knowledge of peoples visiting the OPD regarding the prevention of hypertension. Five experts validate the tool & reliability of tool was good.

Pilot study was conducted on 06 peoples visiting the OPD to check the feasibility and practicability of the study. This gave a basis for investigator to conduct the actual study. Main study was conducted on 60 peoples visiting the OPD od selected urban areas of Indore city The duration of the study was month of Jan 2025.

Based on the objectives and assumptions the data was analyzed and using various descriptive inferential test is (X^2)test.

In the knowledge test, 10 (16.7%) peoples visiting the OPD got poor knowledge Grade, 45 (75.0%) peoples visiting the OPD got average knowledge Grade, 5 (8.3%) peoples visiting the OPD got good knowledge Grade, none of them peoples visiting the OPD got excellent Grade. The knowledge score was 15.80 ± 2.14.

On the whole carrying out the present study was really enriching experience to investigator.It also will help a great deal to explore and improve the knowledge of the researcher. The constant encouragement and guidance of the guide, cooperation and interest of the respondents to participate in the study, contributed to fruitful completion of the study.

5.3 CONCLUSION

Thus, after the analysis and interpretation of the data, we can conclude that the hypothesis $\mathbf{H_0}$ that, “There will be no significant association between the knowledge score on prevention of hypertension and the selected demographic variables among peoples visiting the OPD is **being accepted**.

From the above results, we can conclude that mostly peoples having average knowledge score regarding

prevention of hypertension, analysis indicated that peoples are need to improve the knowledge regarding prevention of hypertension

Lastly, all the depicted tables and above stated all inferences indicated the achievement of the entire selected objective followed with fulfillment of the aim and the objectives of the proposed research titled **"A STUDY TO ASSESS THE LEVEL OF KNOWLEDGE REGARDING THE PREVENTION OF HYPERTENSION AMONG THE PEOPLES VISITING THE OPD IN SELECTED HOSPITALS, INDORE, WITH VIEW TO DEVELOPING AN INFORMATION BOOKLET"**

5.4 RECOMMENDATIONS

On the basis of the findings of the study, following recommendation have been suggested;

5.4.1 The similar study may be replicated on large sample there by findings can begeneralized for peoples visiting the OPD.

5.4.2 A similar study may be repeated with experimental and control group for moregeneralization of finding.

5.4.3 Similar kind of study can be under taken in different setting.

5.4.4 Studies may be conducted to evaluate the effectiveness of STP.

5.5 IMPLICATIONS

The findings of the present study have implications in the field nursing practice, nursing education. Nursing research and nursing administration.

NURSING PRACTICE

Education on the prevention of hypertension among peoples visiting the OPD, provides unique opportunity for effective prevention of prevention of hypertension because the main reason behind such conditions is lack of knowledge regarding prevention of hypertension among peoples visiting the OPD.

Peoples visiting the OPD should be thought when they attend well clinics or when visit for hospital. The nursecan also conduct hospital visit to the peoples visiting the OPD. Assessment of patient's family to recognized any other factors leading for effect of prevention of hypertension, the study findings simply that there is need formed for health education programmed to be carried out by nurse or nursing students to create to awareness among the peoples visiting the OPD regarding prevention of hypertension.

NURSING EDUCATION

Policies should be established in the nursing institution to help peoples visiting the OPD to improve their knowledge regarding prevention of hypertension in nursing curriculum should provide opportunity for students to participate in community programmes. organizing role play, exhibition and teaching programmes regarding prevention of hypertension.

NURSING ADMINISTRATION

Nursing administrator should start in service education program with co-operation of the hospital administration and active support of other health team members in hospital on prevention of hypertension to improve the knowledge and significant others. A broad educational programme should be organized at community level to educate illiterate and villages people regarding prevention of hypertension as well as management of prevention of hypertension. The findings of current study are applicable in various areas of nursing in order to improve the status of peoples visiting the OPD and minimized serious type of complications related to prevention of hypertension.

NURSING RESEARCH

Research should be directed towards exploring the knowledge order to prevention of hypertension and death of peoples from prevention of hypertension. The study can serve as referencefor future study.

5.6 LIMITATIONS

5.6.1 The present study is limited to only one test group, no control group is adopted forthe study

5.6.2 The study is also limited to a small sample of peoples visiting the OPD in selected hospitals of Indore; hence the findings of the study cannot be generalized.

5.6.3 The structured knowledge questionaries and information booklet program wasdeveloped as no standardized tool was available.

5.6.4 The study is limited to 60 samples of peoples visiting the OPD only.

5.6.5 Limited time available for data collection.

5.7 SUMMARY

This chapter deals with the nursing implications, limitations, suggestion, and recommendation, drawn from the result of the study. The following chapter deals with the summary of the study.

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