"KNOWLEDGE AND MEDICATION ADHERENCE REGARDING HYPERTENSION AMONG HYPERTENSIVE PATIENTS ATTENDING URBAN HEALTH TRAINING CENTRE (UHTC), PRATAP NAGAR, JODHPUR WITH A VIEW TO DEVELOP AN INFORMATION BOOKLET REGARDING SELF-CARE MANAGEMENT OF HYPERTENSION"

A Thesis submitted to the

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In partial fulfillment of the requirement for the degree

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By

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DECLARATION BY THE CANDIDATE

I hereby, declare that the thesis entitled "Knowledge and medication adherence regarding hypertension among hypertensive patients attending Urban Health Training Centre (UHTC), Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of Hypertension" has been prepared by me under the guidance of Mrs. Gomathi. A., Associate Professor, College of Nursing, AIIMS Jodhpur, Mrs. Mamta, Assistant Professor, College of Nursing, AIIMS Jodhpur and Dr. Neeti Rustagi, Additional Professor, Department of Community and Family Medicine, AIIMS Jodhpur. No part of this thesis has formed the basis for the award of any degree previously.

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CERTIFICATE BY THE GUIDE

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ENDORSEMENT BY THE PRINCIPAL

This is to certify that the thesis entitled "Knowledge and medication adherence regarding hypertension among hypertensive patients attending Urban Health Training Centre (UHTC), Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of Hypertension" is a bonafide research work done by Neha Rai under the guidance of Mrs. Gomathi. A., Associate Professor, College of Nursing, AIIMS Jodhpur, Mrs. Mamta, Assistant Professor, College of Nursing, AIIMS Jodhpur and Dr. Neeti Rustagi, Additional Professor, Department of Community and Family Medicine, AIIMS Jodhpur.

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"One cannot reach the real point of factual knowledge without being helped by the right person who is already established in that Knowledge"

Bhagwad-Geeta

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Neha Rai

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LIST OF ABBREVIATED USED

- ANM: Auxiliary Nurse Midwife
- BP: Blood Pressure
- CVD: Cardiovascular Diseases
- CHD: Coronary Heart Diseases
- Df: Degree of freedom
- DALY: Daily adjusted life years
 - f: Frequency
- HB:MAS: Hill-Bone Medication Adherence Scale
 - HTN: Hypertension
 - IHCI: India Hypertension Control Initiative
 - ICMR: Indian Council of Medical Research
 - JNC: Joint National Commission
 - LMIC: Low-middle income country
- MoHFW: Ministry of Health and Family Welfare
- NFHS: National family health survey
- NPCDCS: National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular diseases and Stroke
 - N: Total Number of hypertensive patients
 - SES: Socio-economic status
 - SD: Standard Deviation
 - UHTC: Urban health training centre
 - WHO World health organization
 - X²: Chi square

ABSTRACT

Introduction: Hypertension is a long lasting and commonest disease of community health concern. The knowledge related to hypertension and adherences to treatment have a crucial role on control of blood pressure and its allied complications. Hypertensive patients' adherence to treatment is a cornerstone factor in controlling hypertension and its complications. According to the District NHFS – IV the overall prevalence of hypertension in Jodhpur is 9.9% in men and 5.1% in women whereas in urban parts 6.6% in men and 6.2% in women and in rural men (12.0%) and women (4.5%) respectively.

Objective: The main objective of the study to assess the knowledge and medication adherence regarding hypertension among hypertensive patients.

Methods: The study was conducted at NCD Clinic, Pratap Nagar, Jodhpur, Rajasthan. Data was collected from 250 hypertensive patients selected by convenient sampling technique. Data were collected through face to face interview using self-structured knowledge questionnaire and Hill bone medication adherence scale. Descriptive and inferential statistics were used for analysis.

Result: Out of 250 hypertensive patients, mean age of hypertensive patients was 55 ± 12.234 years and majority were males (54%). The mean knowledge score was 11.59 ± 3.622 and mean medication adherence score was 21.62 ± 3.941 . The level of knowledge among hypertensive patients had significant association with age, education, occupation, socio-economic status, duration of treatment of hypertension and body mass index at p < 0.05 and level of medication adherence among hypertensive patients had

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significant association with education, occupation, socio-economic status and body mass index at p < 0.05. There was a weak correlation between the level of knowledge and medication adherence among hypertensive patients (r = 0.461).

Conclusion: In the present study, fair knowledge and poor medication adherence was found among hypertensive patients. Health care worker in community play a pivotal role, to assess the basic needs of hypertensive clients and their level of knowledge and educate the patients about the importance of lifestyle modifications to prevent complications and improve the health of the patient. However, nurses could use multifacetedapproach to identify the barriers for not practicing the change in life style modification and accordingly strategies should be planned and implemented.

Keywords: Knowledge; Adherence; Hypertension; Hypertensive patients.

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CHAPTER I INTRODUCTION

INTRODUCTION

"Save your brain from disease Wave bye to the carpets of hypertension. Self help is the best help. A disease known is half cured."

BACKGROUND OF THE STUDY

Over the few decades, access to availability of health care services and good quality medicines in health care system had a made progress with advancement in conceptual approach, innovation in technology and social prioritization, in spite of these attempts, the threat to Non-Communicable Diseases constitutes a major concern of public health that undermines social and economic development throughout the world. The main reason for this problem in many countries may be sedentary lifestyle and lack of awareness about disease condition and life.

As per WHO (2018) global estimates, every year, around 15 million people die from NCDs within the age group of 30 – 69 years.¹Cardiovascular diseases (CVDs) account the most common cause of NCDs deaths with an estimate of 17.90 million people die in 2016 despite the phenomenal progress in disease management.²

Nearly around three quarters of deaths take place in low and middle income nations due to CVDs. There are a number of genetic and acquired risk factors for the development of CVD identified. Amongst these, systemic hypertension remains the key root cause of excessive premature mortality and morbidity.³

Blood pressure is created when the force of circulating blood against the wall of major vessels of the body is pumped by heart. The higher the pressure, the harder the heart has to pump. Moreover, high blood pressure also known as hypertension is a chronic condition in which blood vessels have persistently raised pressure.⁴

Normal blood pressure is said when systolic BP < 120 mm hg and diastolic BP < 120 mm hg and hypertension is diagnosed if the blood pressure readings as systolic BP level \geq 140 mm hg and/or diastolic BP level \geq 90 mm hg on two consecutive days as per the Joint national committee (JNC VIII). The area falling between 120-139 mm hg systolic BP and 80-89 mm hg diastolic is defined as Pre-hypertension.⁴

Hypertension is an "iceberg" disease as it is a major cause of premature death worldwide and increases the risk of heart attack, stroke and other diseases.⁵ An estimate of about 26% of world's population i.e. 972 million people are diagnosed with hypertension, and the prevalence is predicted to be increase by 2025 to 29% whereas one of the global targets for NCDs is to reduce the prevalence of hypertension by 25% by 2025.⁶

As per WHO reports, 1.13 billion people have hypertension globally, with upwards of 1 in 4men and 1 in 5 women having the condition due to increase in risk factors among population, and this threat of hypertension felt more in low and middle income nations, where around 2/3rd of cases are prevailing.⁷

India, an emerging and developing country in the world with the most rapidly growing economies, is facing a looming epidemic of NCDs, and it is considered a major challenge of public health in the21stcentury, not only in the terms of human suffering they cause but also in the terms of socioeconomic development of the country. About, 5.80million people die from NCDs each year. However, one out of four Indians are at risk of dying from a NCD before they reach the age of seventy years as per the WHO report, 2015.⁸

As per the World Bank classification 2020-21, India as a low middle income country, shows a rapid epidemiological transition with a shift in disease burden to NCD. The overall prevalence of hypertension in India was 29.8% with significant difference in urban and rural area, i.e., 33.8% and 26.7% respectively.⁹

A study reveals that about one quarter of Indians suffer from chronic conditions with an estimate of 200 million people living with hypertension. It is 3rd most important risk factors for the burden of disease and is directly responsible for 57% of the deaths due to stroke and 24% of deaths due to coronary artery diseases in India.¹⁰

It is also known as "silent killer" as many people with high blood pressure are unaware of their problem because it may have no sign and symptom. Uncontrolled high blood pressure promotes target organ damage and significant disease burden on the community. Therefore, aggressive control of hypertension is mandatory to preserve and protect public health in India, and

the consequences of elevated blood pressure (BP) had a momentous impact on the public health. The primary treatment for hypertension is lifestyle modification, including physical activity, dietary changes with decrease in salt intake, limit alcohol, stress management and maintaining a healthy weight. Although, these all have been recommended in the systemic review and scientific advisories.¹¹

Various Studies shows that there is poor knowledge about hypertension among hypertension patients due to lack of correct information and improper understanding of hypertension not only in rural parts, but also widely reported in urban areas. However, the knowledge among the hypertensive patients is still low in the Indian subcontinent. It may be because of lower literacy, inappropriate perception of medical advice, irregular sources of health-related information or inadequate counseling regarding hypertension due to skewed doctor–patient ratios in the government run hospitals.¹¹

Drugs or medications for hypertension or high blood pressure can be implemented by a stepped care approach when the targets levels are not achieved. Medication adherence is a dynamic process involving the use of the medication at the prescribed frequency and dose. With the awareness, support and supervision of health care workers, adherence in hypertensive patients involves patient's regular use of medications; follow their dietary changes and execute physical activity and life style changes. Optimistic lifestyle practices and medication adherence significantly prevent complications in hypertensive patients.¹²

Compliance or adherence with pharmacotherapy for hypertension in the first year after initiation is typically reported at less than 50%. Historically, the proportion of treated patients controlled, ranging from 20% to 50%, which reflects both effectiveness of pharmacotherapy prescribed and adherence with treatment. Studies reveals that there are various factors such as demographic, socio-economic conditions, concomitant medical behavioral conditions, therapy related, health care team and system related factors and patients factors are associated with poor adherence. Understanding these factors is useful in managing poor or non- adherence.^{13,14}

The country has adopted the Universal Health Coverage Program with the increase in availability of health-care services and the quality of treatment. Since poor adherence, leads to an adverse health outcome and increase in health care costs. Several studies reveal that the rates of non-adherence are greater in low and middle income nations, compared to the developed nations.¹⁵

In the previous years, it was found from various statistics that non-adherence among hypertensive patients ranges between 27% and 70% and the prevalence of adherence among hypertensive was 24.1%. The search for factors associated with poor adherence includes trust in the physician, fear of complications of hypertension and desire to control blood pressure, misconception about disease condition, perceived improvement in health, worsening in health, general disapproval to medications and concern over

side effects. It is estimated that within the 1st year of treatment, 16 to 50% of hypertensive patients discontinue their antihypertensive drugs.²¹

Government of India initiated several health programs and schemes to improve the health promotion through behavior change and early intervention through opportunistic screening for combating and breaking the vicious cycle of its growth. Knowledge related to the disease condition and its complications have a crucial role in managing the effect of hypertension on the general population. In addition, lesser knowledge has a direct influence on adherence to medication which ultimately leads to poor clinical outcome. However, adherence to medication regimen is vital in management of any disease as well as in improving the quality of life.¹⁵⁻²⁰

NEED OF THE STUDY

The WHO envisages "The highest attainable standard of health as a fundamental right of every human being" implies a legal obligations on states to ensure access to timely acceptable and affordable health care of appropriate quality as well as to providing for the underlying determinants of health, such as safe water, sanitation, food, housing, health related information and education with maximum available resources. Hypertension is a growing problem and causes a significant burden on health system. It is one the major risk factor for the diseases like strokes, myocardial infarction, and other cardiovascular diseases which account for about 1/3th of all deaths worldwide. Globally, 1 in 3 adults have high blood pressure, which kills 9.4 million people every year. If we don't take an action, it will carry over to kill

around 1 billion during this century. About 7.5 million deaths, i.e., 12.8% of the total annual deaths occurred due to high blood pressure. This encompasses more than half i.e. 57 million or 3.7% of total DALY.²²

As per the current census of India, the population is 1,386,864,002 as of Sunday, January 3, 2021, based on the recent united nation data. It will be 1.53 billion by 2030. India will become the most populous country by overtake China up to 2045 if current trends continue. India population is approximately 17.7% of the total world population. In the list of countries, India is at no. 2 rank by population.²³In 2019, about 762 million Indians above or equal to 18 years of age in India, amongst these around 234 million adults were having hypertension respectively. Similar prevalence of hypertension (26.5%) was revealed in a survey based on national blood pressure data (n = 1,320,555) ²⁴

India spent more than $1/3^{rd}$ of all income on CVDs and hypertension and the overall prevalence of hypertension is 11.3% with prevalence in (15 – 54 years) is 13.6% and in women (15 – 49 years) is 8.8% where as in Rajasthan it is 12.4% in men and 6.9% in women as per Fourth National Family Health Survey (NFHS – 4) respectively.²⁵

A recent systemic review shows that approximate 30% of the population is having hypertension with a significant difference in urban (33.8%) and rural (27.6%) in India. This incongruity was marked in western India, i.e. in urban (35.8%) and rural (18.1%) respectively.^{26, 27}

According to District NHFS – IV the overall prevalence of hypertension in Jodhpur is 9.9% in men and 5.1% in women whereas in urban parts it is 6.6% in men and 6.2% in women and in rural parts it is 12% in men and women 4.5% respectively. With the rapid economic transition and development, Life style modification, known to be associated with increased risk of hypertension, becoming more common. These changes may be the main driving the convergence of the prevalence of hypertension between urban and rural areas.²⁸

In the recent years, the need for such kind of studies is very important. Also, there is paucity of research data from the western part of Rajasthan. Therefore, a comprehensive strategy for reduction in hypertensive morbidity and complications should consist of prevention strategies such as increased awareness, early detection, adequate treatment, and control of blood pressure (BP). Moreover, during field posting there are no robust, appropriate and organized health education programs either at individual or community level to overcome the lack of awareness of the basics of prevention and control of hypertension and its risk factors among the general. With this backdrop, the study was undertaken to assess the Knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of hypertension.

AIM OF THE STUDY

The aim of the study is to assess the knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur with a view to develop an information booklet regarding selfcare management of hypertension.

STATEMENT OF THE PROBLEM

"Knowledge and medication adherence regarding hypertension among hypertensive patients attending Urban Health Training Centre (UHTC), Pratap Nagar, Jodhpur with a view to develop an information booklet regarding selfcare management of hypertension".

OBJECTIVES OF THE STUDY

- 1. To assess the knowledge regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur.
- **2.** To assess the medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur.
- To determine the association of knowledge among hypertensive patients regarding hypertension with selected socio-demographic and clinical variables.
- 4. To determine the association of medication adherence among hypertensive patients regarding hypertension with selected sociodemographic and clinical variables.

5. To find out the correlation between knowledge and medication adherence among hypertensive patients.

OPERATIONAL DEFINITIONS

- Knowledge: In the present study, it refers to the ability of the hypertensive patients to respond correctly to the questions regarding hypertension and its management on self-structure questionnaire in terms of awareness, risk factors, diet and lifestyle, treatment and compliance and complication.
- Medication adherence: In the current study, it belong to the act of hypertensive patient taking their medication as per scheduled or prescribed by the physician for management of hypertension who are attending UHTC by using Hill-Bone Medication Adherence Scale (HB-MAS).
- Hypertension: In the present study, it refers to the average systolic blood pressure reading more than or equal to 140 mm of hg and / or diastolic blood pressure reading more than or equal to 90 mm of Hg as per Joint National Commission (JNC-8).
- 4. **Hypertensive patients:** In the present study, hypertensive patients refers to the individuals whose age is above 18 years and was diagnosed as a case of hypertension from last one year by the

physician, attending the NCD Clinic, of UHTC, Pratap Nagar during the period of data collection.

- Urban Health Training Centre (UHTC): In the current study UHTC is an urban health training centre which located in Pratap Nagar, Jodhpur.
- 6. Information Booklet: In this study, it refers to a booklet containing information about care of client with hypertension focusing on the aspects like Hypertension, sign and symptoms, risk factors, pharmacological treatment -medication adherence, nutritional or dietary management, regular exercise, regular monitoring of blood pressure level and follow up, education for self care and prevention of complications.

ASSUMPTIONS

- **1.** The hypertensive patients may possess some knowledge regarding hypertension and its management.
- 2. The hypertensive patients might be adherent to the prescribed medication as per the physician.

DELIMITATION

The study was delimited to the hypertensive patients attending Noncommunicable diseases (NCD) clinic, UHTC, Pratap Nagar, District - Jodhpur.

SUMMARY OF THE CHAPTER

This chapter pretends background of the study, need of the study, problem statement, objectives of the study, operational definition, assumptions of the study and delimitation of the study.

CHAPTER II REVIEW OF LITERATURE

REVIEW OF LITERATURE

Review of literature was done to assess in-depth information regarding hypertension in terms of knowledge and medication adherence among hypertensive patients and in further, exploring the research question, design the research methodology.

The review of literature has been categorized into 2 sections -

- 1) Knowledge regarding Hypertension among hypertensive patients.
- 2) Medication adherence among Hypertensive patients.

1. Knowledge regarding Hypertension among hypertensive patients:

G. Karthikeyan and D.Ranganayakulu²⁹assessed the knowledge and medication and drug adherence on hypertension among 100 hypertensive patients attending the OPD of various private hospitals in southern Tamil Naidu. The result reveals that 17% of hypertensive patients had adequate knowledge, followed by 21% had moderate knowledge and more than half had inadequate knowledge whereas, 62% hypertensive patients were having poor adherence, 35% of hypertensive patients were having moderate adherence and very scanty i.e. 3% are having high adherence.

Manasa Bollampally et al.³⁰ carried out a prospective study in IPD of Gandhi hospital, for a period of 6 months. A total of 160 hypertensive patients was administered a validated KAP questionnaire through face to face interview

technique. The researcher observed a good knowledge and poor attitude score toward practice. The present study says that the patients require support and guidance for proper management of disease.

Shikha S. et al.³¹conducted a study to assess the prevalence, its associated factors and to estimate awareness, treatment and adequacy of control of hypertension among urban population of Varanasi using a multistage sampling design. An interview was scheduled on 640 participants within the group of 25 - 64 years. The result shows the prevalence of hypertension was 32.9% and mean systolic and diastolic BP was 124.25 ± 15.5 mm hg and 83.45 ± 9.49 mm hg. The study concludes that the awareness, treatment and control of high blood pressure were very low.

Bakhsh Aet. al.³² carried out a cross-sectional study to evaluate knowledge, awareness and self – care practices among hypertensive patients at the OPD of King Abdulaziz University hospital on Jeddah, Saudi Arabia. The study reveals that majority of cases (76.6%) were having awareness about hypertension. Levels of knowledge wise more than half patients were having average knowledge while 74.4% participants were below average in self – care practices. The author concludes that awareness, knowledge and self – care management practices were found to be significantly poor among old age group and less educated patients.

Sadeq R³³ assessed the knowledge, attitude and practice of hypertensive patients regarding hypertension using a consecutive sampling technique at

OPD of the three main teaching hospitals in Baghdad city. The results shows that more than half (60%) had good knowledge, 80% expressed good attitude while 24% were having good practice. The authors of the study conclude that hypertensive patients in their community have relative good knowledge and attitude but poor practice and compliance to treatment.

Yash Mita, Gurmeet singh and Amarjit Vij³⁴ assessed the knowledge, attitude and practice regarding lifestyle risk factors among hypertensive patients at medical OPD at PIMS, Jalandhar. A total of 200 hypertensive patients were administered a pretested structured Performa using an interview technique. The result reveals that, 170 patients were already on anti - hypertensive drugs and 30 were newly diagnosed. More than half patients had knowledge about hypertension and about 84.5% knew about preventive measures. Regarding attitude, almost all patients were ready to take preventive measures. In practice 68.5% decreased salt intake and 70% were doing physical activity.

Amrita Sarkar et. al.³⁵assessed the knowledge and practice of hypertension among 400 hypertensive patients attending NCD Clinic at tertiary care hospital and 5 CHCs by simple random sampling technique. Result reveals that majority were aware about benefit of exercise in hypertension. Walking (87.9%) the most common form of exercise. Majority (90.9%) practiced for less than 30 minutes and 27.3% practiced for last 5 day per week.

Mohammed A. et.al.³⁶carried out a cross – sectional study to assess the level of knowledge, attitude and practice among hypertensive patients about their disease and compare the level of knowledge, attitude and practice between urban and rural are of Selangor, Malaysia. A total of 1000 hypertensive patients were selected under the study using convenience sampling. Result shows that mean age was 58 years. Half of the participants (51.3%) had moderate knowledge; one third was having fair awareness and 48.8% showed moderate attitude regarding hypertension.

Chimberengwa P. T.et. al.³⁷ conducted a survey to determine knowledge, attitude and practices regarding hypertension in the rural community in south Metebeleland, Zimbabwe. Around 304 participants were selected under the study. The Mean age was 59 years and majority was women. Knowledge about hypertension was poor with more than half respondents were stating that stress was the main cause, 85.9% says that palpitation was a symptom of hypertension, 59.8% added salt on the table. The more education participants had received, the more likely they were having knowledge about hypertension.

Rajan J., Sakthibalan M., Gerard Marshall Raj and Mangaiarkkarasi A.³⁸ conducted a cross sectional study among 200 hypertensive patients attending hypertension clinic of SVMCHR, Puducherry using a questionnaire. Result shows Knowledge regarding hypertension, normal BP, symptoms and complications was 74%, 54.5%, 41.5% and 37.5% respectively. Positive attitude regarding regular medications, role of drugs, diet control, salt

restriction and physical activity was found in 94%, 40.5%, 74%, 76% and 67% respectively. Regular BP measurement, follow up, salt restriction and exercise were practiced by 77%, 77%, 72% and 9% of patients respectively.

Wison et.al.³⁹carried out a descriptive study to evaluate the knowledge regarding hypertension among 100 hypertensive patients at selected hospitals of Mangaluru, Karnataka, India using questionnaire related to hypertension and demographic profile. The result shows significant association with age, gender, religion, educational status, occupation, monthly income, type of family, area of residence, dietary pattern, habits and frequency of eating unhealthy junk food or having outside food (p > 0.05). The authors conclude that hypertensive patient had average level of knowledge regarding hypertension.

Ukoha-Kalu BO et.al.⁴⁰assessed the knowledge, attitude and practice towards hypertension among hypertensive patients receiving care in Kogi state specialist hospital, Lokoja. A pre-validated questionnaire was used for data collection. Result reveals that majority of patients within the age group of 46 – 55 years while 54.6% were male. Only one quarter of patients had good knowledge and attitude towards hypertension. 1.3% patients had good practice toward hypertension.

2. Medication adherence among Hypertensive patients:

Sneha D. Mallya⁴¹ carried out a community based cross – sectional study among hypertensive patients. The study included a total of 200 hypertensive patients on treatment. Result reveals that 69% of them were female. More than one third were literate and 57% of them were BPL. Mostly patients was within the age group of 60 -69 years, 55% of the patients were on treatment for over 5 years and majority of them having adherence rate of \geq 85%. About 13 % of the individuals had discontinued the treatment in the last one month. The most common reason for mission medication was forgetfulness and not having any symptoms.

Balasubramanian A. et.al.⁴²conducted a community based cross - sectional study to assess the level of medication adherence and identify factors associated with it in people with hypertension in the rural Kerala. The result shows that out of 189 patients, 46% were having High adherence, while medium and low adherence was seen in 41.3% and 12.7% patients respectively and poor knowledge of the complications, availing government pharmacy and being asymptomatic at the time of diagnosis were the risk factors for poor adherence. The authors concluded that adherence to medication among people with hypertension in the present study is poor.

Rainder Jhaj et.al.⁴³carried out a survey on adult hypertensive patients who were on anti – hypertensive therapy from last 3 months. Out of 300 patients, only 29.5% had met their target BP as per JNC – VIII recommendations after

a minimum of 3 months of anti – hypertensive therapy. The Mean adherence score was 6.47 ± 1.8 . There was high adherence was found in 39% of patients, while 32.5% had medium adherence and 28.5% had low adherence scores. A significant correlation was found between medication adherence and BP control. The authors conclude that the higher medication adherence were associated with blood pressure control.

Jitendra Meena and Neeti Rustagi⁴⁴ conducted a longitudinal cohort study to check the treatment compliance and adverse effect among hypertensive patients attending NCD Clinic, UHTC, Pratap Nagar, Jodhpur, India among 1036 hypertensive patients was enrolled. The result shows 61.9% patients for above 10 years and 48% were on multiple drug therapy. About 32.2% patients were non – compliant to treatment from 2 years of follow – up. Changed therapy (41.21%) status was inadequate BP control (68.9%), adverse effects (11.9%), service dissatisfaction (7%) and cost (4.9%) with attrition rate 9.2% (N = 96).

Sethu Prabhu Shankar, S. S Suman Babu and Neelakandan Ramya⁴⁵ conducted a cross-sectional study to assess the adherence among hypertensive patients at department of general medicine in Aarupadai Veedu Medical college and hospital, Puducherry among adult hypertensive patients. The result reveals that good adherence was observed in 49% and 59% males and 37% female were found to have adherent to treatment. The study concludes that patients with mono therapy had a good adherence compared to those with polytherapy.

Sahoo SK, Preeti PS and Biswas D⁴⁶conducted a cross-sectional study to assess the adherence to anti - hypertensive therapy and determinants of poor adherence among geriatric hypertensive attended OPD, Rural health centre of West Bengal, India. Result reveals that nearly half (44.63%) of respondents adhered to anti – hypertensive drugs. Irregular supply from Government pharmacy (72.3%), Forgetfulness (67.5%) and non – affordability (66.3%) were the common reasons for poor adherence. The poor adherence to drugs was significantly associated with age, literacy, socio – economic status, duration of treatment and presence of co – morbidities at p >0.05.

Jincy Johnson et.al.⁴⁷ conducted a cross - sectional study to assess compliance and its determinants to pharmacological management of hypertension among 221 hypertensive patients in medical college health unit area Trivandrum. The result indicates mean age of hypertensive patients was 64.6 ± 10.6 years. Overall compliance was 62.4%. The predictors of good compliance were male gender, Joint/extended family type, support, co – morbidities, per day regimen, awareness about BP control status and adequacy of BP. The barrier to compliance was alcohol use, more no. of pills/day and out of pocket expenditure.

Deepti Mathur et.al.⁴⁸ conducted a hospital based cross-sectional study to evaluate the awareness, medication adherence and dietary pattern in hypertensive population of western Rajasthan using a pre – validated questionnaire. A total 384 patients was included under the study, more than

half i.e. 62.5% was males. They found statistical difference in awareness of hypertension among rural and urban patients. Non – adherence towards medication was seen more than half of males i.e. 60% as compare to female (40%). Forgetfulness (27.6%) was the most common reason for non – adherence subsequently poor knowledge and ignorance of long term treatment (22.9%) and 54.9% were taking normal salt intake whereas 45.1% of patients were found to be taking excess intake of salt out of total hypertensive patients.

Yashwant Ramawat⁴⁹ conducted a prospective study in community to assess compliance and their given regimen among 400 hypertensive patients at OPD of tertiary care centre hospital, Delhi. The result shows that 41.25% hypertensive patients were female. About 56% of patients were fully compliant, 24% had fair compliance and 14% had poor compliance and only 6% were not comply to any anti – hypertension treatments.

Fahad M. Algabbani and Aljoharah M. Algabbani⁵⁰carried out crosssectional study to assess treatment adherence among 306 hypertensive patients using systematic sampling technique in Riyadh, Saudi Arabia. The results shows that 42.2% were adherent to treatment of hypertension and almost half of the hypertensive patients reported no co-morbidities and were adherent to treatment respectively. The concluded that non-adherence to medication is prevalent among a proportion of hypertensive patients which urges continuous monitoring to medication adherence with special attention to at risks group of patients.
SUMMARY

This chapter dealt with the literature review Knowledge and Medication adherence regarding hypertension among Hypertensive patients. The review was done under two sections i.e. Knowledge regarding Hypertension among hypertensive patients and Medication adherence among Hypertensive patients.

CHAPTER III RESEARCH METHODOLOGY



Figure 1: Schematic presentation of Research methodology

RESEARCH METHODOLOGY

Methodology in research can be considered to be the theory of correct scientific decision (Polit and Beck 2015).

This chapter deals with research methodology adopted for "Knowledge and medication adherence regarding hypertension among hypertensive patients attending Urban Health Training Centre (UHTC), Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of Hypertension". Its gives detailed description about research design, research setting, population, sample, sampling technique, sampling criteria, data collection tools, validity of tool, ethical consideration, pilot study, tool reliability, procedure for data collection, data analysis and interpretation.

RESEARCH APPROACH

In the present study Quantitative research approach was used as it focuses to assess the knowledge and medication adherence regarding hypertension among hypertensive patients attending NCD Clinic, UHTC, Pratap Nagar, District – Jodhpur, Rajasthan with a view to develop an information booklet regarding self-care management of hypertension.

RESEARCH DESIGN

In the current study Non-experimental Cross-sectional Descriptive research design was used to assess the knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap

Nagar, Jodhpur with a view to develop an information booklet regarding selfcare management of Hypertension.

VARIABLES

A variable is any phenomena or characteristics or attributes under study. In the present study, variables are-

Research Variables:

- 1. Knowledge of hypertensive patients regarding Hypertension.
- 2. Medication Adherence among Hypertensive patients.

Socio-demographic Variables: Age, gender, marital status, education, occupation, type of family, religion, socio-economic status and substance abuse.

Clinical Variables: Duration of treatment of hypertension, co-morbidity, family history of hypertension, body mass index and source of information regarding hypertension.

SETTING OF THE STUDY

The study was conducted at NCD Clinic, UHTC, Pratap Nagar, District -Jodhpur, Rajasthan named as Swami Prabhutanand Government Dispensary, Pratap Nagar (UHTC, AIIMS). It is located in Pratap Nagar area in Jodhpur district of Rajasthan. The distance from AIIMS road to UHTC is 8.7 kilometres. This area is adopted by AIIMS Jodhpur for community posting of nursing students service delivery. This area is an urban area under Sursagar Zone having 5 wards i.e. ward no.17, ward no.18, ward no. 19, ward no.30 and ward no.31. According to ANM data (2019) at present the total population of the area is 1, 01,054. NCD Clinic in UHTC running everyday from 8 o'clock in morning to 1 p.m. with an average of 15-20 hypertensive patients attending the NCD clinic per day.

TARGET POPULATION: The hypertensive patients attending the NCD Clinic, UHTC, Pratap Nagar, Jodhpur District, Rajasthan.

ACCESSIBLE POPULATION: The hypertensive patients who are available at the time of data collection and attending the NCD Clinic, UHTC, Pratap Nagar, Jodhpur District, Rajasthan.

SAMPLING TECHNIQUE AND SAMPLE SIZE

Sampling Technique: It is the process of selecting individual members or a subset of the population to make statistical inferences from them and estimates characteristics of the whole population.

The present study was conducted on 250 hypertensive patients selected by non-probability sampling convenient sampling technique.

Sample size: Sample size was calculated using Daniels' formula⁵¹

Estimated sample size is

 $N = Z^2 \times p(1-p) \div e^2$

Where Z = 95% confidence interval (CI) = 1.96

P = Sample proportion

E = Margin of error (0.05)

As per the study conducted by **Soumitra Ghosh and Manish Kumar** (2019)⁵²Prevalence and associated risk factors of hypertension among person aged 15-49 in India: a cross-sectional study was 13% in urban.

So, sample proportion is $(p) = 13 \div 100 = 0.13$

 $N = 1.96 \times 1.96 \times 0.13 (1-0.13) \div 0.05 \times 0.05$

N = 175

Non response up to 20%

Therefore, **250** hypertensive patients were taken under the study.

CRITERIA FOR SAMPLE SELECTION:

Inclusion Criteria:

The hypertensive patients::

- Patients > 18 years.
- Patients attending UHTC diagnosed with hypertension.
- Patients diagnosed with hypertension for > 1 year.
- Patients who is on anti-hypertensive drugs.
- Patients who are available and willing to participate in the study during data collection.
- Patients who can understand Hindi and English.

Exclusion Criteria:

- 1. The pregnant and lactating mother was excluded.
- 2. The patients with mental illness were excluded.

DEVELOPMENT AND DESCRIPTION OF TOOL

DATA COLLECTION TOOLS (ANNEXURE – IV)

Based on the objectives of the study, the following tool have been prepared by reviewing literature, referencing books, journals, previous studies and guidance of guide & co-guide .It comprises of three sections:

SECTION A:

Part A: Socio-demographic variables datasheet which includes age, gender, marital status, education, occupation, type of family, religion, socio-economic status (Modified Kuppuswamy scale)⁵⁴ and substance abuse.

Part B: Clinical Variables datasheet which includes Duration of treatment of hypertension, co-morbidity, family history of hypertension, body mass index and source of information regarding hypertension.

SECTION B:

It comprises of 22 items self-structured questionnaire to assess the knowledge regarding hypertension among hypertensive patients attending UHTC, Pratap nagar, Jodhpur and is categorized under five domains such as Awareness, Risk Factors, Diet and Lifestyle, Treatment and Compliance and Complications. For each correct answer was rewarded as one (1) marks and incorrect answer as zero (0) and the scores are further categorized as: Good (17-22) Fair (11-16) and Poor (0-11).

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SCORING CRITERIA:

CATEGORY	SCORING	PERCENTAGE OF
		SCORE
Good	17-22	>75%
Fair	11-16	50-75%
Poor	<11	<50%

SECTION C:

The hill bone medication adherence scale⁵⁴ is a standardized scale and permission (APPENDIX III) was taken for the present study to assess the medication adherence among hypertensive patients.

It is nine item scale with wide application across various chronic diseases and conditions for self assessment of medication adherence.

For the full scale – Hill bone medication adherence scale (HB-HBS) with 9 items, with the scoring as

- 1 All of the time
- 2 Most of the time
- 3 Some of the time
- 4 None of the time.

Total maximum score is 36 and minimum score is 9. Level of Medication adherence is determined by using the Demarcation Threshold Formula⁵⁵ [(Total highest score – total lowest score)/2] + Total lowest score and categorized as good adherence (score 23 - 36) and poor adherence (score \leq 22).

SCORING CRITERIA:

CATEGORY	SCORING	PERCENTAGE OF
		SCORE
Good Adherence	23-36	>61%
Poor Adherence	≤ 22	<61%

ETHICAL CONSIDERATION

- Ethical approval was obtained from institute ethics committee AIIMS Jodhpur. Certificate reference number: AIIMS/IEC/2020-21/3005 Dated: 13/10/2020 (APPENDIX – I).
- Permission to conduct main study was obtained from Medical Officer, UHTC, Pratap Nagar, Jodhpur.
- Informed consent was taken from the hypertensive patients and they were assured of confidentiality with autonomy to withdraw self from the study at any time of data collection. (APPENDIX – II).

PILOT STUDY

The pilot study was conducted from 13/10/2020 to 16/10/2020 at Medical OPD of AIIMS Jodhpur on 10% of the total sample size of the main study i.e. 25 hypertensive patients were selected via convenient sampling technique. Data was collected using self structured knowledge questionnaire and standardized Hill Bone Medication Adherence scale (HB-MAS) was used through face to face interview. The main objectives were

• To assess the feasibility of the study.

- To assess the practicability of the study.
- To assess the reliability of data collection tool.
- To determine the understanding and language clarity of tool.

Result of the pilot study indicated that study was found feasible, practical and language of data collection tool was clear and understandable to hypertensive patients.

CONTENT VALIDITY OF THE TOOL

Validity of self-structured knowledge questionnaire was established by opinion of 8 experts from different institution and certain modification were done in the questionnaire according to expert's and guide's suggestions and the Scale Content Validity Index (S-CVI)/avg. of self structured questionnaire was **0.98**.

RELIABILITY

- a) Self-structured knowledge questionnaire's internal consistency was determined by Kuder Richardson 20 formula. Reliability of tool is 0.73 which is within acceptable range (0.7-1).
- **b)** Hill bone Medication Adherence Scale (HB-MAS) internal consistency was Cronbach's alpha. Reliability of tool was 0.74.

Table 1: Reliability of data collection tools

S. No.	Tools	Reliability	Statistics	Value	Inference
a.	Self-structured knowledge questionnaire	Internal consistency	KR-20	0.73	Acceptable
b.	Hill bone Medication Adherence Scale (HB- MAS)	Internal consistency	Cronbach's alpha	0.74	-

PROBLEM FACED DURING PILOT STUDY:

No problem faced during data collection.

CHANGES AFTER PILOT STUDY:

Re-arrangement of items was done in Self structure knowledge questionnaire & two items were deleted from Self-structure knowledge questionnaire.

PROCEDURE FOR DATA COLLECTION

After obtaining permission from Institute Ethics Committee, Principal and Medical officer at UHTC, data collection was initiated. Data collection was done from 19/10/2020 to 04/12/2020.

Steps of data collection were as follows:

- Hypertensive patients were approached.
- Self introduction was given to the hypertensive patient and purpose of the study was explained to them.

- Confidentiality of their responses was assured and their written consent was taken prior to the study.
- Data was collected by face to face interview.
- Average 10 15 minutes were taken to collect data and fill Performa for each hypertensive patients.
- Therefore, collected data was coded and entered into master sheet for analysis.

PLAN FOR DATA ANALYSIS

Data was collected was coded and entered into masters sheet and analyzed with help of statistical package for social sciences programme (SPSS) 26. Descriptive and inferential statistics was used.

- Descriptive statistics: Frequency, percentage, mean and standard deviation had been used to describe the Socio-demographic variables, knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur.
- Inferential statistics: Chi square test had been used to find out the association of knowledge and medication adherence with selected Socio-demographic variables. Phi coefficient and Cramer's V coefficient had been used to find out the strength of association of level of knowledge and medication adherence with selected Sociodemographic variables. Karl Pearson correlation test was used to find

the correlation between knowledge and medication adherence scores among hypertensive patients.

PLAN FOR DEVELOPMENT OF INFORMATION BOOKLET

Booklet was developed containing information about care of client with hypertension focusing on the aspects like Hypertension, sign and symptoms, risk factors, pharmacological treatment -medication adherence, nutritional or dietary management, regular exercise, regular monitoring of blood pressure level and follow up, education for self care and prevention of complications

SUMMARY

This chapter deals with the research methodology. Quantitative research approach and cross-sectional descriptive research design were used in this study. Study was conducted at UHTC, Pratap Nagar, Jodhpur. Data were collected by the face to face interview from 250 hypertensive patients attending NCD Clinic, UHTC, Pratap Nagar, Jodhpur were selected using convenient sampling technique. Self-structured knowledge questionnaire and Hill Bone Medication adherence scale (HB-MAS) were used to collect the data from the hypertensive patient. Collected data was entered into master sheet and SPSS 26 version was used for the descriptive and inferential statistical analysis.

CHAPTER IV DATA ANALYSIS & INTEPRETATION

DATA ANALYSIS AND INTEPRETATION

Data analysis is a dynamic process that involves interaction between the researcher and his experience of the data, whether is communicated orally or in writing. During this process the researcher explores personal feelings and experiences that may influences the study and integrates this understanding into the study.

Data was collected from 250 hypertensive patients attending the NCD clinic, UHTC, Pratap Nagar, Jodhpur, Rajasthan and collected information was tabulated, analyzed and interpreted using descriptive and inferential statistics.

OBJECTIVES OF THE STUDY

- **1.** To assess the knowledge regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur.
- **2.** To assess the medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur.
- To determine the association of knowledge among hypertensive patients regarding hypertension with selected socio-demographic and Clinical variables.
- 4. To determine the association of medication adherence among hypertensive patients regarding hypertension with selected sociodemographic and Clinical variables.
- **5.** To find out the correlation between knowledge and medication adherence among hypertensive patients.

ORGANIZATION AND PRESENTATION OF DATA

The data and findings have been organized and presented under the following sections:

Section – I: Descriptive of Socio- demographic and Clinical data of hypertensive patients. The selected demographic data were described in terms of Frequencies and Percentages.

Section-II: Findings related to regarding hypertension among hypertensive patients:

- a) Level of knowledge among hypertensive patients.
- b) Domain wise Mean, Mean percentage and ranking of knowledge scores regarding hypertension among hypertensive patients.

Section – III: Findings related to medication adherence regarding hypertension among hypertensive patients.

- a) Levels of medication adherence amonghypertensive patients.
- b) Item wise Mean and ranking Medication adherence score among hypertensive patients.

Section – IV: Finding related to association between level of knowledge regarding hypertension with selected socio-demographic and Clinical variables.

Section – V: Findings related to association between level of medication adherence regarding hypertension with selected socio-demographic and Clinical variables.

Section – VI: Findings related to correlation between knowledge and medication adherences among Hypertensive patients.

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Section – I: Description of Socio-demographic data of hypertensive patients.

Table 2: Frequency and percentage distribution of hypertensive patientsin terms of socio-demographic variables.(N=250)

S. No.	Socio-demographic Variables	f (%)
1.	Age (in completed years):	<u>, </u>
	a) 30 – 39	25(10)
	b) $40 - 49$	50(20) 84(33.6)
	d) $60 - 69$	55(22)
	e) ≥ 70	36(14.4)
	Mean age ± SD	55.5±12.234
2.	Gender:	
	a) Male	135(54)
2	b) Female Marital status:	115(46)
э.	a) Married	220(88)
	b) Widow / widower	30(12)
4	Education	
4.	a) Illiterate	60(24)
	b) Primary	50(20)
	c) Secondary	85(34)
	d) Higher secondary	40(16)
	e) Graduation and above	10(6)
5.	Occupation:	
	a) Government employment	30(12)
	b) Private employment	75(30)
	c) Home maker	65(26) 80(22)
	d) Sell employed	80(32)
6.	Type of family:	45(40)
	a) Nuclear	45(18)
	b) 50m	205(82
7.	Religion:	170(00)
	a) Hindu b) Mualim	170(68)
	D) MUSIIII	80(32)
8.	Socio-economic status:	
	a) Upper middle class	30(12)
	b) Lower middle class	105(42)
	d) Lower class	80(32) 35(14)
r.		
9.	Substance abuse:	
	a) Yes b) No	115(46) 135(54)
		133(34)

Table 2: depicts the socio-demographic data of the hypertensive patients under study. Nearly 84(33.6%) of the hypertensive patients were within age group of 50 – 59 years. 55 (22%) of the hypertensive patients were within age group of 60 - 69 years, 50 (20%) of the hypertensive patients were within age group of 40 - 49 years, 36 (14.4%) of the hypertensive patients were ≥ 70 years and only 25 (10%) of the hypertensive patients were within age group of 30 – 39 years(figure 2) with Mean age of hypertensive patients is 55.5±12.234 years. More than half 135(54%) hypertensive patients were male and 115(46%) were female (figure 3). About 220 (88%) were married and 30(12%) were Widow/widower (figure 4). Nearly one third (34%) of the hypertensive patients were educated up to secondary level, 60(24%) of hypertensive patients were illiterate, 50(20%) of hypertensive patients were educated up to primary, 40(16%) had studied till higher secondary and very scanty number i.e. 10(6%) their education up to graduation & above (*figure 5*). About 80(32%) were self-employed, 75(30%) were in private job, 65(26%) were homemaker whereas 30(12%) of hypertensive patients are having government employment (figure 6). About 205(82%) of hypertensive patients belong to joint family and 45(18%) were living in nuclear family(*figure 7*). 170 (68%) of the hypertensive patients were Hindu & 80 (32%) of hypertensive patients were Muslim by religion(*figure 8*).

Socio-economic status (SES) wise 105(42%) were lower middle class, 80(32) were upper lower class, 35(14%) were in lower class and very few 30(12%) are from upper middle class(*figure 9*). About 135(54%) were not doing any substance abuse and 115(46%) were doing substance abuse i.e. Tobacco (39.91%), Alcohol (26.95%), Smoking (21.73) and others (17.39%) (*figure10*).

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Figure 2: Bar diagram depicting Age wise % distribution of Hypertensive patients (N=250)



Figure 3: Pie diagram depicting Gender wise % distribution of Hypertensive patients (N=250)



Figure 4: Pie diagram depicting % distribution of Hypertensive patients as per Marital status (N=250)



Figure 5: Bar diagram depicting % distribution of hypertensive patients as per the education. (N=250)



Figure 6: Bar diagram depicting % distribution of Hypertensive patients as per the Occupation. (N=250)



Figure 7: Pie diagram depicting % distribution of Hypertensive patients as per Type of family (N=250)



Figure 8: Pie diagram depicting % distribution of Hypertensive patients as per the Religion (N=250)



Figure 9: Bar diagram depicting % distribution of Hypertensive patients as per the Socio-economic status. (N=250)



Figure 10: Pie diagram depicting % distribution of Hypertensive patients as per Substance abuse (N=250)

Table 3: Frequency and percentage distribution of hypertensive patients in terms of Clinical variables.

S. No.	Socio-demographic Variables	f (%)	
1.	Duration of treatment of hypertension:		
	a) 1 – 2 years	40(16)	
	b) > 2 – 5 years	160(64)	
	c) > 5 years	50(20)	
2.	Co-morbidity:		
	a) Yes	110(44)	
	a) No	140(56)	
3.	Family history of Hypertension		
	b) Yes	132(36)	
	a) No	118(64)	
4.	Body Mass Index:		
	a) Underweight	15(6)	
	b) Normal Weight	135(54)	
	c) Pre - Obesity	67(26.8)	
	d) Obesity class I	28(11.2)	
	e) Obesity class II	5(2)	
5.	Source of Information regarding hypertension:		
	c) Yes	225(90)	
	d) No	25(10)	
		、 <i>·</i>	

(N=250)

Table 3: depicts the Clinical data of the hypertensive patients under study, Nearly 160(64%) of hypertensive patients were taking treatment from >2-5 years followed by 50(20%) were taking treatment from more than 5 years and 40(16%) were taking treatment from 1-2years (*figure 11*). Majority 140(56%) of Hypertensive patients was having no co-morbidity whereas 110(44%) were having co-morbidity (*figure 12*). About 132(64%) were having family history of hypertension and 118(32%) were not having family history of hypertension (*figure 13*). As per Body Mass Index is concerned 135(54%) had the normal weight, 67(26%) were having pre-obesity, 28(11%) were having obesity class I, 15(6%) were underweight and 5(2%) were having obesity class – II
 (*figure 14*). As per the source of information regarding hypertension is concerned 225(90%) of them and 25(10%) were not having (*figure 15*).



Figure 11: Pie diagram depicting % distribution of Hypertensive patients as per duration of Treatment of hypertension. (N=250)



Figure 12: Pie diagram depicting % distribution of Hypertensive patients with Co-morbidity. (N=250)



Figure 13: Pie diagram depicting % distribution of Hypertensive patients as per Family history of hypertension. (N=250)



Figure 14: Bar diagram depicting % distribution of Hypertensive patients as per the Body mass index. (N=250)



Figure 15: Pie diagram depicting % distribution of Hypertensive patients as per Source of information regarding hypertension. (N=250)

Section – II Level of knowledge among hypertensive patients regarding hypertension

Table 4: Level of knowledge regarding hypertension amonghypertensive patients.

(N = 250)

S. No.	Level of knowledge	Frequency (%)	Mean ± SD
1.	Good (<50%)	92(36.80%)	
2.	Fair (50 to 75%)	101(40.40%)	11.59±3.622
3.	Poor (>75%)	57(22.80%)	

Maximum score – 22, Minimum score - 0





Table 4 and figure 16: Depict level of knowledge among hypertensive patients regarding hypertension. About 40.4% of hypertensive patients had Fair knowledge and followed by 36.8% of hypertensive patients had Good knowledge and only 22.8% of hypertensive patients had Poor knowledge

regarding hypertension. The mean level of knowledge is 11.59±3.622 which infers that on an average hypertensive patients had fair knowledge regarding hypertension.

 Table 5: Domain wise Mean, Mean percentage and ranking of knowledge

 regarding Hypertension among hypertensive patients.

S.	Domain of	No.	Maximum	Mean ± S.D	Mean	Rank
No.	Knowledge	of	score		Percentage	
		items			(%)	
1.	Awareness	3	3	1.400±0.977	44.66%	V
2.	Risk factors	5	5	2.768±1.287	52.80%	111
3.	Diet and life style	7	7	4.088±1.483	48.42%	IV
4.	Treatment and Compliance	3	3	1.488±0.973	62.66%	I
5.	Complications	4	4	1.888±1.152	53.25%	II

$$(N = 250)$$

Table 5: shows the domain wise Mean, Mean percentage and ranking of knowledge regarding Hypertension among hypertensive patients. Notable Treatment and Compliance domain of knowledge questionnaire had highest mean % (62.66%) followed by complications (53.25%) whereas awareness domain had least mean% (44.66%) followed by Diet and lifestyle (48.42%).This infers that hypertensive patients had more knowledge regarding treatment and compliance.

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Section-III: Level of Medication adherence among hypertensive patients regarding hypertension

Table 6: Level of medication adherence among hypertensive patients

 regarding hypertension

(N = 250)

S. No.	Level of Medication	Frequency (%)	Mean ± SD
	Adherence		
1.	Good adherence (\leq 22)	145(58%)	
2.	Fair adherence (23-36)	105(42%)	21.62±3.941

Maximum score - 36, Minimum score - 9





Table 6 and figure 17: Depict level of medication adherence among hypertensive patients regarding hypertension. More than half(58%) of hypertensive patients had Poor adherence and followed by 42.00% had Good adherence. The mean level of medication adherence is 21.62±3.941 which

infers that on an average hypertensive patients had Poor medication adherence regarding hypertension.

Table 7: Item wise Mean and ranking Medication adherence score among hypertensive patients.

S. No.	ITEM	MEAN ± SD	Rank
1.	How often do you forget to take your	2.37 ± 0.808	VI
	high blood pressure medicine?		
2.	How often do you decide NOT to take	2.33 ± 0.917	VII
	your high blood pressure medicine?		
3.	How often do you forget to get	2.38 ± 0.921	V
	prescription filled?		
4.	How often do you run out of high blood	2.39 ± 0.939	IV
	pressure pills?		
5.	How often do you skip your high blood	2.52 ± 0.756	П
	pressure medicine before you go to the		
	doctor?		
6.	How often do you miss taking your high	2.20 ± 0.818	VIII
	blood pressure pills when you feel		
	better?		
7.	How often do you miss taking your high	2.48 ± 1.034	Ш
	blood pressure pills when you feel sick?		
8.	How often do you take someone else's	2.74 ± 1.063	I
	high blood pressure pills?		
9.	How often do you miss taking your high	2.19 ± 0.875	IX
	blood pressure pills when you are		
	careless?		

Table 7: depicts the item wise mean score and ranking of the items of medication adherence scale. Result shows that item number 8 i.e. "How often do you take someone else's high blood pressure pills?" had highest mean

score (2.74 \pm 1.063) followed by item number 5 i.e. "How often do you skip your high blood pressure medicine before you go to the doctor?" (2.52 \pm 0.756) whereas item number 9 i.e. "How often do you miss taking your high blood pressure pills when you are careless?" (2.19 \pm 0.875) had least mean score followed by item number 6 i.e. "How often do you miss taking your high blood pressure pills when you feel better?" (2.20 \pm 0.818) respectively. Section IV: Findings related to association of level of knowledge with

selected socio-demographic variables.

Table 8: Association of level of knowledge with selected Socio-demographic variables among hypertensive patients.

(N =250)

S.	Socio-	Leve	l of knowled	lge	df	χ²	p -value
No.	demographic Variables	Good	Fair	Poor			
1	Age (in completed Yea	ars):					
	a. 30 – 39	9	10	6	8	16.666	0.034*
	b. 40 – 49	10	24	16			
	c. 50 – 59	35	25	24			
	d. 60 – 69	22	26	7			
	e.≥ 70	16	16	4			
2	Gender:						
	a. Male	54	46	35	2	4.981	0.084 ^{NS}
	b. Female	38	55	22			
3.	Marital status:						
	a. Married	81	92	47	2	2.572	0.300 ^{NS}
	b. Widow / Widower	11	9	10			
4.	Education:		-				
	a. Illiterate	19	33	8	10	66.07	0.000*
	b. Primary	24	19	7			
	c. Secondary	39	31	15			
	d. Higher secondary	10	18	12			
	e. Graduation and	-	-	15			
	above						
5.	Occupation:	_	_		_		*
	a. Government	5	5	20	6	38.989	0.000^
	Employment		05				
	b. Private	29	35	11			
		20	20	0			
	c. Home maker	28	28	9			
6	Type of family:	30	33	17			
0.	a Nuclear	11	15	10	2	12 03/	0 002*
	b loint	81	86	38	2	12.004	0.002
7	Policion	01	00	00			
7.		66	62	11	2	2 464	0 207NS
		00	03	41	2	2.404	0.297
0	D. MUSIIM	26	38	16			
8.	Socio-economic statu	s:	0	04	0	05 070	0.000*
	a. Opper Middle	3	0	21	0	65.076	0.000
	b Lower Middle	28	50	27			
	class	20	50	21			
	c. Upper lower class	46	28	6			
	d. Lower class	15	17	3			
9	Substance abuse:			-			
	a. Yes	40	51	24	2	1.405	0.508 ^{NS}
	b. No	52	50	33			

Significance at p<0.05; ^{NS} Not significance, * Significance

Table 8: Depicts the association of level of knowledge among hypertensive patients with selected Socio-demographic variable. Level of Knowledge of hypertensive patients were found to have significant association with Age (χ^2 :16.666; p value: 0.034), education (χ^2 : 66.07; p value: 0.000), occupation(χ^2 : 38.989; p value: 0.000) and socio-economic status (χ^2 :65.076; p value: 0.000), This infers that knowledge is greatly affected by age, education, occupation and socio-economic status.

All the other socio-demographic variables such as gender, marital status, type of family, religion and substance abuse did not have any statistical significant association with level of Knowledge as for all these variables p value is > 0.05.

 Table 9: Strength of association between level of knowledge and Socio

 demographic variables among hypertensive patients.

				(N=250)
S. No.	Socio-demographic Variables	P Value	Cramer's V	Strength of association
1	Age	.034	.214	Low
2	Education	.000	.364	Moderate
3	Occupation	.000	.279	Low
4	Socio-economic status	.000	.361	Moderate

Table 9: shows the strength of association between level of knowledge and Socio-demographic variables among hypertensive patients. The value of Cramer's V of Education (.364) and socio-economic status (.361) which infers

that there is Moderate association with level of knowledge followed by Age (.214) and occupation (.279) which infers that there is low association with level of knowledge

Table 10: Association of level of knowledge with selected Clinicalvariables among hypertensive patients.

						(N=2	50)
S.	Socio-	Level	of knowled	dge	df	X ²	p -value
No.	demographic Variables	Good	Fair	Poor			
1.	Duration of treatme	ent of hypert	tension:				
	a. 1 - 2 years	9	14	17	4	16.19	0.003*
	b. >2 - 5 years	68	67	25		9	
	c. > 5 years	15	20	15			
2.	Co-morbidity:						
	a. Yes	37	44	29	2	1.636	0.434 ^{NS}
	b. No	55	57	28			
3.	Family history of H	ypertension	:				
	a. Yes	43	57	32	2	2.147	0.351 ^{NS}
	b. No	29	44	25			
4.	Body Mass Index:						•
	a. Underweight	3	2	10	8	39.76 2	0.000
	b. Normal weight	57	58	20		2	
	c. Pre-obesity	24	29	14			
	d. Obesity class I	8	12	8			
	e. Obesity class II	-	-	5			
5.	Source of Informat	ion regardin	g hyperten	ision:			
	a. Yes	84	86	55	2	5.484	0.063 ^{NS}
	b. No	8	15	2			

Significance at p<0.05; ^{NS} Not significance, * Significance
Table 10: Depicts the association of level of knowledge among hypertensive patients with selected Clinical variable. Level of Knowledge of hypertensive patients were found to have significant association with Duration of treatment of hypertension (χ^2 : 16.199; p value: 0.003) and body Mass Index (χ^2 : 39.762; p value: 0.000). This infers that knowledge is greatly affected by duration of treatment of hypertension and Body Mass Index.

All the other Clinical variables such as co-morbidity, family history of hypertension and Source of information regarding hypertension did not have any statistical significant association with level of Knowledge as for all these variables p value is > 0.05.

Table 11: Strength of association between level of knowledge andClinical variables among hypertensive patients.

(N = 250))
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S. No.	Socio-demographic	P Value	Cramer's V	Strength of
	Variables			association
1.	Duration of treatment	.003	.180	Low
2.	Body mass index	.000	.282	Low

Table 11: depicts the strength of association between level of knowledge and clinical variables of hypertensive patients. The value of Cramer's Vof Duration of treatment (.180) and Body mass index (.282) which infers that there is low association with level of knowledge.

Section-V: Findings related to association of level of Medication adherence with selected Socio-demographic variables.

Table 12: Association of level of Medication adherence with selectedSocio-demographic variables among hypertensive patients.(N = 250)

S. No.	Socio-	Level of Medicati	df	X²	p	
	demographic Variables	Poor Adherence	Good Adherence			value
1	Age (in completed ye	ears):				
	a. 30 – 39	14	11	4	2.391	0.672 ^{NS}
	b. 40 – 49	29	21			
	c 50 – 59	47	37			
	d 60 – 69	30	25			
	e. ≥ 70	25	11			
2	Gender:	20				
	a. Male	76	59	1	0.350	0.608 ^{NS}
	b. Female	69	46			
3.	Marital status:					
	a. Married	130	90	1	0.896	0.431 ^{NS}
	b. Widow/widower	15	15	-		
4.	Education:	-	-			
	a. Illiterate	42	18	5	26.166	0.000*
	b. Primary	33	17			
	c. Secondary	46	39			
	d. Higher Secondary	24	16			
	e. Graduation and	-	15			
	above					
5.	Occupation:					
	a. Government	8	22	3	17.503	0.000*
	Employment					
	b. Private	50	25			
	Employment		- /			
	c. Home maker	44	21			
	d. Self employed	43	37			
6.	Type of family:				/	
	a. Nuclear	21	24	1	2.894	0.097 ^{№5}
	b. Joint	124	81			
7.	Religion:					
	a. Hindu	95	75	1	0.978	0.340 ^{№S}
	B. Muslim	50	30			
8.	Socio-economic stat	us:		_		*
	a. upper middle	5	25	3	27.379	0.000
	class					
	b. lower middle	64	41			
	class					
	c. upper lower class	5/	23			
	d. lower class	19	16			
9.	Substance abuse:					
	a. Yes	67	48	1	0.006	1.000 ^{№S}
	b. No	78	57			

Significance at p<0.05; ^{NS} Not significance, * Significance

Table 12:shows the association of level of Medication adherence among hypertensive patients with selected socio-demographic variable. Level of Medication adherence of hypertensive patient were found to have significant association with education (χ^2 : 26.166; p value: 0.000), occupation(χ^2 : 17.503; p value: 0.000) and socio-economic status (χ^2 :27.379; p value: 0.000)This infers that medication adherence was greatly affected by education, occupation, socio-economic status and body mass index.

All the other socio-demographic variables such as age, gender, marital status, type of family, religion and substance abusedid not have any statistical significant association with level of medication adherence as for all these variables p value is > 0.05.

Table 13: Strength of association between level of Medication adherence& Socio-demographic variables among hypertensive patients.

(N = 250)

S. No.	Socio-demographic	P Value	Cramer's V	Strength of
	Variables			association
1	Education	.000	.324	Moderate
2	Occupation	.000	.265	Low
3	Socio-economic status	.000	.331	Moderate
3	Socio-economic status	.000	.331	Moderate

Table 13: depicts the strength of association between levels of Medication Adherence& Socio-demographic variables among hypertensive patients. The value of Cramer's V of Education (.324) and socio-economic status (.331) which infers that there is Moderate association with level of Medication Adherence followed by occupation (.265), which infers that there is low association with level of Medication Adherence

Table 14: Association of level of Medication adherence with Clinicalvariables among hypertensive patients.(N = 250)

S. No.	Clinical Variables	ical Variables Level of Medication Adherence		df	X ²	p
		Poor Adherence	Good Adherence			value
1.	Duration of treatment	nt of hypertension:				
	a. 1 -2 years	18	22	2	3.469	0.181 ^{NS}
	b. >2 – 5 years	98	62			
	c. > 5 years	29	21			
2.	Co-morbidity:					
	a. Yes	62	48	1	0.216	0.699 ^{NS}
	b. No	83	57			
3.	Family history of Hy a. Yes	pertension: 74	58	1	0.432	0.524 ^{NS}
	b. No	71	47			
4.	Body Mass Index:					
	a. Underweight	6	9	4	10.904	0.024*
	b. Normal weight	84	51			
	c. Pre-obesity	41	26			
	d. Obesity class I	14	14			
	e. Obesity class II	-	5			
5.	Source of Information	on regarding hyperte	nsion:			
	a. Yes	129	96	1	0.411	0.670 ^{NS}
	b. No	16	9			

Significance at p<0.05; NS Not significance, * Significance

Table 14: depicts the association of level of Medication adherence among hypertensive patients with selected socio-demographic variable. Level of Medication adherence of hypertensive patient were found to have significant association with Body Mass Index (χ^2 : 10.904; p value: 0.024). This infers that medication adherence was greatly affected by body mass index.

All the other clinical variables such as duration of treatment of hypertension, co-morbidity, family history of hypertension and source of information regarding hypertension did not have any statistical significant association with level of medication adherence as for all these variables p value is > 0.05.

Table 15: Strength of association between level of Medication adherence& Clinical variables among hypertensive patients.

S. No.	Socio-demographic	P Value	Cramer's V	Strength of
	Variables			association
1	Body mass index	.024	.209	Low

Table 15: depicts the strength of association between levels of Medication Adherence& Socio-demographic variables among hypertensive patients. The value of Cramer's V of Body mass index (.209) which infers that there is low association with level of Medication Adherence.

Section-VI: Findings related to correlation between knowledge and medication adherences among Hypertensive patient.

			(
Correlation	Mean	SD	r
Knowledge	11.59	3.622	
Medication	21.62	3.941	0.461
Adherence			

Table- 16: Correlation between Knowledge and Medication Adherencesamong Hypertensive patients.

(N = 250)





 Table 16 and figure 18: represent the Correlation between Knowledge and

 Medication Adherences among Hypertensive patients.

Result reveals that there was a weak positive correlation between knowledge and medication adherences among hypertensive patients regarding hypertension which infers that medication adherence is affected by knowledge regarding hypertension.

MAJOR FINDINGS OF THE STUDY:

- Mean age of Hypertensive patients 55.5 ±12.234years.
- Mean knowledge scores of Hypertensive patients was 11.59±3.622.
- Mean Medication adherence score of Hypertensive patients was 21.62±3.941.
- About 40.40% of hypertensive patients had Fair knowledge and followed by 36.80% of hypertensive patients had Good knowledge and only 22.80% of hypertensive patients had Poor knowledge regarding hypertension.
- More than half (58.00%) of hypertensive patients had Poor adherence and followed by 42.00% had Good adherence.
- Notable Treatment and Compliance domain of knowledge questionnaire had highest mean % (62.66%) followed by complications (53.25%) whereas awareness domain had least mean% (44.66%) followed by Diet and lifestyle (48.42%).
- Item wise mean score and ranking of the items of medication adherence scale. Result shows that item number 8 i.e. "How often do you take someone else's high blood pressure pills?" had highest mean score (2.74 ± 1.063) followed by item number 5 i.e. "How often do you skip your high blood pressure medicine before you go to the doctor?" (2.52 ± 0.756) whereas item number 9 i.e. "How often do you miss taking your high blood pressure pills when you are careless?" (2.19 ±

0.875) had least mean score followed by item number 6 i.e. "How often do you miss taking your high blood pressure pills when you feel better?" (2.20 \pm 0.818) respectively.

- Level of Knowledge among hypertensive patients were found to have significant association with Age (χ²: 16.666; p value: 0.034), education (χ²: 66.07; p value: 0.000), occupation(χ²: 38.989; p value: 0.000), socio-economic status (χ²: 65.076; p value: 0.000), Duration of treatment of hypertension (χ²: 16.199; p value: 0.003) and body Mass Index (χ²: 39.762; p value: 0.000).
- Level of medication adherence among hypertensive patients were found to have significant association with education (χ² : 26.166; p value: 0.000), occupation(χ² : 17.503; p value: 0.000), socio-economic status (χ²: 27.379; p value: 0.000) and Body Mass Index (χ² : 10.904; p value: 0.024).
- There was a weak positive correlation between knowledge and medication adherences among hypertensive patients.

DEVELOPMENT OF INFORMATION BOOKLET:

The information booklet on Self-care management of Hypertension was aim to change in the lifestyle practices, diet modification, prevention of complication and improve the quality of life among Hypertensive patients.

The title of this information booklet was "**Hypertension: the silent killer**" It contain information regarding the following:

- Introduction
- Blood pressure.
- Risk factors
- Sign and Symptoms
- Diagnostic criteria of hypertension
- Blood pressure target
- Complications
- Managing hypertension
- How to measure your blood pressure
- Drug therapy
- Take home message

Therefore, the booklet was developed in Hindi and English. It was validated from the language expert and subject experts from different institution and certain modification were done in the information booklet according to expert's and guide's suggestions.

DISCUSSION

Over the few decades, access to affordable and good quality medicines in health care system had a made progress with advancement in conceptual approach, innovation in technology and social prioritization, in spite of these attempts, the threat to Non-Communicable Diseases constitutes a major concern of public health that undermines social and economic development throughout the world.¹ MoHFW and state governments are eyeing their attention to this concern. IHCI and NPCDCS are the two important initiatives launched by ministry and ICMR to enhance access to health care services at the doorstep through decentralization of routine care services such as blood pressure monitoring and drug refills at the Health and Wellness Centre's (HWCs). These strategies led to a significant improvement in regular patient follow-ups at HWCs and patient compliance with their medications. The present study was planned to assess the Knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur.

The present shows mean age of hypertensive patients was 55.5 ± 12.234 . A survey conducted by Chimberengwa P. T. et al (2019) ³⁷to determined hypertension knowledge, attitude and practices among 304 respondents with the mean age is 59 years.

In current study about 36% of hypertensive patients lay within the age group 40-59 years and about 88% are married. Similar results were shown by the study conducted by Mathur. D et al. (2020)⁴⁶ observed that 45% male and

51.4 % female comes under the age group of 40 – 60 years and mostly subject was married.

Knowledge of the hypertensive patients depends on their literacy, awareness, duration of treatment and availability of any source of information regarding hypertension in that particular area. Knowledge about the disease process and its complication has an important role in managing the impact of hypertension in public.

The current study result reported that 40.4% hypertensive patients had fair knowledge regarding hypertension. About 36% of hypertensive patients had good level of knowledge level and very scanty no. of hypertensive patients had good level of knowledge regarding hypertension. The mean knowledge score is 11.82±3.548. Similar results have been shown by a study conducted by G. Karthikeyan and D. Ranganayakulu (2014)²⁹where 17% of hypertensive patients had adequate knowledge, followed by 21% had moderate knowledge and 62% had inadequate knowledge. Contrary results were shown in the study conducted by Wilson et al (2019)³⁶where the majority of the hypertensive patients had average knowledge (60%), followed by 40% had poor knowledge and none of them had good knowledge about management of hypertension and a study conducted in Nigeria by Ukoha-Kalu BO et al (2020)⁴⁰ shows 61.1% had fair knowledge followed by 23.6% had good knowledge and 12.3% had poor knowledge regarding hypertension respectively.

Medication adherence of hypertensive patients is the act to which a person's behavior of taking drug, following a diet, and/or executing lifestyle modification, corresponds with agreed recommendation from a health care provider.

The current study results reported that 58% hypertensive patients have poor level of medication adherence and about 42% have good level of adherence to medication. The mean score is 21.34 ± 4.154 . These results nearly agrees with the findings of a study conducted by Ratinder Jhaj et al. (2018)⁴³where the Mean adherence score on the MMAS – 8 was 6.47 ± 1.8 . A high adherence was found in 39% of patients, while 32.5% had medium adherence and 28.5% had low adherence scores and Arjun Balasubramanian, et al. (2018)⁴²shows that High adherence was seen in 46% of the patients, while medium and low adherence was seen in 41.3% and 12.7%. Another study conducted by Fahad M. Algabbani and Aljoharah M. Algabbani (2020)⁵⁰ where 42.2% were adherent to treatment of hypertension and almost half of the hypertensive patients reported no co-morbidities and were adherent (49.8%) to treatment respectively.

In the present study shows level of knowledge of the hypertensive patients have significant association with Age, education, occupation, socio-economic status, Duration of treatment of hypertension, and body Mass Index. A Similar result has been seen in the study conducted by Amrita sarkar et al (2018)³⁵ shows that there was a statistically significant association of level of knowledge with Age, education and socio economic status and Sadeq R

(2017)³³ the level of knowledge is significantly associated with age, gender, education level, duration of hypertension and presence of family history of hypertension.

As per the association of level of medication adherence among hypertensive patients with selected socio-demographic variables concerned, only there socio – demographic variables i.e. education, occupation and socio-economic status had significant association with level of medication adherence in this study. A Similar result has been seen in the study conducted by Sahoo S K et al (2018)⁴⁶ adherence to drugs was significantly associated with age, literacy, socio – economic status, duration of treatment and presence of co – morbidities at p > 0.05.

The current study shows that knowledge is having weak positive correlation affected by medication adherences among Hypertensive patient.

The difference in results among previous studies and the current study may be due to different ethnicity, geographical area, research setting, small sample size, difference in characteristics of general population.

CHAPTER V SUMMARY, CONCLUSION &RECOMMENDATIONS

SUMMARY, CONCLUSION AND RECOMMENDATIONS

SUMMARY

The Disability adjusted life year (DALY) occurred due to hypertension in 2017 was 218 million with 10. 4 million and it was considered the leading risk factor and consistently responsible for the largest number of deaths in the year 1990 to 2017. According to various studies, the overall prevalence is 29.8% and higher prevalence in urban area i.e. 33.8% whereas in rural i.e. 27.6%. With such an economic and demographic transition in India results in increase in the proportion of elderly people, a sedentary lifestyle, obesity associated with increasing urbanization and other lifestyle factors like high level of salt intake, alcohol and tobacco consumption, are contributing to the global burden of hypertension.

The objective of the study to assess the knowledge and medication adherence regarding hypertension among hypertensive patients. The study was conducted at NCD Clinic, Pratap nagar Jodhpur, Rajasthan among 250 hypertensive patients selected by convenient sampling technique. Data was collected through face to face interview method. Self-structured knowledge questionnaire and a standardized Hill-bone Medication adherence scale was used for data collection. Data was analysis was done by using SPSS 26 Version.

Result shows that mean age of hypertensive patients were 55.5 ± 12.234 years. Mean knowledge score was 11.59 ± 3.622 and mean medication adherence score was 21.62 ± 3.941 . The level of knowledge of hypertensive

patients had significant association with Age, education, occupation, socioeconomic status, Duration of treatment of hypertension and body Mass Index at p <0.05 and Level of medication adherence of hypertensive patients had significant association with education, occupation, socio-economic status and Body Mass Index at p > 0.05. There was a weak positive correlation between level of knowledge and medication adherence among hypertensive patients(r = 0.461).

Strength of the study:

- Sample size was calculated by **Daniels formula**.
- Information booklet was developed for hypertensive patients.

Limitations of the study:

 Research findings cannot be generalized to whole India as only single setting NCD clinic, UHTC, Pratap Nagar was selected to conduct the study.

IMPLICATIONS IN NURSING:

Nursing is an art and science. It is based upon the current knowledge i.e. frequently changing with discoveries, ideas, techniques, methodologies and motivations. When nurses integrate the science and art of nursing in their practice, the quality of care provided to clients is at the level of excellence that will benefit innumerable clients. The findings of present study have implications on nursing practices, nursing education, nursing administrations and nursing research.

a) Nursing Practice:

Nurses in NCD clinic and in community play a vital role in imparting knowledge to hypertensive patients in the health institution. Also community health nurse aware the people by home visit about facilities available in Govt. health care facilities. Hence the study recommends that the nurses in health institution encourages individual conversation with the hypertensive patients as a part of the basic program, conduction screening, enhancement of the knowledge by providing health education on routine healthy lifestyle and importance of lifestyle modification by health professional in NCD clinic. Such practices of involvement of the hypertensive patients can lead to improve in the quality of life.

b) Nursing Education:

The student nurses of today are the staff nurses or nursing officers, educators, administrators, supervisors of future; the current study has implication in nursing education as well. The nursing education emphasis on the importance of health education regarding prevention and management of hypertension by the student nurses. New innovative ways should be taught to them. It should focus more on preparing prospective nurse to impart the information on hypertension and its prevention and Management.

c) Nursing Administration:

Extended and expanded role of the nurse offers many opportunities for a nurse administrator to improve the quality of life of hypertensive patients. Coordinating work along with the promotive, preventive, curative and rehabilitative aspect of care further enhances the quality of care. The nurse administrator at various levels of health care delivery system should focus their attention to make public aware about hypertension and its prevention and management.

d) Nursing Research:

One of the main focus of nursing research is to contribute knowledge to the body of nursing so as expand the horizons of nursing. According to the health statistics and various studies conducted by researchers the mortality and morbidity rate due to hypertension is high. At the same time facilities for the maternal care has also increased to reduce maternal mortality. There is a need for extensive research for assessing implementation of various program to improve the knowledge, prevention and management of hypertension at grassroots level. This is only possible if nurses especially working at grass root level are taking initiative to conduct further research.

RECOMMENDATIONS:

On the basis of findings of study, it is recommended that:

- A study can be conducted on interventional and control group by using interventions like computer assisted instructions and video films on prevention and management of hypertension.
- A Multicentric study can be done on prevention and management of hypertension.
- A mixed method can be done to assess the factors for non-adherence among hypertensive patients.
- Information booklet can be used to impart continuing education program for the nursing personnel.

CONCLUSION:

The present study was carried out to assess the Knowledge and medication adherence regarding hypertension among hypertensive patients at NCD Clinic, UHTC, Pratap nagar Jodhpur, Rajasthan. The findings of the study show that overall hypertensive patients had fair knowledge and poor adherence regarding hypertension. The level of knowledge among hypertensive patients had significant association with Age, education, occupation, socio-economic status, Duration of treatment of hypertension and body Mass Index. Moreover, Level of medication adherence among hypertensive patients had significant association with education, occupation, socio-economic status and Body Mass Index. Therefore, the role and responsibility of Medical officer and public health nurse at several PHC and

CHC in educating the population about the disease process and its consequences so that it will certainly help in future for better management of disease condition. If such measures, carried out across the whole population, will significantly reduce the global burden of hypertension, the morbidity and mortality and its associated complications.

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APPENDIX-I

PERMISSION LETTER FROM INSTITUTE ETHICS COMMITTEE



अखिल भारतीय आयुर्विज्ञान संस्थान, जोधपुर All India Institute of Medical Sciences, Jodhpur संस्थागत नैतिकता समिति Institutional Ethics Committee

No. AIIMS/IEC/2020/3321

Date: 13/10/2020

ETHICAL CLEARANCE CERTIFICATE

Certificate Reference Number: AIIMS/IEC/2020-21/3005

Project title: "Knowledge and medication adherence regarding hypertension among hypertensive patients attending Urban Health Training Centre (UHTC), Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of Hypertension."

Nature of Project:	Research Project Submitted for Expedited Review
Submitted as:	Student Research Project, as a part of Academic Programme
nvestigator:	Neha Rai
Supervisor:	Mrs. Gomathi A.
Co-Supervisor:	Mrs. Mamta & Dr. Neeti Rustagi

Institutional Ethics Committee after thorough consideration accorded its approval on above project.

The investigator may therefore commence the research from the date of this certificate, using the reference number indicated above.

Please note that the AIIMS IEC must be informed immediately of:

- Any material change in the conditions or undertakings mentioned in the document.
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research.

The Principal Investigator must report to the AIIMS IEC in the prescribed format, where applicable, bi-annually, and at the end of the project, in respect of ethical compliance.

AIIMS IEC retains the right to withdraw or amend this if:

- · Any unethical principle or practices are revealed or suspected
- · Relevant information has been withheld or misrepresented

AIIMS IEC shall have an access to any information or data at any time during the course or after completion of the project.

Please Note that this approval will be rectified whenever it is possible to hold a meeting in person of the Institutional Ethics Committee. It is possible that the PI may be asked to give more clarifications or the Institutional Ethics Committee may withhold the project. The Institutional Ethics Committee is adopting this procedure due to COVID-19 (Corona Virus) situation.

If the Institutional Ethics Committee does not get back to you, this means your project has been cleared by the IEC.

On behalf of Ethics Committee, I wish you success in your research.



AIIMS, Jodhpur

Basni Phase-2, Jodhpur, Rajasthan-342005; Website: www.aiimsjodhpur.edu.in; Phone: 0291-2740741 Extn. 3109 E-mail : ethicscommittee@aiimsjodhpur.edu.in; ethicscommitteeaiimsjdh@gmail.com

APPENDIX- II

Informed Consent Form

Title of the research study: "Knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of Hypertension."

Name of the Investigator: M\s. Neha Rai (Pursuing M.Sc. Nursing)

Participant Identification No.:

I, ______S/o or D/o or w/o ______R/o ______ give my full, free, voluntary consent to be a part of this study, the procedure and nature of which has been explained to me in my own language to my full satisfaction. I confirm that I have had the opportunity to ask questions.

I understand that my participation is voluntary and I am aware of my right to drop out of the study at any time without giving any reason.

I understand that the information collected about me may be looked at by responsible individual from All India Institute of Medical Sciences Jodhpur, Rajasthan. I give permission for these individuals to have access to my records.

Date: _____

Place: _____

Signature/Left thumb impression

This is to certify that the above consent has been obtained in my presence.

Date:		

Place: _____

Signature of Investigator

अनुलग्नक/अनुबंध-।

सूचित सहमति प्रपत्र

शोध अध्ययन का शीर्षक: "नॉलेज एंड मेडिकेशन अधेरेन्स रिगार्डिंग हाइपरटेंशन अमंग ह्यपरटेंसिव पेशेंट्स अटेंडिंग अर्बन हेल्थ ट्रेनिंग सेंटर प्रताप नगर, जोधपुर विद ए व्यू टु डेवेलप एन इनफार्मेशन बुकलेट रिगार्डिंग सेल्फ-केयर मैनेजमेंट ऑफ़ हाइपरटेंशन"।

अन्वेषक का नाम: सुश्री नेहा राय (एम.एस.सी नर्सिंग)

प्रतिभागी की पहचान संख्या:

मैं, _____ पुत्री या पत्नी _____

निवासी______ इस अध्ययन का हिस्सा बनने के लिए अपनी पूर्ण, निःशुल्क, स्वैच्छिक सहमति देता हूं, जिसकी प्रक्रिया और प्रकृति मुझेमेरी भाषा में मेरी पूर्ण संतुष्टि के लिए समझाई गई है। मैं पुष्टि करता हूं कि मुझे प्रश्न पूछने का अवसर मिला है।

मैं समझता हूं कि मेरी भागीदारी स्वैच्छिक है और मुझे बिना कोई कारण बताए किसी भी समय अध्ययन से बाहर होने के मेरे अधिकार के बारे में पता है।

मैं समझता हूं कि मेरे बारे में एकत्रित जानकारी को अखिल भारतीय आयुर्विज्ञान संस्थान जोधपुर, राजस्थान के जिम्मेदार व्यक्ति द्वारा देखा जा सकता है। मैं इन व्यक्तियों को अपने रिकॉर्ड तक पहुंचने की अनुमति देता हूं।

\sim		
दिनाक:		

स्थान: _____

हस्ताक्षर / बाएं अंगूठे का निशान

यह प्रमाणित कियाजाता है कि मेरी उपस्थिति में उपरोक्त सहमति प्राप्त की गई है।

\sim				
ादनाक:				

स्थान:						_
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अन्वेषक के हस्ताक्षर
APPENDIX – III

PERMISSION OF TOOL (HILL BONE MEDICATION ADHERENCE SCALE)



6/2021 RN	Gmail - Re: The Hill-Bone Scales: Permission Request Form
Role(s) of Requestor (se	elect all that apply)
Requestor's Contact Info Telephone 88246085 Email Neharai9269@ Institution Name AllM Department / Organize Street Address Line 1 Street Address Line 2 City Jodhpur State/Province Rajas Zip Code/Postal Code	ormation 14 Igmail.com 15 JODHPUR ation Nursing 9/164 K.K.Cotony Basni First phase Jodhpur than 342005
List of Countries India	
Organization Type: Sele all that apply) University	ct the category that best describes the type or primary purpose of your organization. (select
What is the primary inter Research	nt for using ?
If "Other" was selected f For research purpose	or Intent, please provide a brief description in the text box below.
Briefly describe why you For research purposes	are requesting use of .
The original Hill-Bone Cousers to assess adherer adherence? (select all the Hypertension	ompliance to High Blood Pressure Therapy Scale (HB-HBP) has been modified by some ice to medications in other conditions. In what disease/condition will you assess medication hat apply)
If "Other" was selected f For research purposes	or disease/condition, please name the disease/condition below.
The scales were develop Yes	ped in English. Do you plan to translate the scale?
If "Yes" or "Maybe" was provide one language na Language 1 Hindi	selected in the previous question, into which language(s) will the scale be translated? Please ame per field below.
How did you first learn a Internet Browser Sear	bout ? (select all that apply) ch
Hill-Bone Scales	zip
ps://mail.google.com/mail/u/2?i	k=cfDec34bfb&view=pt&search=all&permmsgid=msg-f%3A1680629854367797340&simpl=msg-f%3A16806298 2/2

APPENDIX IV

TOOLS FOR DATA COLLECTION (ENGLISH)

SECTION - A

SOCIO-DEMOGRAPHIC VARIABLES

INSTRUCTIONS: Please provide the following information. All the information will be kept confidential.

Date:

IDENTITY NUMBER.....

Part – A: Socio-demographic variables

- 1. Age in completed years.....
- 2. Gender:.....
- 3. Marital status:
 - a. Unmarried
 - b. Married
 - c. Divorced / separated
 - d. Widow/widower
- 4. Education:
 - a. Illiterate
 - b. Primary
 - c. Secondary
 - d. Higher secondary
 - e. Graduation and above
- 5. Occupation:
 - a. Government Employment
 - b. Private Employment
 - c. Home maker
 - d. Self- employment
- 6. Type of family:
 - a. Nuclear
 - b. Joint

- 7. Religion:
 - a. Hindu
 - b. Muslim
 - c. Sikh
 - d. Christian
- 8. Socio-economic status:

S.NO.	EDUCATION OF HEAD	SCORE	OCCUPATION OF HEAD	SCORE	UPDATED MONTHLY FAMILY INCOME IN RUPEES (2020)	SCORE
1.	Profession or Honors'	7	Legislators, senior officials and managers	10	≥ 199,862	12
2.	Graduate degree	6	Professionals	9	99,931-199,861	10
3.	Intermediate or diploma	5	Technicians and Associate Professionals	8	74,755-99,930	6
4.	Higher School certificate	4	Clerks	7	49,962-74,755	4
5.	Middle school certificate	3	Skilled workers and shop and market sales workers	6	29,973-49,961	3
6.	Primary school certificate	2	Skilled Agricultural and fishery workers	5	10,002-29,972	2
7.	Illiterate	1	Craft & Related Trade workers	4	≤ 10,001	1
			Plant and Machine operators and assembles	3		
			Elementary Occupation	2		
			Unemployed	1		

Score Socioeconomic Class

- a. 26-29 Upper (I)
- b. 16-25 Upper middle(II)
- c. 11-15 Lower middle (III)
- d. 5-10 Upper Lower (IV)

- e. 5< 5 Lower (V)
- 9. Substance abuse: (If yes then specify :.....)
 - a. Yes
 - b. No

Part - B: Clinical Variables

- 1. Duration of treatment of hypertension......
- 2. Co-morbidity:
 - c. Yes
 - d. No
- 3. Family history of Hypertension:
 - a. Yes
 - b. No
- 4. Body Mass Index:
 - i. Height (cm).....
 - ii. Weight (Kg).....
 - a. < 18.5 Underweight
 - b. 18.5 24.9 Normal weight
 - c. 25.0 29.9 Pre-obesity
 - d. 30.0 34.9 Obesity class I
 - e. 35.0 39.9 Obesity class II
 - f. Above 40 Obesity class III
- 5. Availability of any source of Information regarding hypertension:
 - a. Yes
 - b. No

SECTION - B

SELF-STRUCTURED KNOWLEDGE QUESTIONNAIRE REGARDING HYPERTENSION

INSTRUCTIONS: Please read the statement carefully and tick mark ($\sqrt{}$) for the most appropriate option. Autonomy and Confidentiality of your information will be maintained

IDENTITY NUMBER -

DATE -

I - AWARENESS

- 1. The normal value of Blood pressure:
 - a) <140/80mmhg
 - b) <130/90mmhg
 - c) <120/80mmhg
 - d) <80/60mmhg
- 2. One of the cause of hypertension:
 - a) Increased stress
 - b) Regular exercise
 - c) Ideal body weight
 - d) Less sodium intake
- 3. Hypertension is recorded when blood pressure level is more then:
 - a) 100/80
 - b) 110/70
 - c) 120/80
 - d) 140/90

II – RISK FACTORS

4. Non - modifiable risk factor for hypertension is:

a) Family history

b) Exercise

- c) Diet
- d) Consumption of alcohol and tobacco.
- 5. Modifiable risk factor for hypertension is:
 - a) Obesity
 - b) Family history
 - c) Age
 - d) Gender
- 6. Risk for hypertension increases when age is:
 - a) More than 20 years.
 - b) More than 30 years.
 - c) More than 60 year
 - d) More than 10 years
- 7. The most prominent clinical feature of Hypertension:
 - a) Headache
 - b) Buzzing in ears
 - c) Joint pain
 - d) Abdominal pain
- 8. Patients with hypertension may experience:
 - a) Fever
 - b) Cough
 - c) Dizziness
 - d) Diarrhea

III – DIET AND LIFE STYLE MODIFICATION

- 9. Food product results in high blood pressure is:
 - a) Green vegetable
 - b) Oily food
 - c) Fruits
 - d) Milk and curd

10. Dietary changes that is useful to control hypertension:

a) Consuming more fruits and vegetables and whole grains

- **b)** Red meat, egg, milk, cheese
- c) Confining to liquid diet.
- d) Go on fasting intermittently.

11. DASH (Dietary approaches to stop hypertension) diet is recommended

for:

- a) Lose weight
- b) Control hypertension
- c) Control blood glucose level
- d) Increase body weight
- 12. For hypertensive patient the recommended intake of saltper day is:

a) Less than 5 grams of salt.

- b) More than 2 grams of salt.
- c) More than 5 grams of salt.
- d) Less than 2 grams of salt.

13. The amount of salt is high in:

- a) Fruits
- b) Pickles
- c) Vegetables
- d) Meat
- 14. The best exercise for hypertensive patients is:
 - a) Rowing
 - b) Skating
 - c) Rope Jumping
 - d) Walking
- 15. Hypertensive patients should exercise for:
 - a) 2 hours per day
 - b) 3 hours per day

c) 30 - 45 minutes per day

d) 10 minutes daily

V – TREATMENT AND COMPLIANCE

- 16. Hypertension medication taken?
 - a) Daily
 - b) Twice a week
 - c) Once in a month
 - d) Only in emergency condition

17. Hypertensive patients should consult doctor for follow-up:

- a) Every week
- b) Every month
- c) Once in a year
- d) Once in 2 year

18. The First step in managing hypertension is:

- a) Lifestyle modification
- b) Drug therapy
- c) Surgery
- d) Bed rest

VI – COMPLICATION

19. Uncontrolled hypertension causes:

a) Premature death

- b) Liver failure
- c) Digestive failure
- d) Respiratory failure

20. The fact about High blood pressure is that

a) It is normal phenomenon in every person.

b) It causes serious health problems if left untreated

- c) It is seen only in old people
- d) It is seen in people who are short tempered

- 21. The organ mostly affected by high blood pressure:
 - a) Kidney
 - b) Stomach
 - c) Brain
 - d) Lungs
- 22. In a patient of Hypertension, If suddenly one side of face starts drooping, speech becomes difficult, arm becomes weak then its possibly:

a) Brain stroke

- b) Heart attack
- c) Liver failure
- d) Kidney failure

KEY:

1. c	2. a	3. d	4. a	5. a	6. c	7. a	8. C	9. b	10. a
11. b	12. a	13. b	14. d	15. c	16. a	17. b	18. a	19. a	20. b
21. a	22. a								

BLUEPRINT OF TOOL

S. No.	Domain	Item No.	Total
1.	Awareness	1,2,3	3
2.	Risk Factors	4,5,6,7,8	5
3.	Diet and life style	9,10,11,12,13,14,15	7
4.	Treatment and	16,17,18	3
	Compliance		
5.	Complication	19,20,21,22	4

Criteria to assess the level of knowledge hypertension among hypertensive patients:

ANALYSIS:

CATEGORY	SCORING	PERCENTAGE OF
		SCORE
Good	17-22	>75%
Fair	11-16	50-75%
Poor	<11	<50%

SECTION – C

Hill – Bone Medication Adherence Scale (HB-MAS)

The Medication Adherence scale⁵⁴ is a 9 – item scale with broad application across various chronic diseases and conditions for self assessment of medication adherence. The medication adherence scale is a useful instrument to measure adherence in patients with hypertension, diabetes, chronic obstructive pulmonary disease and stroke among others

For the full scale - Hill-Bone Medication Adherence Scale (HB-HBP) with 9 items, with the scoring as:

- 1- All of the time,
- 2- Most of the time,
- 3- Some of the time,
- 4- None of the time.

In this case, all possible scores will range from 9-36.

No.	Item	All of	Most of	Some	None
		the	the time	of the	of the
		time		time	time
		(1)	(2)	(3)	(4)
1.	How often do you forget to take your high blood				
	pressure medicine?				
2.	How often do you decide NOT to take your high				
	blood pressure medicine?				
3.	How often do you forget to get prescription				
	filled?				
4.	How often do you run out of high blood pressure				
	pills?				
5.	How often do you skip your high blood pressure				
	medicine before you go to the doctor?				
6.	How often do you miss taking your high blood				
	pressure pills when you feel better?				
7.	How often do you miss taking your high blood				
	pressure pills when you feel sick?				
8.	How often do you take someone else's high				
	blood pressure pills?				
9.	How often do you miss taking your high blood				
	pressure pills when you are careless?				

Total score is 36 and minimum score is 9. Level of Medication adherence is determined by using the Demarcation Threshold Formula⁵⁵ [(Total highest score – total lowest score)/2] + Total lowest score and categorized as good adherence (score 23 - 36) and poor adherence (score ≤ 22).

Criteria to assess the level of Medication Adherence among hypertensive patients:

ANALYSIS:

CATEGORY	SCORING	PERCENTAGE OF
		SCORE
Good Adherence	23-36	>61%
Poor Adherence	≤ 22	<61%

अनुलग्नक/अनुबंध-॥

डेटा संग्रह के लिए उपकरण (हिंदी)

(खंड एक)

सामाजिक-जनसांख्यिकीय

निर्देश: कृपया निम्नलिखित जानकारी प्रदान करें। सभी सूचनाओं को गोपनीय रखा जाएगा।

तारीखः

पहचान संख्या.....

1. आयु (पूर्ण वर्षों में):

२. लिंग

- क) पुरुष
- ख) महिला
- 3. वैवाहिक स्थिति:
 - क) अविवाहित
 - ख) विवाहित
 - ग) तलाकशुदा / अलग
 - घ) विधवा / विधुर

- क) निरक्षर
- ख) प्राथमिक
- ग) माध्यमिक
- घ) उच्चतर माध्यमिक
- ङ) स्नातक स्तर की पढ़ाई
- च) स्नातक से ऊपर
- ५. व्यवसाय:
 - क) बेरोज़गार

- ख) निजी नौकरी
- ग) सरकारीनौकरी
- घ) स्व-रोजगार
- 6. परिवार का प्रकार:
 - क) एकल परिवार
 - ख) संयुक्त परिवार
- 7. धर्म
 - क) हिन्दू
 - ख) मुस्लिम
 - ग) सिख
 - घ) ईसाई
- 8. सामाजिक आर्थिक स्थिति

क्र.सं	परिवारकेमुखिया काशैक्षिकयोग्यता	अंक	परिवारकेमुखियाकाव्यव साय	अंक	मासिकपारिवारिक आय (२०२०)	अंक
1.	पेशायासम्मान	7	विधायक, वरिष्ठअधिकारीऔरप्रबंध क	10	≥ 199,862	12
2.	स्नातकउपाधि	6	पेशेवरों	9	99,931-199,861	10
3.	इंटरमीडिएटयाडि प्लोमा	5	तकनीशियनऔरएसोसिए टपेशेवर	8	74,755-99,930	6
4.	उच्चविद्यालयकाप्र माणपत्र	4	क्लर्क	7	49,962-74,755	4
5.	माध्यमिकविद्यालय काप्रमाणपत्र	3	कुशलश्रमिकऔरदुकान औरबाजारबिक्रीकार्यकर्ता	6	29,973-49,961	3
6.	प्राथमिकस्कूलप्रमा णपत्र	2	कुशलकृषिऔरमत्स्यश्रमि क	5	10,002-29,972	2
7.	निरक्षर	1	शिल्पऔरसंबंधितव्यापार कार्यकर्ता	4	≤ 10,001	1
			प्लांटऔरमशीनऑपरेटर औरअसेंबलर	3		
			प्राथमिकव्यवसाय	2		
			बेरोज़गार	1		

सामाजिकआर्थिकस्थिति :

- क) 26-29 उच्चश्रेणी
- ख) 16-25 उच्चमध्यमवर्ग
- ग) 11-15 निम्नमध्यमवर्ग
- ध) 5-10 उच्च निम्न वर्ग
- ङ) <5 निम्नवर्ग

9.मादक द्रव्यों का सेवन :

- क) हाँ
- ख) नहीं
- 10. उच्च रक्तचाप के उपचार की अवधि
- 11. कोई अन्य बीमारी :
 - क) हाँ
 - ख) नहीं
- 12. उच्च रक्तचाप का पारिवारिक इतिहास:
 - क) हाँ
 - ख) नहीं
- 13. बॉडी मास इंडेक्स:
 - ऊंचाई (सेंटिमीटर).....। वजन (किलोग्राम).....।
 - क) 18.5 से कम वजन
 - ख) 18.5 24.9 सामान्य वजन
 - ग) 25.0 29.9 पूर्व-मोटापा
 - घ) 30.0 34.9 मोटापा वर्ग।
 - ङ) ३५.० ३९.९ मोटापा वर्ग ॥
 - च) 40 से ऊपर का मोटापा वर्ग
- 14. उच्च रक्तचाप से संबंधित सूचना के किसी भी स्रोत की उपलब्धता:
 - क) हाँ
 - ख) नहीं

खंड – ब

स्व-संरचना प्रश्नावली

निर्देश: कृपया कथन को ध्यान से पढ़ें और सबसे उचित विकल्प के लिए चिह्न (:) पर टिक करें। आपकी जानकारी की स्वायत्तता और गोपनीयता बनाए रखी जाएगी

पहचान संख्या -

दिनांक –

। जागरूकता

- 1. रक्तचाप का सामान्य स्तर:
 - क) 140 / 80mmHg
 - ख) 130 / 90mmHg
 - ग) 120 / 80mmHg
 - घ) 80 / 60mmhg
- 2. उच्च रक्तचाप के कारणों में से एक है:
 - क) तनाव में वृद्धि
 - ख) नियमित व्यायाम
 - ग) शरीर का सामान्य वजन
 - घ) कम नमक का सेवन
- 3. उच्च रक्तचाप तब दर्ज किया जाता है जब रक्तचाप का स्तर अधिक होता है:
 - क) 100/80 से
 - ख) 110/70 से
 - ग) 120/80 से
 - घ) 140/90 से

॥ - जोखिम कारक

- 4. उच्च रक्तचाप के लिए अपरिवर्तनीय जोखिम कारक है:
 - क) पारिवारिक इतिहास
 - ख) व्यायाम
 - ग) आहार
 - घ) शराब और तंबाकू का सेवन।
- 5. उच्च रक्तचाप के लिए परिवर्तनीय जोखिम कारक है:
 - क) मोटापा

- ख) पारिवारिक इतिहास
- ग) उम्र
- घ) लिंग
- 6. उच्च रक्तचाप का खतरा किस उम्र में बढ़ जाता है?
 - क) 20 वर्ष से अधिक।
 - ख) 30 वर्ष से अधिक।
 - ग) 60 से अधिक वर्ष
 - घ) 10 वर्ष से अधिक
- 7. उच्च रक्तचाप की सबसे प्रमुख नैदानिक विशेषता:
 - क) सिरदर्द
 - ख) कानों में भनभनाहट
 - ग) जोड़ों का दर्द
 - घ) पेट में दर्द
- 8. उच्च रक्तचाप के रोगी क्या अनुभवकरते हैं?
 - क) बुखार
 - ख) खाँसी
 - ग) चक्कर आना
 - घ) दस्त

III आहार और जीवन शैली

- 9. कौन सा खाद्य उत्पाद उच्च रक्तचाप का कारण बनता है:
 - क) हरी सब्जी
 - ख) तैलीय भोजन
 - ग) फलों से
 - घ) दूध और दही
- 10. आहार में परिवर्तन जो उच्च रक्तचाप को नियंत्रित करने के लिए उपयोगी है:
 - क) अधिक फल और सब्जियां ताथा साबुत अनाज का सेवन करना
 - ख) लाल मांस, अंडा, दूध, पनीर का सेवन करना
 - ग) तरल आहार का सेवन करना
 - घ) रुक-रुक कर उपवास करना
- 11. डी.ए.एस.एच (उच्च रक्तचाप को रोकने के लिए आहार संबंधी प्रयास) आहार दिया जाता है:
 - क) वजन कम करने के लिए
 - ख) उच्च रक्तचाप को नियंत्रित करने के लिए
 - ग) रक्त शर्करा के स्तर को नियंत्रित करने के लिए

घ) शरीर का वजन बढ़ाने के लिए

12.उच्च रक्तचाप से ग्रस्त रोगी को प्रतिदिन कितने ग्राम तक नमक का सेवन करना चाइये ?

- क) 5 ग्राम से कम।
- ख) 2 ग्राम से अधिक।
- ग) 5 ग्राम से अधिक।
- घ) 2 ग्राम से कम।
- 13.नमक की मात्रा _____ में अधिक है:
 - क) फल
 - ख) अचार
 - ग) सब्जियां
 - घ) मांस
- 14. उच्च रक्तचाप के रोगियों के लिए सबसे अच्छा व्यायाम है:
 - क) रोइंग
 - ख) स्केटिंग
 - ग) रस्सी कूदना
 - घ) चलना
- 15. उच्च रक्तचाप के रोगियों को कितनेसमय के लिए व्यायाम करना चाहिए?
 - क) प्रति दिन २ घंटे
 - ख) प्रति दिन 3 घंटे
 - ग) 30 45 मिनट प्रति दिन
 - घ) प्रतिदिन 10 मिनट

v उपचार और अनुपालन

- 16. उच्च रक्तचाप की दवा कब लेनी चाइये?
 - क) दैनिक
 - ख) सप्ताह में दो बार
 - ग) महीने में एक बार
 - घ) केवल आपातकालीन स्थिति में
- 17. उच्च रक्तचाप के रोगियों को देखभाल के लिए डॉक्टर से परामर्श करना चाहिए?
 - क) हर हफ्ते
 - ख) हर महीने
 - ग) वर्ष में एक बार
 - घ) साल में एक बार
- 18. उच्च रक्तचाप के प्रबंधन में पहला कदम है:

- क) जीवन शैली मेंसंशोधन
- ख) दवाई लेना
- ग) शल्यक्रिया
- घ) पूर्ण आराम

VI –जटिलताएं

- 19. अनियंत्रित उच्च रक्तचाप के कारण:
 - क) समय से पहले मौत
 - ख) यकृत की विफलता
 - ग) पाचन विफलता
 - घ) श्वसन विफलता
- 20. उच्च रक्तचाप के बारे में तथ्य यह है कि
 - क) यह प्रत्येक व्यक्ति में सामान्य घटना है।
 - ख) यदि अनुपचारित छोड़ दिया जाए तो यह गंभीर स्वास्थ्य समस्याएं पैदा करता है
 - ग) यह केवल पुराने लोगों में देखा जाता है
 - ध) यह उन लोगों में देखा जाता है जो अधिक क्रोध करते है
- 21. शरीर का कौनसा अंग उच्च रक्तचाप से अधिक प्रभावित होता है:
 - क) गुर्दा
 - ख) आमाशय
 - ग) मस्तिष्क
 - घ) फेफड़े

22. उच्च रक्तचाप के रोगी में, यदि अचानक चेहरे का एक तरफ मुड़ना शुरू हो जाता है, बोलने में तकलीफ होती है तथा हाथ कमजोर हो जाता है, तो संभवतः:

- क) ब्रेन स्ट्रोक
- ख) हार्ट अटैक
- ग) दिल की विफलता
- घ) गुर्दे की विफलता

हिल-बोन हाई-ब्लड प्रेशर थेरेपी अनुपालन स्केल

दवा पालन एक 9- प्रश्न स्केल है जिसमें विभिन्न पुरानी बीमारियों और दवा के पालन के आत्म-मूल्यांकन के लिए आवेदन हैं। उच्च रक्तचाप, मधुमेह, श्वसन संबंधी रोग, और आघात के रोगियों में दवा पालन को मापने के लिए दवाओं अनुपालन स्केल एक उपयोगी साधन है।

पूर्ण पैमाने पर - 9 सवालों के साथ हिल-बोन मेडिकेशन एडेरेंस स्केल (HB-HBP), स्कोरिंग के साथ:

- 1- सभी समय,
- 2- अधिकांश समय,
- 3- कुछ समय,
- 4- कोई भी समय नहीं।

क्रम संख्या	मद	सभी समय,	अधिकां श समय,	कुछ समय,	कोई भी समय नहीं
		(1)	(2)	(3)	(4)
क)	आप कितनी बार अपनी उच्च रक्तचाप की दवा लेना				
	भूल जाते हैं?				
ख)	कितनी बार आप अपने उच्च रक्तचाप की दवा नहीं लेने				
	का निर्णय लेते हैं?				
ग)	आप कितनी बार अपना प्रिस्क्रिप्शन लेना भूल जाते हैं				
घ)	आपके पास कितनी बार उच्च रक्तचाप की गोलियाँ नहीं				
	होती हैं?				
ङ)	डॉक्टर के पास जाने से पहले आप कितनी बार अपनी				
	उच्च रक्तचाप की दवा छोड़ देते हैं?				
च)	जब आप बेहतर महसूस करते हैं तो आप कितनी बार				
	अपनी उच्च रक्तचाप की गोलियां लेने से भूल जाते हैं?				
छ)	जब आप बीमार महसूस करते हैं तो आप कितनी बार				
	अपनी उच्च रक्तचाप की गोलियां लेने से भूल जाते हैं?				
ড)	आप कितनी बार किसी और की उच्च रक्तचाप की				
	गोलियां लेते हैं?				
झ)	लापरवाही बरतने पर आप कितनी बार अपनी उच्च				
	रक्तचाप की गोलियां लेने से भूल जाते हैं?				

APPENDIX V

PARTICIPANT INFORMATION SHEET

Principal Investigator: Miss. Neha Rai

Title: "Knowledge and medication adherence regarding hypertension among hypertensive patients attending urban health training centre (UHTC), Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-management of Hypertension."

Purpose: Toassess the Knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-management of Hypertension.

Eligibility criteria for participation: - You are eligible for the study as because you are –

The Hypertensive patient:

- Above the age 18 years.
- Attending UHTC diagnosed with hypertension.
- Diagnosed with hypertension for > 1 year.
- Who is on anti-hypertensive drugs.
- Who are available and willing to participate in the study during data collection.
- Who can understand Hindi and English.

Rights to participate and withdrawal: It is completely up to you whether participate or not you participate. If you decide not to participate it will not affect the relationship with staff and treatment you receive now or in the future. You may withdraw from the study at any time and for any reason or no reason. Information that has been collected about you, prior to your withdrawal, will continue to be used in the data analysis but no new information will be collected from you.

Risk in taking part in this study: The study involves no risk rather than benefiting to you.

Complaints and compensation: You will not face any complications due to this study; still if you have any complaints as a result of this study you should contact the study investigator.

Concerns about the conduct of this study: This study has been approved by the Institutional Ethics Committee (IEC).

Measure to protect confidentiality: Only the researcher will know whether or not you are participating in this study. Any identifiable information that is collected about you in connection with this study will remain confidential and will be disclosed only with your permission, or except as required by law. Only the researcher will have access to your details and results.

Contact person for further enquiry: If you would like to know at any stage please do not hesitate to contact the research team.

Thank you for taking the time to consider this study.

If you wish to take part, please sign the attached consent form.

This information sheet is for you to keep.

प्रतिभागी सूचना शीट

मुख्य जाँचकर्ता: सुश्री नेहा राय

शीर्षकः "नॉलेजएंडमेडिकेशनअधेरेन्स रिगार्डिंगहाइपरटेंशनअमंगह्यपरटेंसिवपेशेंट्सअटेंडिंगअर्बनहेल्थट्रेनिंगसेंटर प्रतापनगर, जोधपुरविदएव्यूटुडेवेलपएनइनफार्मेशनबुकलेटरिगार्डिंगसेल्फ-केयरमैनेजमेंटऑफ़हाइपरटेंशन। "

उद्देश्य: उच्च रक्तचाप के रोगियों के बीच उच्च रक्तचाप के बारे में ज्ञान और दवा के अनुपालन का आकलन करने के लिए, उच्च रक्तचाप के स्वयं प्रबंधन के बारे में सूचना पुस्तिका विकसित करने के उद्देश्य से प्रताप नगर, जोधपुर में स्वास्थ्य सेवा केंद्र, जोधपुर।

भाग लेने के लिए योग्यता: - आप अध्ययन के लिए पात्र हैं क्योंकि आप हैं -

उच्च रक्तचाप का रोगी:

- 18 वर्ष से अधिक आयु।
- उच्च रक्तचाप के साथ UHTC का निदान करना।
- 1 वर्ष के लिए उच्च रक्तचाप का निदान।
- एंटी-हाइपरटेंसिव दवाओं पर कौन है।
- जो डेटा संग्रह के दौरान अध्ययन में भाग लेने के लिए उपलब्ध और इच्छुक हैं।
- हिंदी और अंग्रेजी को कौन समझ सकता है।

भाग लेने व अध्ययन के बाहर होन के अधिकार: यह पूरी तरह से आप पर निर्भर है कि आप भाग लेते हैं या नहीं। यदि आप यह नहीं तय करते हैं कि यह आपके और अब के भविष्य में प्राप्त होने वाले स्टाफ और उपचार के साथ संबंध को प्रभावित नहीं करेगा। आप किसी भी समय और किसी भी कारण या बिना किसी कारण के अध्ययन से हट सकते हैं। आपकी निकासी से पहले आपके बारे में जो जानकारी एकत्र की गई है, उसका डेटा विश्लेषण में उपयोग किया जाता रहेगा, लेकिन आपसे कोई नई जानकारी एकत्र नहीं की जाएगी।

इस अध्ययन में भाग लेने में जोखिम: अध्ययन में आपको लाभान्वित करने के बजाय कोई जोखिम शामिल नहीं है।

शिकायतें और मुआवजा: इस अध्ययन के कारण आपको किसी भी जटिलता का सामना नहीं करना पड़ेगा; फिर भी अगर आपको इस अध्ययन के परिणामस्वरूप कोई शिकायत है, तो आपको अध्ययन अन्वेषक से संपर्क करना चाहिए।

इस अध्ययन के संचालन के समभंद में अभिरुचि: इस अध्ययन को संस्थागत आचार समिति (आईईसी) द्वारा अनुमोदित किया गया है।

गोपनीयता की रक्षा के लिए उपाय: केवल शोधकर्ता को पता होगा कि आप इस अध्ययन में भाग ले रहे हैं या नहीं। इस अध्ययन के संबंध में आपके बारे में एकत्रित की गई कोई भी पहचान योग्य जानकारी गोपनीय रहेगी और केवल आपकी अनुमति से, या कानून द्वारा आवश्यक को छोड़कर इसका खुलासा किया जाएगा। केवल शोधकर्ता के पास आपके विवरण और परिणामों तक पहुंच होगी।

आगे की पूछताछ के लिए संपर्क व्यक्ति: यदि आप किसी भी स्तर पर जानना चाहते हैं तो कृपया शोध टीम से संपर्क करने में संकोच न करें।

इस अध्ययन पर विचार करने के लिए समय निकालने के लिए धन्यवाद।

यदि आप भाग लेना चाहते हैं, तो कृपया संलग्न सहमति पत्र पर हस्ताक्षर करें।

यह सूचना पत्र आपके पास रखने के लिए है।

APPENDIX VI

A LETTER REQUESTING OPINION AND SUGGESTIONS FROM EXPERTS FOR CONTENT VALIDITY OF TOOL

THROUGH PROPER CHANNEL A LETTER REQUESTING OPINION AND SUGGESTION OF EXPERTS FOR CONTENT VALIDITY From: Neha Rai M.Sc. Nursing (Batch - 2019) College of Nursing, AIIMS, Jodhpur То. Subject: Expert Opinion and suggestion on Validity of self-structured tool. Respected Ma'am/ Sir I Neha Rai student of M.Sc. Nursing (Batch - 2019) College of Nursing, AIIMS, Jodhpur. I have undertaken the following topic for research project: "Knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of Hypertension" Under the supervision of Mrs. Gomathi, A. (Associate Professor), Dr. Neeti Rustagi (Additional professor), Department of Community and family medicine, AIIMS Jodhpur, AIIMS, Mrs. Mamta Rajput (Lecturer), College of Nursing, AIIMS, Jodhpur. The objectives of following study are: To assess the knowledge regarding hypertension among hypertensive patients attending UHTC, 1. Pratap Nagar, Jodhpur. 2. To assess the medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur. To determine the association between Knowledge regarding Hypertension with selected socio -3. demographic variables. 4. To determine the association between medication adherences regarding Hypertension with selected socio - demographic variables. I request you to kindly go through the tool and give your opinion for any modification and improvement needed. Your esteemed opinion and critical comments will provide the required direction and contribute immensely to the quality and content of my final research. Looking forward to your expert guidance and suggestions Thanking you in anticipation. Yours sincerely Neha Rai M.Sc. Nursing (Batch - 2019) College of Nursing, AIIMS, Jodhpur Guide A genult Mrs. Gomathurs, Joanpul Associate Professor College of Hunsing AIIM S Jodhan rolessor Thin reference Enclosures: 9 of Nursing Brief Method Bogos Sciences, John Brief Method Bogos Sciences, John Buide Method Sciences, John Evaluation Criteria for validation NL Co- Guide Co-Guide Mrs. Mamta Dr.Neeti Rustagi Assistant Professor Additional Professor College of Nursing Department of CMFM AIIMS, Jodhpur AIIMS, Jodhpur CH andres Principaleios (25 5000 Collegenet, Nursing ra) AIII Salegenerurursing Evaluation Criteria for validation of tools Certificate for Validation आखिल भारतीय आयुर्विज्ञान संस्थान, जोघपुर All India Institute of Medical Sciences, Jodhpur

COLLEGE OF NURSING ALL INDIA INSTITUTE OF MEDICAL SCIENCES, JODHPUR RESEARCH PROJECT

CERTIFICATE OF CONTENT VALIDITY

I, Dr. / Mr. / Mrs.

hereby certify that the tool for data collection of the research project titled "Knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self management of Hypertension." prepared by Neha Rai is found to be valid and up to date.

Place:

Date:

Signature & Seal of Validator

LIST OF EXPERTS FOR CONTENT VALIDITY

Dr. Srikant Shrinivasan

Associate Professor

Department of community medicine and family medicine

AIIMS, Jodhpur

Dr. HardeepKaur

Professor

UCON

Faridkot, Punjab.

Ms. Jeeva Subramaniam

Lecturer

College of Nursing, NIMHANS

Bangalore-29

Dr. Kamlesh Kumari Sharma

Associate Professor

College of Nursing

AIIMS, New Delhi - 110029

Mrs. K. Lakshmi Prasanna

Lecturer

College of Nursing

AIIMS, Patna

Mrs. Rajarajeswari

Assistant Professor

College of Nursing

AIIMS, Rishikesh

Mrs. Shyama Devi

Lecturer/Assistant Professor

AIIMS, Bhubaneshwar

Mrs. Samta Soni

Lecturer

College of Nursing

SMS, Jaipur

Mr. Nipin Kalal

Assistant Professor

College of Nursing

AIIMS, Jodhpur

Mrs. Nimrata

Assistant Professor

College of Nursing

AIIMS, Jodhpur

APPENDIX VII

LIST OF FORMULA USED FOR DATA ANALYSIS

FORMULA 1: Arithmetic mean

$$\overline{\mathbf{X}} = \frac{\sum X}{n}$$

FORMULA 2: Standard Deviation

$$S = \sqrt{\frac{\sum (X - \bar{x})}{n - 1}}$$

FORMULA 3: Chi Square Test

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

FORMULA 4: Daniel's Formula

$$N = Z^2 \times p(1-p) \div e^2$$

FORMULA 5: Cramer's V Formula

$$V = \sqrt{\frac{\chi^2/n}{\min(c-1,r-1)}}$$

APPENDIX VIII

LANGUAGE VALIDITY CERTIFICATES

COLLEGE OF NURSING ALL INDIA INSTITUTE OF MEDICAL SCIENCES, JODHPUR **RESEARCH PROJECT**

CERTIFICATE OF ENGLISH LANGUAGE VALIDITY OF RESEARCH TOOLS AND BOOKLET

Dr. Mr. Mrs. Laklu ... Yas. ١, hereby certify that the tool for data collection of the research project titled "Knowledge and medication adherence regarding hypertension among hypertensive patients attending Urban Health Training Centre (UHTC), Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of Hypertension "prepared by Neha Rai, M.Sc. Nursing is found to be valid and up to date.

Place: Jodhun Date: 1/4 221

hli yes

DR. PAKHI VYAS ASSU A TESSOR DEPARTMENT OF ENGLISH JAI NARA Signature & Seal of Validator

COLLEGE OF NURSING ALL INDIA INSTITUTE OF MEDICAL SCIENCES, JODHPUR RESEARCH PROJECT

CERTIFICATE OF HINDI LANGUAGE VALIDITY OF RESEARCH TOOLS AND BOOKLET

I, Dr./Mr./Mrs....pyof...(QT.). NARENDRA <u>mishRA</u> hereby certify that the tool for data collection of the research project titled "Knowledge and medication adherence regarding hypertension among hypertensive patients attending Urban Health Training Centre (UHTC), Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of Hypertension"prepared by Neha rai, M.Sc. Nursing is found to be valid and up to date.

Place: Jallyus_____

2029 Signature & Seal of Validator

हिन्दी विभाग जधनारायण व्यास विश्वविद्यालय जोधपुर

COLLEGE OF NURSING ALL INDIA INSTITUTE OF MEDICAL SCIENCES, JODHPUR RESEARCH PROJECT

CERTIFICATE OF ENGLISH LANGUAGE VALIDITY OF THESIS

I, Dr./Mr./Mrs. Retting Vyas. hereby certify that the thesis titled "Knowledge and medication adherence regarding hypertension among hypertensive patients attending Urban Health Training Centre (UHTC), Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of Hypertension" prepared by Neha Rai, M.Sc. Nursing is found to be valid and up to date.

Place: Tollym Date: 1/2/2021

Rathi yes . 1/2/221 DR. RAICHI VYAS ASSISTANT F. PESSA DEPARTMENT OF ENGLISH JALMEN & AND UNIVERSITY JUDITOR (RAJ.)

Signature & Seal of Validator

APPENDIX IX

A LETTER REQUESTING OPINION AND SUGGESTIONS FROM EXPERTS FOR CONTENT VALIDITY OF BOOKLET

THROUGH PROPER CHANNEL A LETTER REQUESTING OPINION AND SUGGESTION OF EXPERTS FOR CONTENT VALIDITY OF INFORMATION BOOKLET

From: Neha Rai M.Sc. Nursing (Balch – 2019) College of Nursing, AIIMS, Jodhpur To,

Subject: Expert Opinion on Validity of Information Booklet ..

Respected Ma'am/ Sir I Neha Rai student of M.Sc. Nursing (Batch – 2019) College of Nursing, AIIMS, Jodhpur. I have undertaken the following topic for research project: "Knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur with a view to develop an information booklet regarding self-care management of Hypertension" Under the supervision of Mrs. Gomathi. A. (Associate Professor) College of Nursing, AIIMS, Jodhpur, Mrs. Mamta (Assistant Professor), College of Nursing, AIIMS, Jodhpur. Dr. Neeti Rustagi (Additional professor), Department of Community and family medicine, AIIMS Jodhpur. The objectives of following study are:

- 1. To assess the knowledge regarding hypertension among hypertensive patients attending
- UHTC, Pratap Nagar, Jodhpur.
 To assess the medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur.
- To determine the association between Knowledge regarding Hypertension with selected socio – demographic variables.
- To determine the association between medication adherences regarding Hypertension with selected socio – demographic variables.
- To find out the correlation between knowledge and medication adherence among hypertensive patients.

I request you to kindly go through the information booklet and give your opinion for any modification and improvement needed. Your esteemed opinion and critical comments will provide the required direction and contribute immensely to the quality and content of my final research. Looking forward to your expert guidance and suggestions.

Thanking you in anticipation.

Yours sincerely Neha Rai

M.Sc. Nursing (Batch – 2019) College of Nursing, AlIMS, Jodhpur

erandis, 100,1, Auido

Mrs. Gomathi. A Associate Professor College of Nursing AIIMS, Jodhpur

Enclosures:

- Abstract of the study
- Brief Methodology
- Evaluation criteria checklist
- Information booklet(English or Hindi)
- Certificate for validation

and 02/0/2021 Co- Guide

Mrs. Mamta Assistant Professor College of Nursing AIIMS, Jodhpur NL Co- Guide Dr.Neeti Rustagi Additional Professor Department of CMFM AlIMS, Jodhpur

Oll Principatra

College of Nursing AllMSr:Jodhpunneu College of Nursing আন্দ্রিল भारतीय आयुर्विज्ञान संस्थान, जोधपुर All India Institute of Medical Sciences, Jodhpur

COLLEGE OF NURSING ALL INDIA INSTITUTE OF MEDICAL SCIENCES, JODHPUR RESEARCH PROJECT

CERTIFICATE OF CONTENT VALIDITY OF INFORMATIVE BOOKLET

I, Dr. / Mr. / Mrs. hereby certify that the Information Booklet titled "Hypertension The Silent Killer!" that consists information to improve the knowledge of the patients with hypertension of the research project titled "Knowledge and medication adherence regarding hypertension among hypertensive patients attending UHTC, Pratap Nagar, Jodhpur with a view to develop information booklet regarding self management of Hypertension." prepared by Neha Rai is found to be valid and up to date.

Place: Date:

Signature & Seal of Validator

LIST OF EXPERTS FOR CONTENT VALIDITY

Dr. Ashok Kumar

Associate Professor

College of Nursing

AIIMS, Jodhpur

Dr. Hardeep Kaur

Professor

UCON

Faridkot, Punjab.

Ms. Jeeva Subramaniam

Lecturer

College of Nursing, NIMHANS

Bangalore-29

Mrs. K. Lakshmi Prasanna

Lecturer

College of Nursing

AIIMS, Patna

Mrs. Rajarajeswari

Assistant Professor

College of Nursing

AIIMS, Rishikesh
Mrs. Shyama Devi

Lecturer/Assistant Professor

AIIMS, Bhubaneshwar

Mrs. Samta Soni

Lecturer

College of Nursing

SMS, Jaipur

Mr. Nipin Kalal

Assistant Professor

College of Nursing

AIIMS, Jodhpur

Mrs. Nimrata

Assistant Professor

College of Nursing

AIIMS, Jodhpur

APPENDIX X

CODING SHEET OF SOCIO-DEMOGRAPHIC AND CLINICAL VARIABLES

S. No.	Categories	Range	Coding
1.	Age(in completed	30 – 39	1
	years):	40 – 49	2
		50 – 59	3
		60 – 69	4
		> 70	5
2.	Gender:	Male	1
		Female	2
3.	Marital status:	Married	1
		Widow/widower	2
4	Education:	Illiterate	1
	Eddoadom	Primary	2
		Secondary	-3
		Higher Secondary	4
		Graduation and above	5
-	0		4
5.	Occupation:	Government Employment	1
		Private Employment	2
		Solf amplexed	3
		Sell employed	4
6.	Type of family:	Nuclear	1
		Joint	2
7	Policion	Hindu	4
7.	Religion:	Hindu Mualim	1
		Musiim	2
8.	Socio-economic status:	Upper middle class	1
		Lower middle class	2
		Upper middle class	3
		Lower class	4
٩	Substance abuse:	Ves	1
5.	Substance abuse.	No	2
			2
CLINICA	L VARIABLES		
1.	Duration of treatment of	1 – 2 years	1
	hypertension:	>2 – 5 years	2
		> 5 years	3
2.	Co-morbidity:	Yes	1
		No	2
•			
3.	Family history of	Yes	1
	hypertension	No	2
4.	Body mass index:	Underweight	1
		Normal Weight	2
		Pre - Obesity	3
		Obesity class I	4
		Obesity class II	5
F	Source of information	Voc	4
э.	source or information	No	ן ס
	hypertension:		۷.

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