ASSESSMENT OF KNOWLEDGE ON CHOLESTEROL MAINTENANCE FOR PREVENTING COMPLICATIONS IN HYPERTENSIVE PATIENTS AT SELECTED JAIPUR HOSPITALS.

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ABSTRACT

Hypertension, a leading chronic disease, significantly impacts public health due to its asymptomatic nature and severe complications, including cardiovascular diseases, strokes, and kidney disorders. High cholesterol levels further exacerbate hypertension-related risks, increasing the need for effective management strategies. Despite medical advancements, awareness and adherence to hypertension management remain low in India, necessitating structured educational programs and intervention strategies. Objectives: a) To assess the level of knowledge regarding importance of maintaining cholesterol level among hypertension clients. b) To find out the association between knowledge scores with selected demographic variables of hypertension patients. Methods: A non-experimental research design was employed among 100 hypertensive patients attending the outpatient department of Global Heart Hospital, Jaipur. A structured questionnaire assessed knowledge regarding cholesterol management, risk factors, and adherence to treatment. Data were analyzed using descriptive and inferential statistics, with chi-square tests applied to determine associations between knowledge levels and demographic variables **Results:** The study found that 49% of participants had excellent knowledge, 47% had good knowledge, 4% had average knowledge, and none had poor knowledge regarding cholesterol management in hypertension. No significant association was found between knowledge scores and demographic variables. However, lifestyle habits showed a significant correlation with knowledge levels. Conclusion: Hypertension remains a major public health issue, worsened by poor cholesterol management and low awareness. This study emphasizes the need for patient education and structured guidelines to improve adherence to treatment and lifestyle modifications. Community-based programs should focus on raising awareness and promoting healthy habits. Future research should explore targeted interventions, while government policies must support large-scale hypertension prevention efforts to reduce cardiovascular disease risks.

Index Terms- Assess, Cholesterol Level, Hypertension, Preventing, Complication and Knowledge. INTRODUCTION

Chronic diseases, particularly hypertension, significantly impact individuals' lives, influencing their relationships, mental well-being, and social interactions. Hypertension, often termed the "silent killer," is a major public health concern due to its asymptomatic nature and severe complications, including cardiovascular diseases, strokes, and kidney disorders. The condition occurs when arterial blood pressure remains persistently elevated, requiring the heart to work harder to circulate blood. It is classified as primary (essential) or secondary hypertension, with primary hypertension accounting for nearly 90-95% of cases without an identifiable cause.

One of the key risk factors associated with hypertension is high cholesterol, which contributes to atherosclerosis, reducing arterial flexibility and increasing the risk of heart Sattacks and strokes. Lifestyle factors such as poor diet, lack of physical activity, and stress play a crucial role in the rising prevalence of hypertension. Non-adherence to prescribed medications and lifestyle modifications further exacerbates the condition, leading to severe health complications. Studies indicate that 50-70% of hypertensive patients fail to adhere to treatment protocols, increasing the risk of morbidity and mortality.

In India, hypertension has shown a rising trend over the decades, with prevalence rates increasing in both urban and rural populations due to changing lifestyles. Epidemiological studies estimate that around 25% of urban and 10% of rural individuals suffer from hypertension, contributing to a growing burden on the healthcare system. Despite medical advancements, awareness and control measures remain inadequate, emphasizing the need for effective public health strategies. Given the high prevalence of hypertension and its associated risks, interventions focusing on lifestyle modification, medication adherence, and public awareness are crucial. Developing structured guidelines and educational programs can help individuals manage hypertension effectively, reducing complications and improving overall health outcomes.

NEED FOR THE STUDY

Health awareness is central to controlling hypertension and preventing its complications. In India, awareness of hypertension, its risk factors, and complications remains poor, leading to decreased adherence to treatment. Studies suggest that 20-30% of hypertension cases remain undiagnosed and untreated for extended periods, increasing the risk of mortality and complications.

High cholesterol levels further exacerbate hypertension-related complications. The liver regulates LDL cholesterol levels in the blood, but unhealthy diets rich in saturated fats elevate LDL cholesterol, increasing cardiovascular risks. The benefits of lowering LDL cholesterol include:

- 1. Reducing the formation of new cholesterol plaques in arteries
- 2. Widening arteries by reducing existing cholesterol plaques
- 3. Preventing cholesterol plaque rupture and subsequent clot formation
- 4. Lowering the risk of heart attacks and strokes
- 5. Decreasing the incidence of peripheral artery disease

Hypertension remains the leading cause of cardiovascular disease worldwide. Global data suggests that while hypertension prevalence was declining before 2010, recent trends indicate an increase. An estimated 972 million people worldwide suffer from hypertension, with incidence rates varying based on age, gender, ethnicity, and body size. Programs that improve hypertension control rates and prevent its onset are urgently needed.

In India, cardiovascular diseases accounted for 3.3 million deaths in 2010, a figure projected to double by 2025. Hypertension is responsible for 57% of all stroke deaths and 24% of coronary heart disease deaths. Various studies indicate that hypertension prevalence in India has risen from 5% in 2012 to 12-15% in 2020, with urban prevalence rates as high as 30-45%. Rural populations also show increasing trends, correlating with changing lifestyles.

Given this growing burden, cost-effective hypertension control strategies should be developed. The World Health Organization (WHO) reports that one in three deaths in India is due to heart disease, and hypertension significantly contributes to morbidity and mortality. By 2025, three-quarters of the world's hypertensive population is expected to be in economically developing countries.

During clinical practice, the investigator observed that many hypertensive patients presented with uncontrolled cholesterol levels, leading to severe complications and, in some cases, death. This highlights the urgent need to educate hypertensive patients on treatment adherence, lifestyle modifications, and cholesterol management. Developing structured guidelines and patient education programs will support better hypertension management and reduce long-term complications.

OBJECTIVES OF THE STUDY

- 1. To assess the level of knowledge regarding the importance of maintaining cholesterol levels among hypertensive patients.
- 2. To analyze the association between knowledge scores and selected demographic variables among hypertensive patients.

HYPOTHESIS

- **H1:** Assessing the importance of maintaining cholesterol levels among hypertensive patients in preventing complications.
- **H2:** There is a significant association between hypertensive patients' knowledge about cholesterol maintenance and prevention of complications with selected demographic variables.

METHODOLOGY

The research design used for this study **non-experimental design** was adopted among **100 samples** focusing on hypertensive patients visiting outpatient departments. A structured questionnaire was used to collect data on knowledge, risk factors, lifestyle habits, and medication adherence. The questionnaire consisted of demographic details and multiple-choice questions assessing knowledge levels.

Setting of the study

This study was conducted in medical OPD of department of medicine in Global Heart Hospital, Jaipur. **Variables**

Dependent Variable: Knowledge on Cholesterol Maintenance for Preventing Complications in Hypertensive Patients.

Attribute Variable: The background factor that is socio-demographic characteristics of hypertensive clients.

Population

population for this study was clients who are available at the times of data collection in medical OPD in Global Heart Hoapital, Jaipur.

Sample

In this study, the samples were Adolescents in selected Hospital hypertensive patients visiting outpatient departments.

Sample Size

It consists of 100 subjects those who fulfill the criteria of sample selection

Sampling Technique

Purposive sampling technique was used for the selection of clients from each OPD.

Criteria for Sample Selection

The study samples were selected using the following criteria.

INCLUSION CRITERIA

In this study, the following patients were included,

- Hypertensive patient's both male and female are included.
- Hypertensive patient who are willing to participate in the study.
- Hypertensive patient, who are able to understand, read & write English & Hindi.

EXCLUSION CRITERIA

The study excludes,

• Hypertensive patient who are not willing to participate in the study.

Development of Data Collection Instruments

The following instruments tools were in order to generated data

Part 1- Consists of item related to Social-demographic data.

It includes the item for obtaining data regarding age, gender, religion, qualification, occupation, type of family, income status of family, living area, type of diet, exercise habits, duration of hypertension, associate diseases, medication, pattern of treatment family history of hypertension.

Part 2- Consists of item seeking regarding importance of maintaining body cholesterol level in preventing its future complications.

It includes the item for obtaining data regarding definition, risk factor, causes, signs & symptoms, diagnostic evaluation, management, complications & preventions of hypertension.

In each item was in question form with choice 4 responses from 0-3. To indicate extent to which planned to assess the knowledge of hypertension patients regarding importance of maintaining body cholesterol level, responses were **"Poor"**, **"Average"**, **"Good"**, **"Excellent"**. Each item had score for **correct answer is "1" & for wrong answer is "0"**. The score is categorized in following grade.

Data Collection Procedure

- > Formal permission was sought from the Director of Global Heart Hospital, Jaipur.
- > Data collection was done from 17/03/2023 17/04/2023.
- Setting was selected by purposive sampling, sampling subject (N=100) were selected by purposive sampling.
- > The purpose of the study was explained to the subjects.
- > Information was collected through structured questionnaire.

Data Analysis

- The data was analyzed by using descriptive and inferential statistics. The analysis has been organized and presented under various sections like description of demographic variables, knowledge scores with the demographic variables, frequency & percentages of adult person affected by hypertension according to level of body cholesterol, frequency & percentages of adult persons according to stages of hypertension.
- that majority 49% of hypertensive clients knowledge was Excellent, 47% of hypertensive clients knowledge was Good, 04% of hypertensive clients knowledge was Average and 00% of hypertensive clients knowledge was Poor.
- Chi square was calculated to find out the association between the knowledge score of adolescents with their demographic variables regarding selected hypertensive patients shows that there is no significant association between knowledge scores when compared to age, gender, religion, qualification, occupation, type of family, income status of family, living area, type of diet, exercise

habits, duration of hypertension, associate diseases, medication, pattern of treatment family history of hypertension.

For this calculation the researcher calculated the observer minus expected for each row and column based on score. Then added all value of individual variable that value was seen under chi- square level of 0.05 level of significance at different degree of freedom according to the row and column made. Then value conclusion was that only habits came to be significant and all other variable were no significant. **RESULTS AND DISCUSSION**

The study revealed that hypertension knowledge levels among patients varied. A significant portion of patients demonstrated limited awareness regarding the importance of cholesterol management in preventing hypertension-related complications. Key findings include:

- 49% of participants exhibited excellent knowledge, while 47% had good knowledge.
- 4% had average knowledge, and none had poor knowledge.
- No significant association was found between knowledge levels and demographic variables.

Table I- To Assess Frequency and percentage distribution of Demographic variables

DEMOGRAPHIC VARIABLES	FREQUENCY (f)	PERCENTAGE %
 1. AGE a) 30-40 b) 41-50 c) 51-60 d) 61 & above 	37 29 23 11	37% 29% 23% 11%
 2. GENDER a) Male b) Female 	67 33	67% 33%
 3. RELIGION a) Hindu b) Muslim c) Christian d) Any other 	69 29 02 00	69% 29% 02% 00%

 4. QUALIFICATION a) Middle school b) Higher secondary c) Graduation d) Post-graduation 	16 12 34 38	38% 34% 16% 12%
 5. OCCUPATION a) Private service b) Government service c) Business d) Any other 	22 12 14 52	22% 12% 14% 52%
6. TYPE OF FAMILYa) Nuclear familyb) Joint family	78 22	78% 22%

Table 2: To assess the knowledge of hypertensive patients regarding importance for maintenance of body cholesterol level for prevention of future complications.

	Knowledge score		
sl.no		Frequency (F)	Percentage (%)
1.	Poor	0	0%
2.	Average	04	04%
3.	Good	47	47%
4.	Excellent	49	49%



CONCLUSION

Hypertension remains a significant public health issue, exacerbated by poor cholesterol management and lack of awareness. The study underscores the need for patient education and structured guidelines to improve adherence to hypertension treatment and cholesterol control strategies. Healthcare providers should focus on community-based programs to raise awareness, promote healthy lifestyle practices, and enhance adherence to medication and dietary modifications.

Future research should explore intervention-based studies targeting specific lifestyle modifications and their long-term impact on hypertension control. Government policies should also support large-scale hypertension awareness programs to reduce morbidity and mortality rates associated with cardiovascular diseases.

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