

**EFFECTIVENESS OF OAT MEAL THERAPY ON BLOOD
PRESSURE AMONG CLIENTS WITH HYPERTENSION IN
SELECTED RURAL AREA-PARAVAI AT MADURAI**

**M.Sc (NURSING) DEGREE EXAMINATION
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CHENNAI - 600 032.**

In partial fulfillment of the requirement for the degree of

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APRIL 2015

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CERTIFICATE

This is to certify that this dissertation titled, “ **EFFECTIVENESS OF OAT MEAL THERAPY ON BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION IN SELECTED RURAL AREA-PARAVAI AT MADURAI**” is a bonafide work done by **Mrs.K.KRISHNAVENI**. M.Sc (N) Student, College of Nursing, Madurai Medical College, Madurai - 20, submitted to THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI in partial fulfillment of the university rules and regulations towards the award of the degree of **MASTER OF SCIENCE IN NURSING, BRANCH IV, COMMUNITY HEALTH NURSING**, under our guidance and supervision during the academic period from 2013—2015.

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ABSTRACT

Title: A Study to evaluate the effectiveness of oat meal therapy on blood pressure among clients with hypertension in selected rural area-Paravai at Madurai.

Objectives: To assess the blood pressure among clients with hypertension both in experimental and control group ;To evaluate the effectiveness of oat meal therapy on blood pressure among clients with Hypertension; To determine the association of blood pressure among clients with hypertension with their selected demographic and clinical variables.

Hypotheses: There is a significant difference between the blood pressure among clients with hypertension before and after oat meal therapy ;There is a significant association between the level of blood pressure and their selected socio demographic and clinical variables.

Conceptual Framework: Modified Calista Roy's Adaptation theory Model(1996).

Methodology: Quantitative approach- Quasi experimental :Non equivalent control group design was used. The study was conducted in Paravai. The sample size was 60. In that 30 samples were in Experimental group and another 30 in Control group. Non probability, Purposive sampling technique was used. The intervention applied in this study was Administration of Oatmeal therapy given for 45 consecutive days. On the 46th day post test was done.

Results: The obtained mean post test systolic blood pressure measurement score was lower than the mean pretest systolic blood pressure. The obtained 't' value was 7.22 which was statistically significant. The obtained mean post test Diastolic blood pressure measurement score was lower than the mean pretest Diastolic blood pressure .The obtained 't' value was 4.01 which was statistically significant.

Conclusion: The study concluded that Oatmeal therapy administration intervention was effective on reducing the level of Blood pressure among Hypertensive clients.

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Introduction

CHAPTER – I

INTRODUCTION

“To insure good health: eat lightly, breathe deeply, live moderately, cultivate cheerfulness, and maintain an interest in life.”

Health is the level of functional or metabolic efficiency of a living organism. In humans, it is the general condition of a person's mind and body, usually meaning to be free from illness, injury or pain . The World Health Organization defined health in its broader sense in 1946 as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."

Wellness is the conscious development of the World Health Organizational self. Embarking on a wellness journey is a process of searching for the appropriate "tools" to make you a healthier and happier human being, plus discovering your own effective methods to use these "tools" for continued growth and development. As there is a great variety on all aspects of life, there are also countless ways to cultivate you on an ever-changing path of wellness.

Physical wellbeing is something a person can achieve by developing all health-related components of his/her lifestyle. Fitness reflects a person's cardio respiratory endurance, muscular strength, flexibility, and body composition. Other contributors to physical wellbeing may include proper nutrition, bodyweight management, abstaining from drug abuse, avoiding alcohol abuse, responsible sexual behavior (sexual health), hygiene, and getting the right amount of sleep.

A Non-communicable disease, is a medical condition or disease which by definition is Non-infectious and non-transmissible among people. Non-communicable disease may be chronic diseases of long duration and slow progression, or they may result in more rapid death such as some types of sudden stroke. They include autoimmune diseases, heart disease, stroke, many cancers, asthma, diabetes, chronic kidney disease, osteoporosis, Alzheimer's disease, cataracts, and more.

The report of World Health Organization (2013) Non communicable diseases kill more than 36 million people each year. Nearly 80% of Non Communicable Disease deaths - 29 million - occur in low- and middle-income countries. More than nine million of all deaths attributed to Non Communicable Diseases occur before the age of 60; 90% of these "premature" deaths occurred in low- and middle-income countries. Cardiovascular diseases account for most Non Communicable Disease deaths, or 17.3 million people annually, followed by cancers (7.6 million), respiratory diseases (4.2 million), and diabetes (1.3 million). These four groups of diseases account for around 80% of all Non Communicable Disease deaths.

Cardiovascular disease is the most important cause of Non communicable diseases. Hypertension is a major risk factor for Cardiovascular disease , kidney disease, and other complications. It is a major contributor to premature deaths. Globally, 51% of stroke and 45% of ischemic heart disease deaths are attributable to high systolic blood pressure. There are one billion hypertensive cases, and four million people die annually as a direct result of hypertension.

As per the World Health Statistics 2012, of the estimated 57 million global deaths in 2008, 36 million (63%) were due to non communicable diseases . The

largest proportion of non communicable diseases deaths is caused by cardiovascular diseases (48%). In terms of attributable deaths, raised blood pressure is one of the leading behavioral and physiological risk factor to which 13% of global deaths are attributed. Hypertension is reported to be the fourth contributor to premature death in developed countries and the seventh in developing countries

Hypertension or high blood pressure, is a chronic medical condition in which the blood pressure in the arteries is elevated. This means that the heart has to work harder to pump blood around the body, and that blood vessels are traumatized, possibly leading to atherosclerosis. Resting blood pressure measurement is normally within the range of 100-140mmHg systolic (top reading) and 60-90mmHg diastolic (bottom reading). Hypertension is when these readings are persistently at or above 140/90 mmHg.

World Health Organization report (2013) High blood pressure is one of the most important causes of premature death worldwide killing nearly 9.4 million people every year globally, and the problem is growing. Over 1 billion people are living with high blood pressure. Among all World Health Organization regions, the prevalence of raised blood pressure was highest in the African Region (46%) and lowest in the Region of the Americas (35%). In the South-East Asia Region, 36% of adults have hypertension. In all World Health Organization regions, males had a slightly higher prevalence of raised blood pressure than females, but this difference was only statistically significant in the Region of the Americas and the European Region. The prevalence of raised blood pressure in low, lower-middle and upper-middle income countries is higher (40%) than in high-income countries (35%).

Hypertension is an important risk factor for brain infarction and hemorrhage. Approximately 85% of strokes are due to infarction and the remainder are due to hemorrhage, either intra cerebral hemorrhage or subarachnoid hemorrhage. The incidence of stroke rises progressively with increasing blood pressure levels, particularly systolic blood pressure in individuals >65 years. Treatment of hypertension convincingly decreases the incidence of both ischemic and hemorrhagic strokes.

Hypertensive retinopathy is a condition characterized by a spectrum of retinal vascular signs in people with elevated blood pressure. Persistently elevated blood pressure leads to intimal thickening, hyperplasia of the media wall, and hyaline degeneration in the subsequent, sclerotic, stage. This stage corresponds to more severe generalized and focal areas of arteriolar narrowing, changes in the arteriolar and venular junctions, and alterations in the arteriolar light reflex.

Hypertension is a risk factor for renal injury and End Stage Renal Disease. Renal risk appears to be more closely related to systolic than to diastolic blood pressure, and black men are at greater risk than white men for developing End Stage Renal Disease at every level of blood pressure.

Diabetes has several complications of which one is hypertension or high blood pressure. Data indicate that at least 60-80 percent of individuals develop diabetes will eventually develop high blood pressure.

The report of International society of hypertension (2013) Hypertension is very common indeed and hence a major public health issue. The prevalence is expected to increase considerably in the coming years. In 2000, the estimated number

of adults living with high blood pressure globally was 972 million. This is expected to increase to 1.56 billion by 2025! Lifestyle factors, such as physical inactivity, a salt-rich diet with high processed and fatty foods, and alcohol and tobacco use, are reasons for this increased disease burden, which is spreading at an alarming rate from developed countries to emerging economies, such as India, China and African countries.

According to National cardiovascular disease data base The Global Burden of Disease study estimates that 52% of Cardio Vascular Disease deaths occur below the age of 70 years in India as compared to 23% in EME, resulting in a profound adverse impact on its economy. The contributing factors for the growing burden of Cardio Vascular Disease s are increasing prevalence of cardiovascular risk factors especially hypertension, dyslipidemia, diabetes, overweight or obesity, physical inactivity and tobacco use. It is an area where major health gains can be made through the implementation of primary care interventions and basic public health measures targeting diet, lifestyles and the environment.

The economic impact of hypertension and its complications is enormous. Non optimal blood pressure is responsible for 14% of deaths worldwide. In 2001 the direct global health costs were estimated to be more than \$400 billion USD. The real costs are much higher with disruption of work, family life and social breakdown. In the poorest countries the costs are borne mainly by the individual and family. Substantial further costs are those of the complications and their management (stroke, heart attack). With treatment the incidence of these can be reduced and the costs of treatment are justified and paid by the improvement in outcome and a reduction in the cost of medical management of complications. If we achieved optimal blood pressure

in the global population that does not have cardiovascular disease, it is estimated that more than a trillion USD would be saved.

Dr Lal further said that stress was seen in almost 90% of people that visited the hospital. Though it raised BP temporarily, the other effects of long-term stress like disturbed sleep, overeating, eating salty and fatty foods, weight gain, alcohol, cigarette, drug intake and inactivity raised the blood pressure.

In India, hypertension is the leading Non Communicable Diseases risk and estimated to be attributable for nearly 10 per cent of all deaths. Adult hypertension prevalence has risen dramatically over the past three decades from 5 per cent to between 20-40 per cent in urban areas and 12-17 per cent in rural areas. The number of hypertensive individuals is anticipated to nearly double from 118 million in 2000 to 213 million by 2025. It is estimated that 16 per cent of ischemic heart disease, 21 per cent of peripheral vascular disease, 24 per cent of acute myocardial infarctions and 29 per cent of strokes are attributable to hypertension underlining the huge impact effective hypertension prevention and control can have on reducing the rising burden of cardiovascular disease.

It is currently the leading risk resulting in considerable death and disability worldwide and accounted for 9.4 million deaths and 7 per cent of disability adjusted life years in 2010. Hypertension is increasing rapidly in most low and middle income countries driven by diverse health transitions. In 2001, it accounted for 10 per cent of global healthcare expenditure underlining the considerable economic implications to resource constrained health systems, particularly those in LMICs. Apart from health implications it has huge societal, developmental and economic costs. There is also noteworthy income loss to families affected by hypertension not only due to illness

but also due to care giving and premature death. In 2004, the annual income loss from Non communicable diseases among working adults in India was ₹ 251 billion (about US\$ 50 billion) and that due to hypertension alone amounted to ₹ 43 billion. Further, hypertension was also a leading cause for hospitalizations and outpatient visits

Now a day's All age groups and all regions are affected by Non Communicable Diseases. Children, adults and the elderly are all vulnerable to the risk factors that contribute to non communicable diseases, whether from unhealthy diets, physical inactivity, exposure to tobacco smoke or the effects of the harmful use of alcohol. These diseases are driven by forces that include ageing, rapid unplanned urbanization, and the globalization of unhealthy lifestyles. For example, globalization of unhealthy lifestyles like unhealthy diets may show up in individuals as raised blood pressure, increased blood glucose, elevated blood lipids, overweight and obesity. These are called 'intermediate risk factors' which can lead to cardiovascular disease, a Non Communicable Disease.

1.1 NEED FOR THE STUDY

According to World Heart Federation report (2014) There are at least 970 million people worldwide World Health Organization have elevated blood pressure (hypertension). In the developed world, about 330 million people have hypertension, as do around 640 million in the developing world, rates hypertension as one of the most important causes of premature death worldwide and the problem is growing.⁸¹ In 2025 it is estimated there will be 1.56 billion adults living with high blood pressure.

Globally, the overall prevalence of raised blood pressure in adults aged 25 and over was around 40% in 2008. Across the World Health Organization regions,

the prevalence of raised blood pressure was highest in Africa, where it was 46% for both sexes combined. Both men and women have high rates of raised blood pressure in the Africa region, with prevalence rates over 40%. The lowest prevalence of raised blood pressure was in the World Health Organization Region of the Americas at 35% for both sexes. Men in this region had higher prevalence than women (39% for men and 32% for women).

In all World Health Organization regions, men have slightly higher prevalence of raised blood pressure than women. This difference was only statistically significant in the Americas and Europe.

The European Commission's Health and Consumer Protection Direct (2007) the prevalence of hypertension varied considerably by country. Countries in East Central Europe, particularly Bulgaria, Romania, and Slovakia, and the Mediterranean area (particularly Greece) reported the highest proportion ($\geq 50\%$) of people under long-term treatment for hypertension, whereas in Belgium, the Netherlands, and Luxembourg (Benelux), hypertension was mentioned by $\leq 25\%$.

National survey on prevalence of hypertension among Saudi population (2011) stated that A total of 1213 were hypertensive's giving a prevalence of 25.5% (27.1% for males and 23.9% for females).

Asian Pacific Society of Hypertension present that in south-East Asia there are a number of regions with a mean Systolic BP $< 126\text{mmHg}$. In the region the prevalence of hypertension is relatively similar across most countries with the percentage in males ranging from 23 to 32% with Japan and Mongolia having levels of 41 and 47% respectively. In women the prevalence shows some differences with a

range from 11 to 34%. In most countries hypertension is more prevalent in women than in men. However in Australia, Malaysia, Thailand and China, the prevalence is similar. The prevalence has increased with time in some countries but overall in most parts of Asia this has probably reached a plateau.

Coronary artery diseases in Asian Indian association (2013), The prevalence of hypertension ranges from 20-40% in urban adults and 12-17% among rural adults. The number of people with hypertension is projected to increase from 118 million in 2000 to 214 million in 2025, with nearly equal numbers of men and women.

A survey of 26,000 adults in South India showed a hypertension prevalence of 20% (men 23% and women 17%) but 67% of those with hypertension were unaware of their diagnosis. Majority of hypertensive subjects still remain undetected and the control of hypertension is also inadequate. This calls for urgent prevention and control measures for hypertension.

The overall prevalence of hypertension in urban slum. Tirupathi (2005) was found to be 8.6%. Out of the 86 hypertensive's, 72 (83.7%) were aware of their hypertension; all of those aware were under treatment; among the treated, only 30 (41.7%) had satisfactory control of their hypertension. Higher prevalence of hypertension was found with history of cerebrovascular/cardiovascular events (50.0%), diabetes mellitus (33.3%), family history of hypertension (23.3%), smoking (22.4%), age more than 50 years (22.2%), alcohol intake (20.0%), lack of physical exercise (15.8%), B.M.I.>25 (14.9%), male sex (9.6), non-vegetarian diet (8.8%) and saturated fat intake (8.8%).

World Health Day 2013 theme is high blood pressure."Prevalence of hypertension was high among lower and middle class population set in India. This was mainly attributed to smoking, high alcohol consumption and stress in this set of population. Among the affluent class, physical inactivity and dietary changes were two main causes of hypertension seen. We were seeing an upward trend in consumption of food items like energy drinks, preserved frozen food which have been closely related in disturbing heart rhythm leading to high BP."

Multiple Cross-sectional studies conducted across various regions of India such as north (Delhi 10.5%), south (Chennai 7.5%, Thiruvananthapuram 8.6%), east (Assam 18.1%), and west (Mumbai 13.6%) indicate sub-optimal blood pressure control. Besides once hypertension-related Cardio Vascular Disease occurs, the use of evidence-based secondary prevention therapies is also very low in primary and secondary care, leading to a large and escalating burden of avoidable and premature mortality.

A cross sectional study was carried out among the adults in the age group of 30 years and above, residing under Mugalivakkam Primary Health Centre area of Kancheepuram District, Tamilnadu.189 individuals (25.2%) were found to have hypertension including 93 known hypertensives. Among 357 adult males, 81 (22.6%) and among 393 adult females 108(27.4%) were found to have hypertension.

The number of high blood pressure patients is increasing in Madurai district. According to doctors, BP levels are soaring in urban and rural areas, and across all age groups. It affects the rich as well as the poor, both men and women. Heart specialists, general physicians and diet experts regard high BP as the harbinger of ailments in the future. Latest Hypertension statistics obtained from the specially

created Non-Communicable Diseases screening and prevention wing of the Tamil Nadu Health Systems Project, situated in Ward 23-A of the Government Rajaji Hospital here, reveals a grim scenario for Madurai. Of 32,707 persons screened by the Non Communicable Disease intervention team last month, 3,412 were diagnosed as confirmed hypertension patients. In June, of the 25,562 screened, 2,773 patients were found to be suffering from hypertension and were put on treatment.

Eating a diet high in fiber and Whole grains helps the body maintain a healthy blood pressure. Oatmeal satisfies both of those dietary requirements. Eating oatmeal can reduce both systolic and diastolic pressure. In a study reported in the April 2002 issue of "The Journal of Family Practice," researchers noted that eating oatmeal can reduce systolic pressure by as much as 7.5 points and diastolic pressure by 5.5 points. Adding oat cereals to your daily diet can reduce your risk of developing high blood pressure and help treat it if you already have the condition.

Oatmeal is a source of dietary fiber. This fiber contains a mixture of about half soluble and half insoluble fibers. One component of the soluble fiber found in oats is beta-glucans, a soluble fiber which has proven effective in lowering blood cholesterol. Here's how it works. Soluble fiber breaks down as it passes through the digestive tract, forming a gel that traps some substances related to cholesterol, such as cholesterol-rich bile acids. This entrapment reduces the absorption of cholesterol into the blood stream.

BENEFITS OF OATMEAL:

- The oatmeal may lower cholesterol and reduce the risk of heart disease. The soluble fiber in oatmeal is supposed to lower LDL (bad) cholesterol levels while maintaining the HDL (good) cholesterol levels.
- The insoluble fiber in oatmeal helps keep the bowels clean by making stool heavier so it passes through easier. It's also good for diabetics because the fiber slows down the digestion of starch.
- Oatmeal is loaded with vitamins like E, iron, phosphorous, magnesium, calcium, and thiamine. It also contains zinc which is important for healing of wounds, growth, reproduction, and it's important for metabolism.
- Some studies suggest that a diet containing oatmeal may help to reduce high blood pressure.
- The soluble fiber in oatmeal absorbs water and significantly slows down the digestive process. This leaves feeling fuller longer and can help control the weight.

A daily serving of Whole grain oats rich in soluble fiber can reduce hypertension, or high blood pressure, and so reduce the need for anti-hypertensive medication. Nearly 1 in 3 American adults has high blood pressure.

Streppel and others 2005, reported that the Hypertension is epidemic now in all societies. Hypertension is one of the leading causes of death in both men and women. Dietary fiber supplementations (average dose 11.5 g/d) have been reported to change systolic and diastolic blood pressure by 1.13 mm Hg and 1.26 mm Hg, respectively. This reduction in blood pressure tended to be larger in older and hypertensive populations than younger and normotensive ones

Pins and others (2002) reported that the consumption of a hypocaloric diet containing oats over 6 wk resulted in greater decreases in systolic blood pressure, total cholesterol, and LDL, which resulted in the prevention of cardiovascular diseases . Seventy-three percent of participants in the oats group versus 42% in the control group were able to stop or reduce their medication by half. Treatment group participants Whole grains medication was not reduced had substantial decreases in BP. The oats group experienced a 24.2-mg/dL reduction in total cholesterol levels, a 16.2-mg/dL decrease in low-density lipoprotein cholesterol levels, and a 15.03-mg/dL drop in plasma glucose levels vs controls. Results suggest that a diet containing soluble fiber-rich whole grain oats can significantly reduce the need for antihypertensive medication and improve Blood Pressure control. Considering the lipid and glucose improvements as well, increased consumption of whole grain oats may significantly reduce cardiovascular disease risk.

Reducing blood pressure can decrease cardiovascular risk and this can be achieved by lifestyle measures in mild cases and should be the initial approach to hypertension management in all cases. This includes dietary interventions weight reduction, tobacco cessation, and physical activity. Comprehensive hypertension management should focus not only on reducing the blood pressure, but reducing the cardiovascular risk by lifestyle measures, lipid management, smoking cessation, and regular exercise.

The addition of oat cereals to the normal diet of patients with hypertension significantly reduces both Systolic Blood Pressure and Diastolic Blood Pressure. Soluble fiber-rich Whole grain oats may be an effective dietary therapy in the prevention and adjunct treatment of hypertension.

The study was conducted with the objective of finding out the efficacy of oatmeal administration in clients with hypertension. In this 21st century the attention is focused on alternative and complimentary therapies. The investigator during the clinical experience found that more number of hypertensive clients is in Paravai. Many article and reports provide generalized statement on the benefits of oats in various disorders, henceforth the investigator is motivated to create empirical evidence on the efficacy of oatmeal administration in clients with hypertension. This will also provide a sound scientific base principle for implementing oatmeal administration as a nursing intervention for hypertension.

1.2 STATEMENT OF THE PROBLEM

A Study To Evaluate The Effectiveness Of Oat Meal Therapy On Blood Pressure Among Clients With Hypertension In Selected Rural Area-Paravai At Madurai.

1.3 OBJECTIVES

- To assess the blood pressure among clients with hypertension both in experimental and control group in rural area Paravai at Madurai.
- To evaluate the effectiveness of oat meal therapy on blood pressure among clients with Hypertension in rural area Paravai at Madurai.
- To determine the association of blood pressure among clients with hypertension with their selected socio demographic and clinical variables.

1.4 HYPOTHESES

- **H₁** – There is a significant difference between the blood pressure among clients with hypertension before and after oat meal therapy
- **H₂** - There is a significant association between the level of blood pressure and their selected socio demographic and clinical variables.

1.5 OPERATIONAL DEFINITION

Effectiveness:

- In this study effectiveness refers to outcome of oatmeal administration among stage I hypertensive clients. It is measured in terms of significant difference in pre and post test blood pressure scores which is measured by sphygmomanometer.

Oat meal therapy

- In this study The oat meal is prepared by taking 35gms of oats and 150ml of water was added and make it to boil and given daily in the morning for 6 weeks.

Blood pressure

- In this study Blood pressure is the pressure exerted by the blood on the walls of the blood vessels. It is measured in millimeters of mercury (mmHg) by using mercury sphygmomanometer.

Clients with Hypertension

- In this study it refers to the clients diagnosed as stage I hypertension (i.e) systolic blood pressure measures 140 to 159mmHg and diastolic blood pressure more than 90 to 99mmHg and taking beta blockers daily.

1.6 ASSUMPTION

- Oats may not be harmful to the people
- Rural people may not know that fiber diet reduce the hypertension

1.7 DELIMITATION

- The data collection period is limited to 6 weeks only.
- The study is limited to the clients who take antihypertensive medications.

1.8 PROJECTED OUTCOME

The study will provide data regarding blood pressure among hypertensive clients. The findings of this study will help the hypertensive clients to include oats in daily meal, which will help them to decrease their blood pressure and prevent the occurrence of major complications.

Review of Literature

CHAPTER II

REVIEW OF LITERATURE

Review of literature is a systematic identification, location scrutiny and summary of written materials that contain information on research problems. Review of literature in research report is a summary of current knowledge about particular problem of practice and includes what is known and not known about the problem. The literature is summarize knowledge for use in practice (or) to provide a basis for conducting a study.

-Hulme and Grones(1994).

This chapter deals with the information collected with relevant to the present study through published materials. These publications are the foundation to carry out the research work. Highly extensive review of literature pertaining to research topic was done to collect maximum information for laying foundation of the study. Literature review in this study is arranged under the following headings.

Literature is divided in to two parts

PART –I REVIEW OF LITERATURE RELATED TO STUDIES

PART –II CONCEPTUAL FRAME WORK

Review of literature consists of

- **2.1** – Studies related to incidence and prevalence of hypertension
- **2.2** - Studies Related to Effectiveness Of Oat meal therapy on blood pressure

2.1 REVIEW OF LITERATURE RELATED TO INCIDENCE AND PREVALENCE OF HYPERTENSION

Abed.y, et.al.,(2013) conducted a case control study on Risk Factors of Hypertension at UNRWA Primary Health Care Centers in Gaza Governorates. A proportional systematic random sample of 120 cases matched with sex, and locality to 120 controls were chosen. Results suggest that the most common modifiable risk factors of hypertension were physical inactivity (76.7%), obesity (67.5%), diabetes mellitus (19.2%), and ex-smoking (15.5%). Cases and controls show statistical significant differences in values for the lipid profile. Hypertension was significantly associated with low socio economic status, education, and employment. The most common non-modifiable risk factors were age, and family history (85.8% versus 71.7%). Multiple logistic analyses controlling for age showed that significant predictors of hypertension were obesity, physical inactivity, low monthly income and family history.

Fatima D.Silvia et al(2012) conducted an evaluative approach with pre experimental design was used for the study .40 Hypertensive adults were selected by purposive sampling technique. Knowledge checklist and 5 point rating scale were the instrument used for the study .the study revealed that 47.5% of the hypertensive clients had average knowledge,45% had poor knowledge and only 7.5% had good knowledge,52.5% of hypertensive adults faced severe barriers. Among the barriers, the height perceived barrier was lack of knowledge(82.27%)and least was lack of social support(53.14%).A significant improvement in the knowledge was found after administration of the structured teaching programme ($p<0.05$).the conclusion of the study revealed that education is a key component in bringing about changes in health care behavior.

Okechukwu S Ogah, et.al (2012) conducted a study on prevalence of hypertension and hypertension related complications in Nigerian Africans. The overall prevalence of hypertension in Nigeria ranges from 8%-46.4% depending on the study target population, type of measurement and cut-off value used for defining hypertension. The prevalence is similar in men and women (7.9%-50.2% vs 3.5%-68.8%) and in the urban (8.1%-42.0%) and rural setting (13.5%-46.4%). The pooled prevalence increased from 8.6% . Awareness, treatment and control of hypertension were generally low with attendant high burden of hypertension related complications.

Beegom R.et.al (2011) conducted study about diet, central obesity and prevalence of hypertension in the urban population of south India. 1000 samples was selected. The prevalence rate of hypertension was 189/1000 between 25-64 years and 335/1000 between the 45-64 years. This rate was high in western countries. the prevalence of hypertension was high among the persons who are having central obesity. The study finding shows that the hypertension highly associated with Diabetes, salt and Alcohol intake and dietary fat intake

Tanya M. Spruill, e.al.,(2011) conducted a cross-sectional study to evaluate possible race differences in the relationship between hypertension labeling and health-related quality of life and depression. The sample included 308 normotensive and unmedicated hypertensive subjects from the Neighborhood Study of Blood Pressure and Sleep. Labeled hypertension was defined (by self-report) as having been diagnosed with high blood pressure or prescribed antihypertensive medications. **Results** shows that both black and white subjects who had been labeled as hypertensive reported similarly poorer physical health than unlabeled subjects ($P =$

0.001) also labeling was associated with poorer mental health and greater depressive symptoms only among blacks ($P_s < 0.05$ for the interactions).

Sathya Prakash Manimunda,et.al., (2011) conducted a cross-sectional study to estimate the prevalence of hypertension, its association with determinants, and to assess the hypertension related behaviour of the Nicobarese aborigines. Subjects were chosen by two stage design. Total 975 subjects of 1270 were investigated. Study Results shows that the prevalence of hypertension was 50.5 percent. The prevalence of tobacco, alcohol consumption, and overweight/obesity was 88, 54, and 37 per cent respectively. The bivariate analysis has shown association between hypertension and age, education subcategories, alcohol consumption, and overweight/obesity ($P < 0.05$). The increasing trend in the prevalence of hypertension with increasing age ($P < 0.001$) and decreasing educational status ($P < 0.001$) was statistically significant. Multi Linear Regression analysis revealed a significant association between hypertension and various age categories and overweight/obesity.

Khan M I, et al,(2010) conducted a cross sectional study from in secondary and higher secondary schools in 5 zones of the Ahmadabad Municipal Corporation. Study on risk factors and the prevalence of hypertension in the adolescent school boys of Ahmadabad city. Results suggest that Out of 1093 adolescent boys, 107 (9.78 %) were found to be hypertensive. The highest prevalence was found at 19 years of age (21.7 %) Out Of the 107 hypertensive boys, 42 (39.2 %) had both systolic and diastolic hypertension. The mean Systolic Blood Pressure among the participants was 109.6mm Hg and the mean Diastolic Blood Pressure was 69.3 mmHg. The family history of Hypertension and the presence of overweight and obesity in boys were found to be associated significantly. No association was found between hypertension

and other risk factors like added salt, junk food and the socioeconomic class. Among the hypertensive adolescents, the risk factors which were found to have the highest prevalence were the intake of junk food (90.6%), followed by higher3348.

Yuvaraj BY, Nagendra Gowda MR, et.al (2010), conducted a Cross-sectional community-based study on the prevalence, awareness, treatment, and control of hypertension among General population above 18 years in the rural areas of Davanagere. Results showed that the prevalence rate of hypertension in the study population was 18.3% . Prevalence of hypertension was more in males 19.1% than in females 17.5% . 11.6%, 5.6%, and 1.2% of the total subjects had Grade I, Grade II, and Grade III, respectively. Only 33.8% of them were aware of their hypertensive status. Hypertensive's of 32.1% were on treatment, and 12.5% adequately controlled their Blood Pressure. About 6.9% of the total hypertensive had severe hypertension.

Ritu K. Soni, et.al.,(2010) conducted a prospective study conducted in the urban Japanese population suggested that hypertensive individuals Health-related quality of life in hypertension, chronic kidney disease and coexistent chronic health conditions. Results revealed that Hypertension is both a cause and a complication of chronic kidney disease, accounting for 26.8% of incident end-stage renal disease cases in 2006 and affecting 50% to 75% of the chronic kidney disease population. It is also well recognized as a risk factor for chronic kidney disease progression. In addition, trials have established hypertension and chronic kidney disease as independent risk factors for cardiovascular disease. Notably, with even mild chronic kidney disease with and estimated glomerular filtration rate of 50-59 ml/min/1.73 m² are at greater risk of stroke than hypertensive individuals with normal (>60

ml/min/1.73 m²), and that hypertensive subjects with more severe renal impairment were at an even greater risk for stroke.

Yadav. s et.al.,(2010) conducted a study on prevalence & risk factors of pre-hypertension & hypertension in an affluent north Indian population. Results showed that the age and sex adjusted prevalence of hypertension were 32.2 per cent and pre-hypertension was 32.3 per cent. In contrast to hypertension, which was highest in the age group 60-69 yr (64%), pre hypertension was highest (36%) in the group 30-39 yr. There was a high prevalence of cardiovascular risk factors in the general population. Two or more of the cardiovascular risk factors were present in a higher proportion of hypertensive [$P<0.0001$] and pre-hypertensive, ($P<0.0001$) compared to normotensive subjects (39%). Subjects with pre-hypertension had body mass index, waist-hip ratio and frequency of glucose intolerance, which was intermediate between normotensive and hypertensive subjects. In multiple logistic regression analysis, increasing age, body mass index, waist hip ratio and impaired glucose tolerance/diabetes were independent risk factors for both hypertension and pre-hypertension. Pre hypertension was associated with an increased prevalence of cardiovascular risk factors.

WangW,et.al.,(2010) conducted a study on estimated hypertension incidence and explored hypertension risk factors and their association with cardiovascular disease. Data collected from 4549 American Indian participants in the 3 exams of the Strong Heart Study were used. Result showed that , systolic blood pressure was significantly and positively associated with age, obesity, and albuminuria and negatively with smoking. After adjusting all other risk factors, those pretreated, untreated, controlled, and uncontrolled hypertensive participants had 2.77 times higher risks of developing cardiovascular disease compared with normotensive

participants. In 45- to 74-year-old American Indians, the risk of developing hypertension was rising. Age, diabetes, and macro/microalbuminuria were independently significant risk factors of both hypertension and cardiovascular disease

Hermann Nabi, et.al., (2009) conducted a study on examines longitudinal trajectories of depressive episodes and the probability of hypertension associated with these trajectories over time. Participants were 6889 men and 3413 women, London-based civil servants aged 35 to 55 years at baseline, followed for 24 years. Depressive episode and hypertension were assessed concurrently at 5 medical examinations. The results shows that participants in the “increasing depression” group had a 24% ($P<0.05$) lower risk of hypertension at ages 35 to 39 years compared with those in the “low/transient depression” group. However, there was a faster age-related increase in hypertension in the increasing depression group, corresponding with a 7% ($P<0.01$) greater increase in the odds of hypertension for each 5-year increase in age.

Shyamal Kumar Das' et.al., (2009), conducted growing trend of high prevalence of hypertension urban community survey in India. Results showed that pre-hypertensive levels of blood pressures among 35.8% of the participants in systolic group (120-139mm of Hg) and 47.7% in diastolic group (80-89 mm of Hg). Systolic hypertension (140 mm of Hg) was present in 40.9% and diastolic hypertension (90 mm of Hg) in 29.3% of the participants. Age and sex-specific prevalence of hypertension showed progressive rise of systolic and diastolic hypertension in women when compared to men. Bivariate analysis showed significant relationship of hypertension with age, sedentary occupation, body mass index, diet, ischemic heart disease, and smoking. Multivariate analysis revealed that age and Body Mass Index as risk factors, and non-vegetarian diet as protective factor with respect to hypertension.

Serge C Renaud, (2009) conducted a prospective cohort study among Moderate wine drinkers have lower hypertension-related mortality in French men. In this, we tested the hypothesis that regular wine drinking reduces the hypertension-related risk of death. Results shows that a Cox model adjusted for 6 confounding variables, moderate wine drinkers (those who consumed <60 g alcohol/d and no beer) with systolic blood pressure of 158, 139, or 116 mm Hg had significantly lower risks of death from all causes by 23%, 27%, and 37%, respectively, than did abstainers. No significant reduction in all-cause mortality in relation to Systolic Blood Pressure was observed in other drinkers (those who consumed \geq 60 g alcohol/d or who consumed beer and wine).It was Concluded that a moderate intake of wine is associated with a lower risk of mortality from all causes in persons with hypertension.

2.2 STUDIES RELATED TO EFFECTIVENESS OF OATMEAL THERAPHY ON BLOOD PRESSURE

Jian Zhang, Lixiang Li, et.al (2012) conducted a study on Randomized controlled trial of oatmeal consumption versus noodle consumption on blood lipids of urban Chinese adults with hypercholesterolemia at Beijing Hospital, Beijing china. Subjects were adults (men and women) with mild to moderate hypercholesterolemia. The oat group (n=85) consumed 100grams of instant oat cereal versus the control group (n=81) who consumed 100grams of wheat flour-based noodles daily for 6weeks. Results suggest that Total-, Low Density Lipids-cholesterol and waist circumference decreased significantly in the oatmeal group compared to the control group. High Density Lipid-cholesterol decreased significantly in the control group versus the oatmeal group. Instant oatmeal consumed daily for 6 weeks significantly increased fiber intake and decreased major risk factors for Cardiovascular Disease in Chinese adults with hypercholesterolemia.

Jinesh Kochar, J. et.al., (2012) conducted a longitudinal cohort study of Breakfast cereals and risk of hypertension in the Physicians' Health Study. Results suggest that the average age of study participants was 52.4 ±8.9 years during the initial assessment of cereal intake. The crude incidence rates of hypertension were 36.7, 34.0, 31.7, and 29.6 cases/1,000 person-years for people reporting breakfast cereal intake of 0, ≤ 1, 2-6, and ≥ 7 servings/ week, respectively. In a Cox regression model adjusting for age, smoking, body mass index, alcohol consumption, fruit and vegetable consumption, physical activity, and history of diabetes mellitus, hazard ratios (95% CI) for hypertension were 1.0 (reference), and 0.81 from the lowest to the highest category of cereal consumption, respectively (p <0.0001). The results of this study suggest that whole grain breakfast cereal consumption confers a lower risk of hypertension in middle-aged adult males. This association was strongest for whole grain cereals and was observed in lean as well as overweight or obese participants.

James W Anderson,et.al (2011)conducted a study that Dietary fiber intake provides many health benefits. Individuals with high intakes of dietary fiber appear to be at significantly lower risk for developing coronary heart disease, stroke, hypertension, diabetes, obesity, and certain gastrointestinal diseases. Increasing fiber intake lowers blood pressure and serum cholesterol levels. Increased intake of soluble fiber improves glycemia and insulin sensitivity in non-diabetic and diabetic individuals. Fiber supplementation in obese individuals significantly enhances weight loss.

Paula Tighe,et.al., (2010) conducted a randomized controlled trial onEffect of increased consumption of whole-grain foods on blood pressure and other cardiovascular risk markers in healthy middle-aged persons. Results revealed that total of 233 volunteers; 24 volunteers withdrew, and 3 volunteers were excluded.

Systolic blood pressure and pulse pressure were significantly reduced by 6 and 3 mm Hg, respectively, in the whole-grain foods groups compared with the control group. Daily consumption of 3 portions of whole-grain foods can significantly reduce cardiovascular disease risk in middle-aged people mainly through blood pressure-lowering mechanisms. The observed decrease in systolic blood pressure could decrease the incidence of coronary artery disease and stroke by $\geq 15\%$ and 25%, respectively.

David L. Katz, (2010) conducted a large prospective study on fiber sources, including oats, can significantly aid in reducing blood pressure and or prevent the onset of hypertension. In two large epidemiological studies, individuals who consumed 6-10 g of fiber daily had lower systolic (-3 to 5mm Hg) and diastolic (-2 to 3 mm Hg) blood pressure in comparison to their counterparts who ate 2-4 g of fiber per day. The results showed that fiber intakes of more than 24 g/d were associated with a 57% reduction in risk for the development of hypertension in comparison to those who consumed less than 12 g/d.

Brenda M. Davy(2010) conducted a epidemiologic studies suggest that increased intake of dietary fiber is associated with lower levels of arterial blood pressure . To test this hypothesis, middle-aged and older men with elevated Blood Pressure (were randomly assigned to consume an additional 14 g/d of dietary fiber in the form of oat (5.5 g β -glucan, $n = 18$) or wheat cereals (no β -glucan, $n = 18$) for 12 wk. Casual resting arterial Blood Pressure was measured at baseline and after 4, 8 and 12 wk of intervention. There were no differences in casual resting or 24-h ambulatory Blood Pressure at baseline in the two groups. Casual systolic Blood Pressure did not change as a result of the 12-wk intervention in the oat or wheat

groups, respectively ($P < 0.05$). Casual diastolic Blood Pressure also did not change in the oat or wheat group during this period ($P \geq 0.05$). Therefore, the results of the present study suggest that any cardio protective benefit of regular oat consumption may not be conferred via an arterial Blood Pressure-lowering effect.

According to Am J Clin Nutr (2010) conducted a multivariate-adjusted analyses of whole-grain intake was inversely associated with risk of hypertension. total of 9227 cases of incident hypertension were reported over the 18 y of follow-up with a relative risk of 0.81 in the highest compared with the lowest quintile ($P = 0.0001$). In the multivariate model, total bran was inversely associated with hypertension, with a relative risk of 0.85 in the highest compared with the lowest quintile ($P = 0.002$). we found an independent inverse association between intake of whole grains and incident hypertension in men.

According to J. Nutr. (2009) conducted a 6-week study comparing whole-grain oat-based cereals to refined wheat-based cereals, researchers reported that 73 percent of hypertensive participants in the oats group were able to cut out their antihypertensive medications, or reduce them by half. The remaining participants also experienced significantly reduced blood pressure. The fiber and magnesium found in oats both have beneficial effects on blood pressure. In addition, oats slow atherosclerosis, the plaque buildup that occurs in blood vessels. Aim for one serving (about three-fourths of a cup) of whole-grain oats per day, or at least six servings per week.

Joseph M. Keenan,(2009) conducted a study was one of the first studies to quantify the cost savings of prescription drugs when using a dietary approach to help combat high blood pressure."According to our findings, a diet containing soluble,

fibre-rich, wholegrain, oat-based cereals can reduce the need for medicine to control hypertension and improve blood pressure control among people being treated for high blood pressure,"

According to Pins JJ, (2009) conducted a study on Primary study outcomes included change in Systolic Blood Pressure and Diastolic Blood Pressure as well as antihypertensive medication reduction. Secondary measures included blood lipid, fasting glucose, and insulin levels and side effects related to elevated Blood Pressure and increased dietary fiber intake. Seventy-three percent of participants in the oats group versus 42% in the control group were able to stop or reduce their medication by half. Treatment group participants whose medication was not reduced had substantial decreases in Blood Pressure. The oats group experienced a 24.2-mg/dL reduction in total cholesterol levels, a 16.2-mg/dL decrease in low-density lipoprotein cholesterol levels, and a 15.03-mg/dL drop in plasma glucose levels vs controls. Results suggest that a diet containing soluble fiber-rich whole oats can significantly reduce the need for antihypertensive medication and improve Blood Pressure control. Considering the lipid and glucose improvements as well, increased consumption of whole oats may significantly reduce cardiovascular disease risk.

Linda Van Horn, a Statement for Healthcare Professionals From the Nutrition Committee, American Heart Association. Inverse associations between fiber and blood pressure have also been reported. Some intervention studies among hypertensive and normotensive individuals have reported reductions in blood pressure in response to increased fiber intake, but these results are not conclusive. Confounding factors in these studies include obesity, use and amount of antihypertensive medication, and comorbidity. A vegetarian diet appears to induce

blood pressure reduction in hypertensive individuals, but independent effects of dietary fiber have yet to be elucidated.

Keenan JM, Pins JJ, Frazel C, et.al (2009) conducted a randomized, controlled, parallel-group pilot study of Oat ingestion reduces systolic and diastolic blood pressure in patients with mild or borderline hypertension. designed to compare an oat cereal group (standardized to 5.52 g/day beta-glucan) to a low-fiber cereal control group (less than 1.0 g/day total fiber) over 6 weeks .The results suggest that the oat cereal group experienced a 7.5 mm Hg reduction in Systolic Blood Pressure (P < .01) and a 5.5 mm Hg reduction in Diastolic Blood Pressure(P < .02), while there was virtually no change in either Systolic Blood Pressure or Diastolic Blood Pressure in the control group. The oats group experienced a significant reduction in both total cholesterol (9%) and low-density lipoprotein cholesterol (14%).The addition of oat cereals to the normal diet of patients with hypertension significantly reduces both Systolic Blood Pressure and Diastolic Blood Pressure.

JOEL J. PINS, et.al., (2009) conducted a study on randomized controlled parallel-group trial on compared 2 whole grain oat-based cereals with 2 refined grain wheat-based cereals to determine their effects on the need for antihypertensive medications in people with a mean baseline Blood Pressure below 160/100. 12-week, with ≥ 6 weeks of voluntary follow-up. Results suggest that Seventy-three percent of participants in the oats group versus 42% in the control group were able to stop or reduce their medication by half. Treatment group participants whose medication was not reduced. Study Concluded that a diet containing soluble fiber-rich whole oats can significantly reduce the need for antihypertensive medication and

improve Blood Pressure control. and also increased consumption of whole oats may significantly reduce cardiovascular disease risk.

Edward Saltzman , et.al., (2009) conducted a study on An Oat-Containing Diet Reduces Systolic Blood Pressure and Improves Lipid Profile beyond Effects of Weight Loss in Men and Women. To better define a diet for reduction in cardiovascular risk, 43 adults participated in an 8-wk study to determine the effects of two diets on weight, blood pressure, lipids and insulin sensitivity. For 2 wk, weight was maintained and all subjects consumed a control diet. For the next 6 wk, subjects consumed a diet containing oats 45 g/ $n = 22$. There was no significant difference between groups in changes in weight loss (control $P = 0.8$). The oats diet resulted in greater decreases in mean systolic blood pressure ($P = 0.026$), whereas diastolic blood pressure change did not differ between the two groups ($P = 0.8$). The oat diet resulted in significantly greater decreases in total cholesterol ($P = 0.003$) and LDL cholesterol ($P = 0.008$). In summary, a diet containing oats consumed over 6 wk resulted in greater improvements in systolic blood pressure and lipid profile than did a diet without oats.

PART – II
CONCEPTUAL FRAME WORK

A **conceptual framework** is an analytical tool with several variations and contexts. It is used to make conceptual distinctions and organize ideas. Strong conceptual frameworks capture something real and do this in a way that is easy to remember and apply.

A conceptual model can be defined as a set of concepts and that assumption that integrated them in to meaningful configuration.

- Fewett-1980

Theoretical model for this study was derived from **Calista Roy's Adaptation theory model (1996)**. Roy employs a feedback cycle of input, throughput and output. Input is defined as stimuli, its comes from the environment or from within a person. Stimuli are classified focal, contextual .Input also includes a person's adaptation level. Throughput makes use of a person's processes and effectors. Processes refers to the control mechanisms that a person uses an adaptive system. Effectors refers to the physiological function, self concept, and role function involved in adaptation. The adaptive modes are the ways that a person adopt through physiological needs, self concept, role function and interdependent relation.

In adaptive system, Adaptive means the human system has the capacity to adjust effectively to change environment. system is defined as the self parts connected to function as a whole for some purpose and it does by virtue of the interdependence of its parts. This has two major internal controls process called regulator and cognator subsystem.

These systems are viewed as innate or acquired copying mechanisms are generally determined and are generally viewed as automatic process. Acquired copying mechanisms are developed through process such as learning.

The regulator subsystem responds automatically through neural, chemical and endocrine coping process. The cognator subsystem respond to input from external and internal stimuli that involves physical, physiological, psychological and social factors including regular sub system outputs. The regulator and cognator activity is manifested through the coping behavior in four adaptive modes. That is through the physical needs self concept and role function and interdependence relations.

The modified model in this study explain the output as the

- Focal stimuli** - Blood Pressure among clients with Hypertension
- Contextual stimuli** - Age, Sex, Educational Status, Type of Family, Occupation, Income, Food habit
- Coping mechanism** - The cognator and regulator subsystem occurs through Oatmeal therapy administration
- Adaptive response** - The experimental group of hypertensive clients as lower in the blood pressure

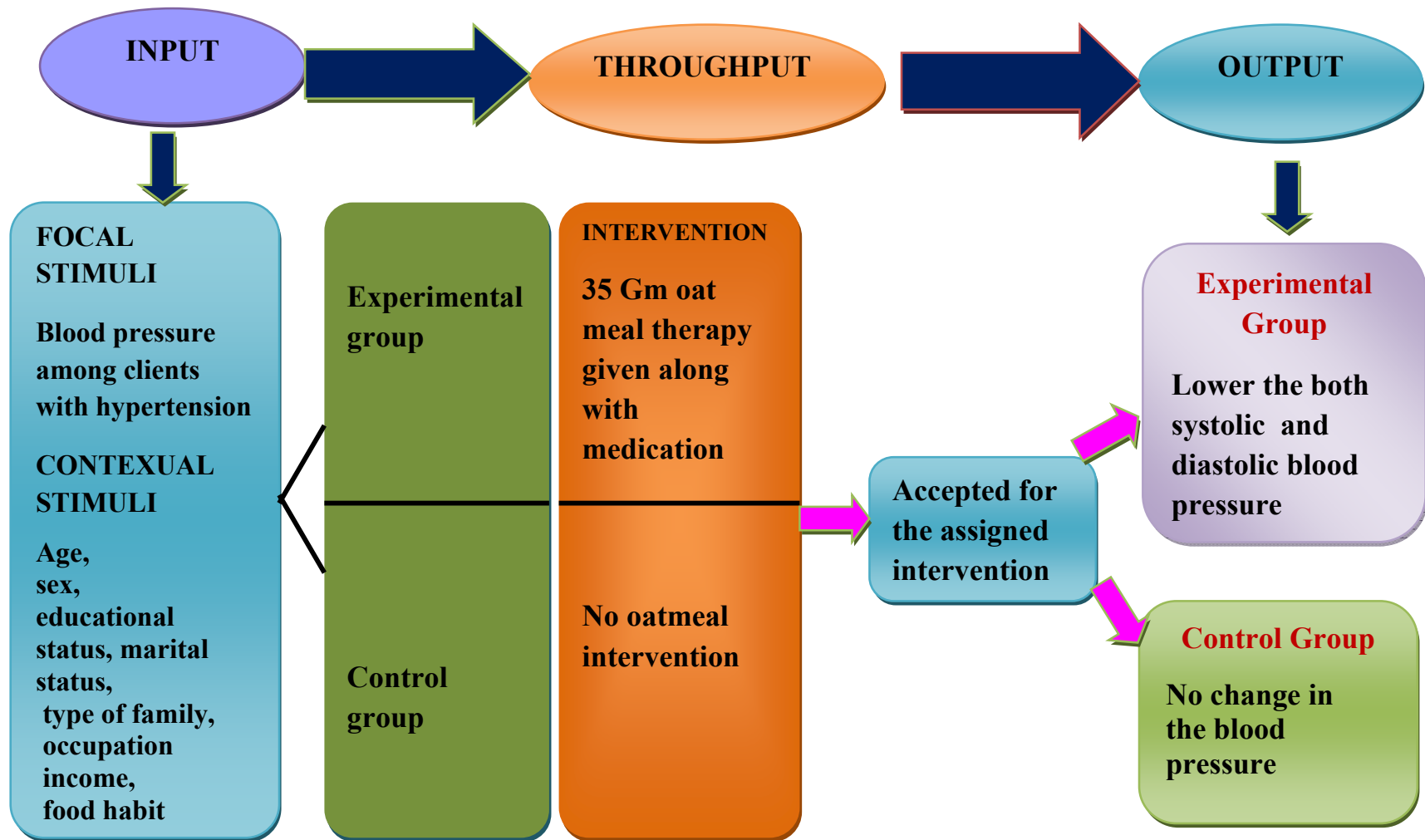


FIGURE 1: CONCEPTUAL FRAME WORK WAS BASED ON MODIFIED CALISTA ROY'S ADAPTATION THEORY MODEL (1996)

Methodology

CHAPTER – III

RESEARCH METHODOLOGY

This Chapter of Research Methodology is a way to systematically solve the research problems. The research methodology in values the systematic procedure by which the investigation starts from initial identification of the problem to its final conclusion.

This chapter deals with description of the methods and different steps used for collecting and organizing data for the investigation. It includes the step of process and strategic for valid reliable data for the study. It includes the research approaches, research design, setting of the study, the study population, the sample and sample size, the sample technique, the sampling criteria, developing the tool and description of the tool, ethical committee approval, content validity, the pilot study, data collection procedure and the plan for data analysis in this study.

3.1 RESEARCH APPROACH

An Quantitative approach was used for the study to determine the effectiveness of oat meal therapy on blood pressure among clients with hypertension.

3.2 RESEARCH DESIGN

The overall plan for addressing a research question, including specification for enhancing the study's integrity is referred to a research design is Quasi experimental: Non equivalent control group design. This is represented below,

| Groups | Pretest | Intervention | Post test |
|---------------|----------------|---------------------|------------------|
| Experimental | O ₁ | X | O2 |
| Control | O1 | - | O2 |

The symbols used:

- O₁ - Pretest for both experimental group and control group
- X - Intervention to experimental group (Oat meal therapy).
- O₂ - Post test for both experimental group and control group

3.3 RESEARCH VARIABLES

Variable are characters that can have more than one value. The three categories of variables discussed in the present study

- Independent variable** : Oatmeal therapy
- Dependent Variable** : Blood pressure
- Demographic Variables** : Age, Sex, Marital Status, Educational Status, Occupation, Income, Type of Family, Exercise And Food Habit.
- Clinical variables** : Duration of illness, Duration Of Treatment, Drug Compliance, Medication Taken, Body Mass Index, Sleeping Hours, Restricting Salt in Food, Recent History Of Stressful Events

3.4 SETTINGS OF THE STUDY

The investigator conducted the study in Paravai at Madurai. Sub centre is situated in Paravai. Paravai was adopted by the department of community health nursing, college of nursing, to provide preventive and promotive care to the population. Paravai consist of 13 streets have selected to conduct the present study. This is situated with in the radius of 6 kilometer from the Government Rajaji Hospital ,Madurai. Total population of Paravai is 8310, Total number of hypertensive clients- 150 in selected streets. The investigator select 30 clients for experimental group from Kottaivasal Street, Kamban Street and Nandhanar Street and 30 clients for control

group from Chidhambaram Street, Amman Kovil Street and Melaveli Street .The selected subjects for control group was 1kilometer away from Experimental group.

3.5 POPULATION OF THE STUDY

- **Target population**

Clients with hypertension on treatment

- **Accessible population**

Clients with hypertension and on treatment residing in rural area paravai

3.6 SAMPLE

Clients with hypertension residing at Paravai and who fulfill the inclusion criteria.

3.7 SAMPLE SIZE

Sample size of the present study is 60 Hypertensive clients (30clients from Kottaivasal Street, Kamban Street, Nanthanar Street for experimental group and 30 clients from Chidhambaram Street, Amman Kovil Street and Melaveli Street for control group)

3.8 SAMPLING TECHNIQUE

Sampling technique used for the present study was Non probability, Purposive sampling technique.

3.9 CRITERIA FOR SAMPLE SELECTION

The following were the criteria for selection of samples for the study

- **Inclusion Criteria:**

- Clients who are aged between 30-60 Years.
- Both male and female.

- Clients who are available during data collection period.
- Clients with stage I Hypertension without complication
- Clients who are taking antihypertensive medications [Allopathic medication-beta blockers].

- **Exclusion Criteria**

- Critically ill clients.
- clients who are not willing to participate.
- hypertensive Clients with complication.
- Stage II hypertensive clients

3.10 METHOD OF SAMPLE SELECTION

The Sample consist of a total number of 60 hypertensive clients, 30clients from Kottaivasal Street, Kamban Street, Nanthanar Street selected as experimental group and 30 clients from Chidhambaram Street, Amman Kovil Street and Melaveli Street as control group.

3.11 DEVELOPMENT OF THE TOOL

A structured interview schedule was developed based on the objectives of the study through review of literature on related studies, journals and books, opinion from the experts. All these helped in the ultimate development of the tool.

3.12 DISCRPTION OF THE INSTRUMENT

Section I: Demographic Variables -Age, Sex, Marital Status, Educational Status, Occupation, Income, Type of Family, Exercise and food habit.

Section –II : Clinical variables include, Duration of illness, duration of treatment, drug compliance, medication taken, Body Mass Index, sleeping hours, Restricting salt in food.

Section –III: Record of blood pressure include the pre and post test of blood pressure in experimental group and control group.

Scoring Procedure and Technique

As Per JACHO Classification

| | Systolic (mm Hg) | Diastolic (mm Hg) |
|------------------|-------------------------|--------------------------|
| Normal | <120 | <80 |
| Pre hypertension | 120 – 139 | 80 – 89 |
| Stage 1 | 140 – 159 | 90 – 99 |
| Stage 2 | ≥160 | ≥100 |

3.13 VALIDITY

In order to measure the content validity of the tool it was given to one social & preventive medicine expert and four experts belongs to the nursing department. To judge the items for their clarity, relevance, comprehensiveness and appropriateness of the content. Appropriate modifications were made in each section as per the suggestions given by the experts.

3.14 RELIABILITY OF THE INSTRUMENT

Validity of the sphygmomanometer instrument was done by quality concepts. calibrated the instrument, and the result is no error in the instrument.

The reliability of the instrument was established by inter rated reliability. The instrument was administrated to 5 individuals simultaneously by 2 nursing personnel and the instrument was found to reliable for the study. The obtained reliability coefficient $r=0.83$. Hence the tool was considered reliable for proceeding with main study.

3.15 ETHICAL COMMITTEE APPROVAL

The researcher got the approval from the ethical committee on 07.02.2014. The study objectives, intervention & the data collection procedures were approved by the research & ethical committee of the institution. Main study was conducted after obtaining permission. Informed consent was obtained from stage I hypertension clients.

3.16 PILOT STUDY

A formal permission was obtained from Block medical officer of Primary Health Centre, Samayanallur, to conduct the pilot study. Pilot study was conducted from 01.08.14 to 07.08.14 at Nethaji street and Thiruvalluvar street. A brief introduction was given to the clients regarding administration of Oatmeal therapy. The purpose of the study was explained to the clients and Informed consent was obtained from the samples and the baseline data was collected. 10 subjects (5 experimental group and 5 control group) who met inclusion criteria were selected. Blood pressure was checked for both groups on day 1. Second day onwards 35 gms of oat meal was given to the experimental group every day morning for 7 days. The acceptance level is high among the samples and they are very interested and cooperative in consuming the oats meal. The study setting was feasible

3.17 PROCEDURE FOR DATA COLLECTION

The main study was conducted for the period of 5 weeks from 12.08.14 to 15.09.14. The data was collected on all the days. Formal permission was obtained from the Deputy Director of Health Services, Madurai. The investigator obtained formal permission from the Block Medical officer Samayanallur Primary health centre. A brief self introduction was given to the Hypertensive clients and established

rapport with the clients. In selected streets of Paravai sample were selected who fulfill the Inclusion criteria. The purpose of study was explained to the clients and assured confidentiality to be maintained of the Data. The Informed consent was obtained from the participants. The first day pre test was conducted The blood pressure was measured on in the early morning for both experimental and control groups. Interview method was used to collect the Baseline variables. 2nd day onwards 35g of oats was given in the form of malt. The malt is prepared by taking 35gms of oats and 150ml of water was added and make it to boil and the 200ml of malt was given daily in the morning for 45 consecutive days .5 samples were assembled in common place, followed by the preparation of 175 gms of oats with 750ml of water and totally 1000ml of oats malt was prepared and distributed 200ml of malt for each samples. Time taken for each group was 30 minutes. On the 46th day post test blood pressure was assessed for experimental and control groups.

3.18 PLAN FOR DATA ANALYSIS

Descriptive and inferential statistics were used for data analysis.

Descriptive Statistics: Frequency, Percentage, Mean, Standard Deviation

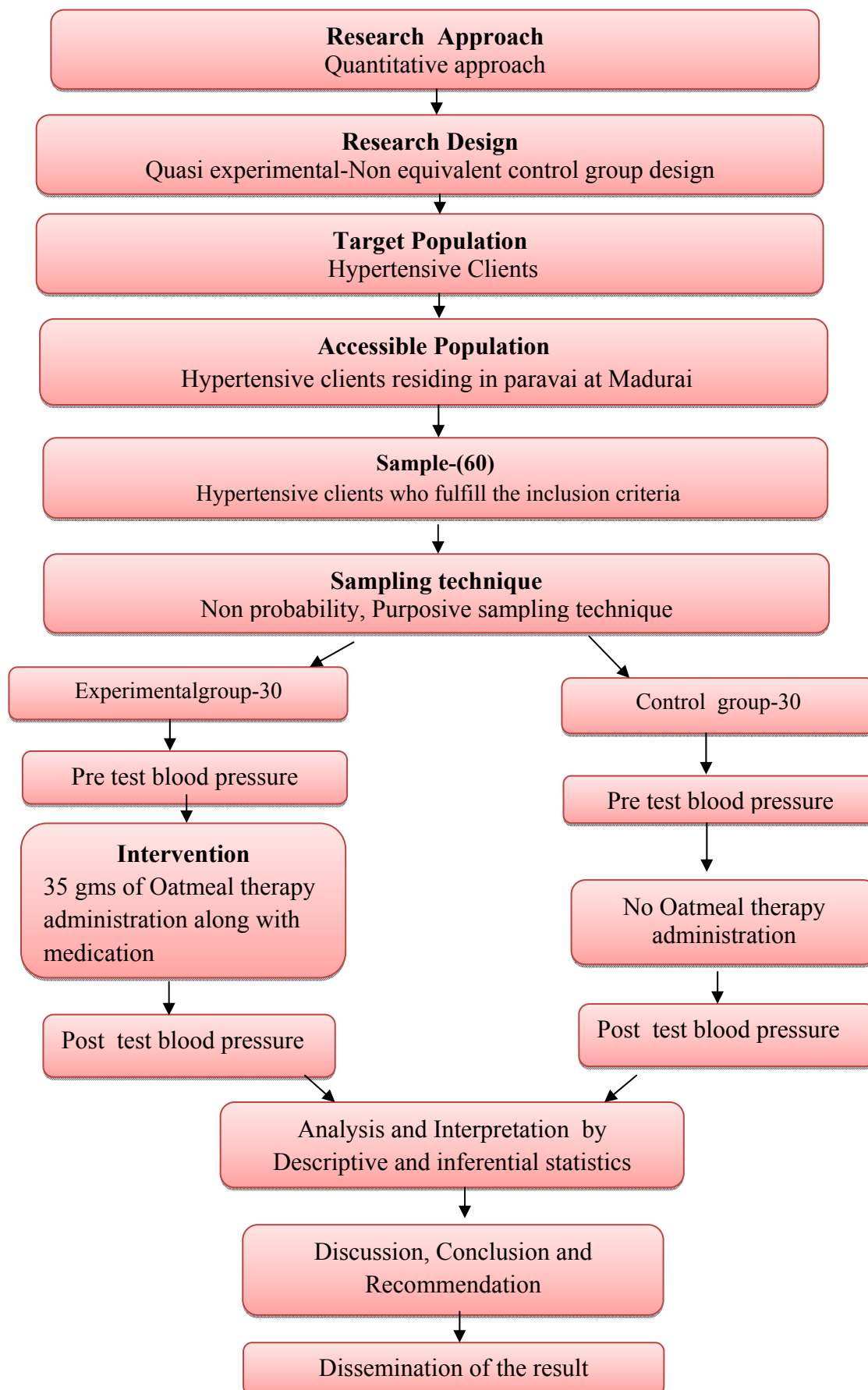
Inferential Statistics : Paired ‘t’ test - To evaluate the effectiveness of oatmeal therapy on blood pressure before and after the intervention.

Chi square test- To find the association between the level of blood pressure with their selected socio demographic and clinical Variables.

3.19 PROTECTION OF HUMAN SUBJECTS

The study was conducted after getting approval from the Dissertation Committee. The written permission was obtained from the Director of District Health Service officer, to conduct the study in rural area-Paravai at Madurai. The oral and written consent was obtained by the researcher from the subjects before data collection. Assurance given to them that confidentiality will be maintained.

FIGURE 2: SCHEMATIC REPRESENTATION OF THE STUDY



*Data Analysis And
Interpretation*

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with analysis and interpretation of data collected and thereby to assess the effectiveness of Oat meal therapy to lower the blood pressure in clients with Hypertension and to determine variables. Analysis is the appraisal of the data and interpretation of the data consisting of relation between findings of the study to the research problem and theoretical framework for the study. An important function of the process interpretation is to link the finding of the study to the research problem and theoretical framework for the study. An important function of the process of interpretation is to link the findings of the study to the main stream of scientific knowledge in the field the data collected from 60 hypertensive clients 30 for experimental and 30 for control group being analyzed classified and tabulated on the basis of the objectives of the study.

PRESENTATION OF THE DATA

The study finding of the samples are presented in the following sections:

Section I: Distribution of socio demographic and clinical variables among clients with hypertension.

Section II: Distribution of blood pressure in clients with hypertension among Experimental and Control group.

Section III: Effectiveness of Oatmeal therapy on blood pressure in clients with hypertension among experimental group.

Section IV: Comparison of mean Blood pressure level score between the pretest and posttest among clients with hypertension in experimental and control group.

Section V: Association between the level of blood pressure in clients with hypertension with their selected socio demographic & clinical variables.

SECTION - I

**DISTRIBUTION OF SOCIO DEMOGRAPHIC VARIABLES AND
CLINICAL VARIABLES OF THE CLIENTS WITH HYPERTENSION**

TABLE - 1

**DISTRIBUTION OF SOCIO DEMOGRAPHIC VARIABLES OF THE
CLIENTS WITH HYPERTENSION**

n=60

| Demographic variables | Control group(n=30) | | Experimental group(n=30) | |
|---------------------------|---------------------|-------|--------------------------|-------|
| | F | % | f | % |
| 1.Age(in years): | | | | |
| 31-40 yrs | 1 | 3.3% | 4 | 13.3% |
| 41-50 yrs | 10 | 33.3% | 12 | 40% |
| 51-60 yrs | 19 | 63.3% | 14 | 46.7% |
| 2.Gender : | | | | |
| Male | 11 | 36.7% | 9 | 30% |
| Female | 19 | 63.3% | 21 | 70% |
| 3.Education: | | | | |
| Primary | 13 | 43.3% | 11 | 36.7% |
| Higher Secondary | 4 | 13.3% | 5 | 16.7% |
| Graduate | 4 | 13.3% | 4 | 13.3% |
| Illiterate | 9 | 30.0% | 10 | 33.3% |
| 4.Marital status: | | | | |
| Single | 0 | 0 | 0 | 0 |
| Married | 30 | 100% | 28 | 93.3% |
| Divorced | 0 | 0 | 0 | 0 |
| Widow/widower | 0 | 0 | 2 | 6.7% |
| 5.Occupation : | | | | |
| Sedentary worker | 25 | 83.3% | 22 | 73.3% |
| Moderate worker | 5 | 16.7% | 7 | 23.3% |
| Heavy worker | 0 | 0 | 1 | 3.3% |
| 6.Type of family : | | | | |
| Nuclear family | 25 | 83.3% | 18 | 60% |
| Joint family | 5 | 16.7% | 12 | 40% |

| | | | | |
|-------------------------|----|-------|----|-------|
| 7.Family income: | | | | |
| Less than Rs.5000 | 21 | 70% | 11 | 36.7% |
| Rs.5001-10000 | 8 | 26.7% | 16 | 53.3% |
| More than 10000 | 1 | 3.3% | 3 | 10% |
| 8.food habit : | | | | |
| Vegetarian | 4 | 13.3% | 4 | 13.3% |
| Non-vegetarian | 26 | 86.7% | 26 | 86.7% |
| 9.Habits: | | | | |
| Smoking | 9 | 30% | 5 | 16.7% |
| Alcohol | 0 | 0 | 2 | 6.7% |
| Tobacco | 0 | 0 | 23 | 76.6% |
| None | 11 | 70% | 0 | 0 |
| 10.Exercise: | | | | |
| Physical Exercise | 6 | 20% | 6 | 20% |
| Aerobic exercise | 0 | 0 | 23 | 76.7% |
| Yoga | 0 | 0 | 1 | 3.3% |
| Nothing | 24 | 80% | 0 | 0 |

The above table revealed that the background data among hypertensive clients for experimental and control group such as age, Gender, Education, marital status, occupation, type of family, Family income, Food habit, Habits and Exercise.

In the aspect of age in experimental group about 4 (13.3%) subjects belongs to the age group of 31-40 years, 12 (40%) were in the age group of 41-50 years, and remaining 14 (46.7%) were in the age group of 51-60 years. Whereas in control group 1 (3.3%) subjects belongs to 31-40 years of age group, 10 (33.3%) were in 41-50 years and 19 (63.3%) belongs to 51-60 years of age group.

With respect to gender majority of the samples 21 (70%) were females both in the experimental group and 19 (63.3%) control group. The male samples in experimental group were 9 (30%) and control group 11 (36.7%) respectively.

When the education is considered in the experimental group about 11(36.7%) studied primary education, 5 (16.7%) had higher secondary, 4 (13.3%)are graduate and 10 (33.3%)were illiterate. In control group 13(43.3%) had primary education,4(13.3%) were higher secondary education,(4)13.3% had graduate and(9)30.0% were illiterate.

When marital status is considered in experimental group 28(93.3%) were married and 2(6.7%) were widower. In control group 30(100%) were married.

While considering the occupation in experimental group 22(73.3%) were doing sedentary work,7(23.3%) were doing moderate work and 1(3.3%) were doing heavy work. In control group 25(83.3%)were doing sedentary work and remaining,5(16.7%)were doing moderate work.

With regards to the type of family about 18(60%)subjects belongs to nuclear family,12(40%)belongs to joint family in experimental group. Whereas in control group 25(83.3%) belongs to nuclear family,5(16.7%) belongs to joint family.

Regarding the family income in experimental group11(36.7%)clients had less than Rs-5000 per month ,16(53.3%) had Rs-5001-10000 and 3(10%)had more than Rs-10000.In control group about 21(70%) subjects earning less than Rs-5000 per month,8(26.7%) had family income between Rs-5001-10000 and 1(3.3%)had more than Rs-10000 per month respectively.

When considering about the food habit both in experimental group and control group 4(13.3%) were vegetarians and 26(86.7%) were non-vegetarian.

In the aspect of Habits in experimental group 5(16.7%) subjects had smoking ,2(6.7%)subjects consume alcohol and 23(76.6%) had a habit of tobacco chewing. In control group 9(30%)subjects had the habits of smoking and remaining 11(70%)does not have any such habits.

With regards to exercise in the experimental group 6 (20%)subjects doing physical exercise 23(76.7%) subjects doing aerobic exercise like walking and 1(3.3%) had yoga. In control group 6(20%)samples doing physical exercise and 24(80%)does not practice any exercise.

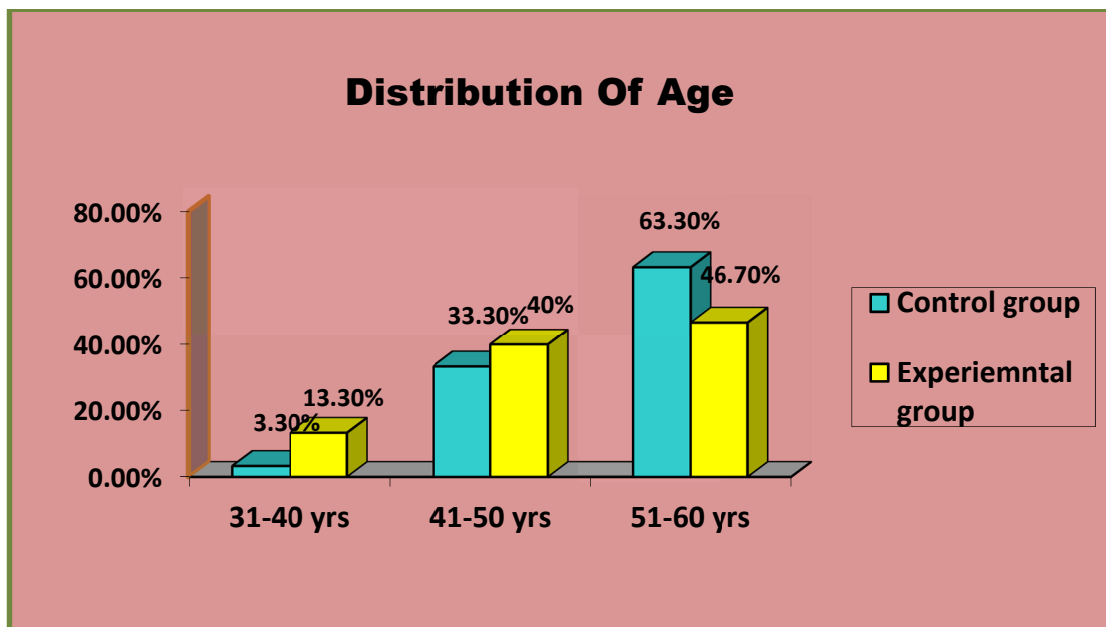


Figure 3: Percentage distribution according to their age among hypertensive clients

Above Bar diagram revealed that Maximum percentage (46.7%) of hypertensive clients in the age group of 51-60 years in experimental group and (63.3%) in control group in same age group.

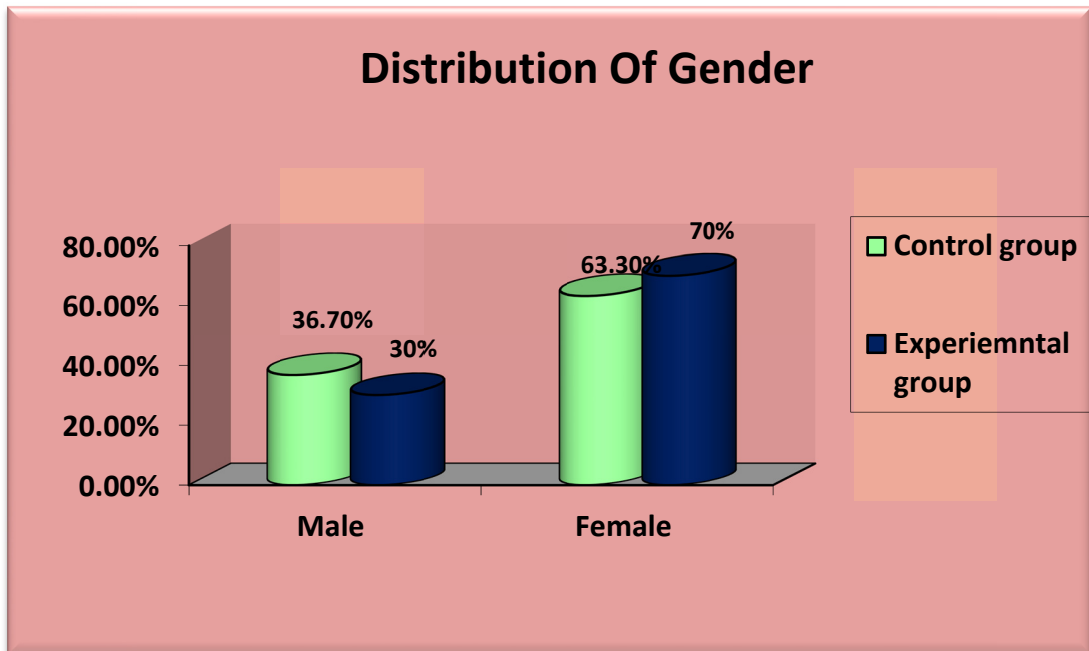


Figure 4: Percentage distribution according to their gender among Hypertensive clients.

Above **cylinder diagram** revealed that more than half of the proportion 70% of female clients in experimental group and 63.3% of females in control group.

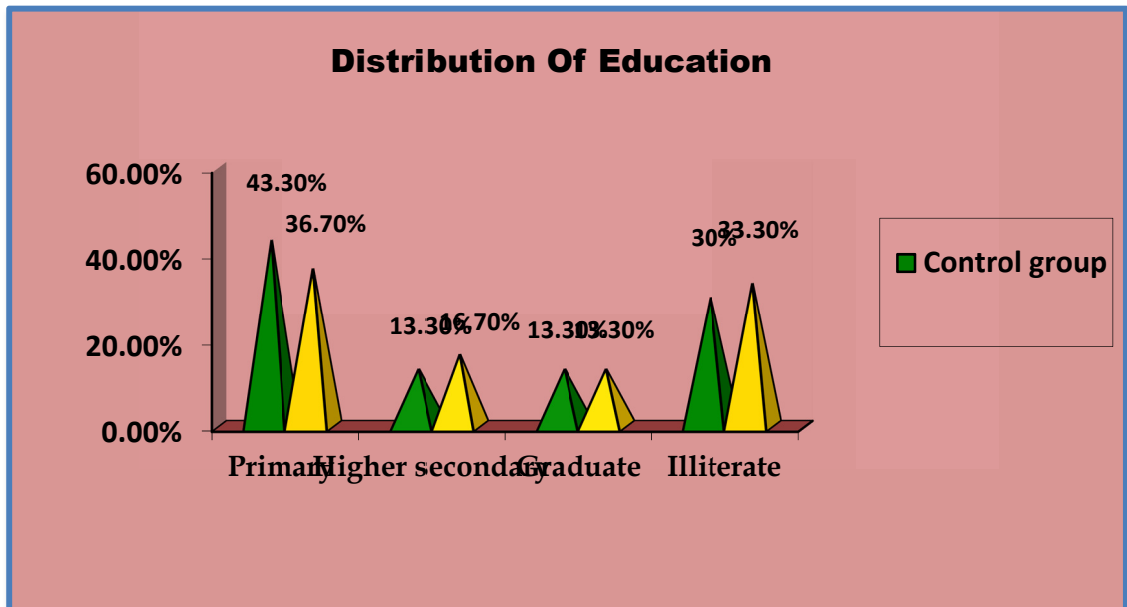


Figure 5: percentage distribution according to their education among Hypertensive clients

Above **pyramid diagram** revealed that maximum percentage 36.7% of hypertensive clients had a primary education in experimental group and 43.3% in control group.

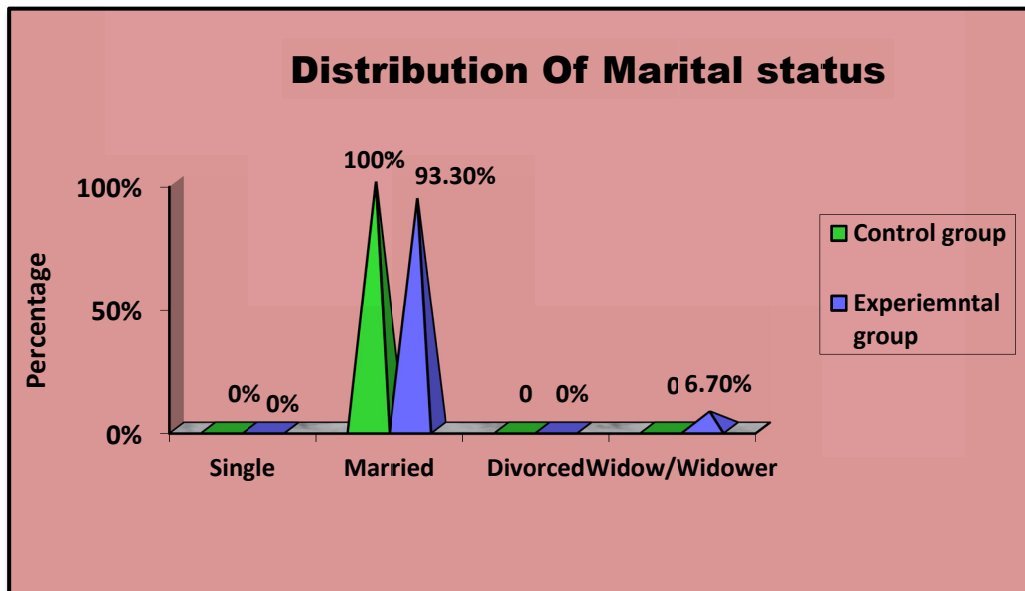


Figure 6: Percentage distribution according to their marital status among Hypertensive clients

Above **pyramid diagram** revealed that 93.3% of married in experimental group and 100% in control group

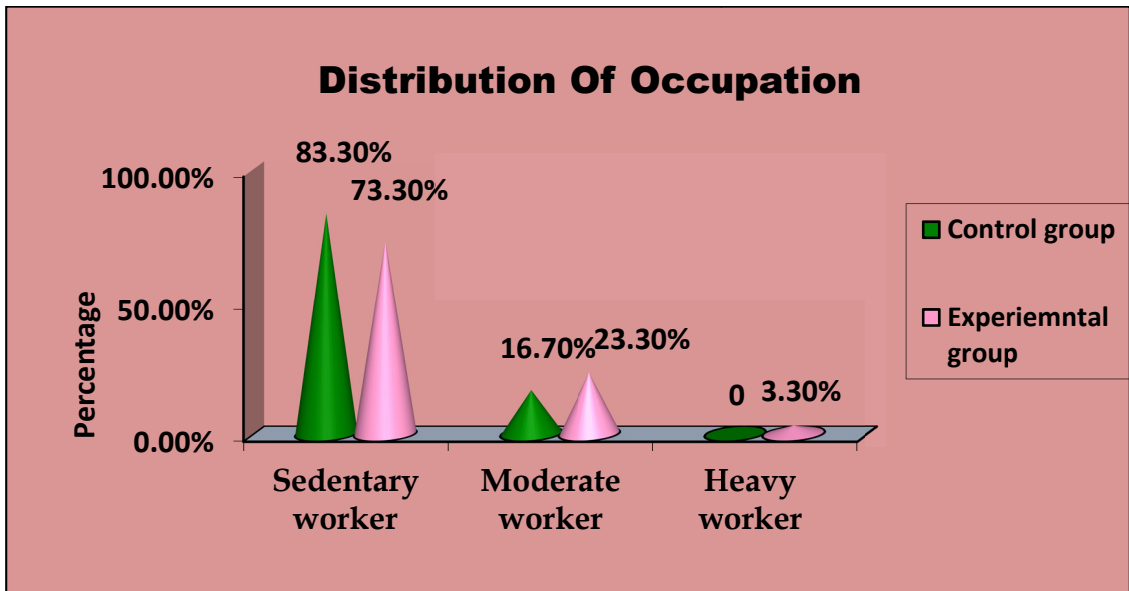


Figure 7: percentage distribution according to their occupation among Hypertensive clients

Above **Cone diagram** revealed that maximum percentage 73.3% of hypertensive clients are sedentary worker in experimental group and 83.3% in control group.

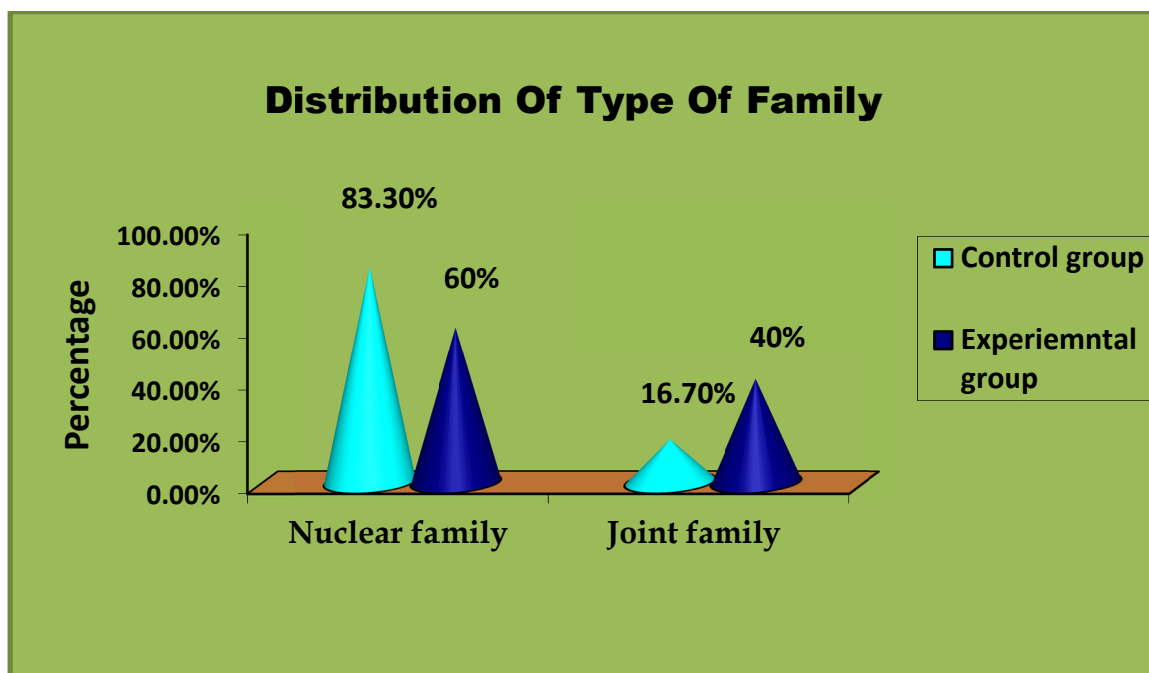


Figure 8: Percentage distribution according to their Type of family among Hypertensive clients

Above **Cone diagram** revealed that 60% of experimental group in nuclear family and 83.3% of control group belongs to nuclear family.

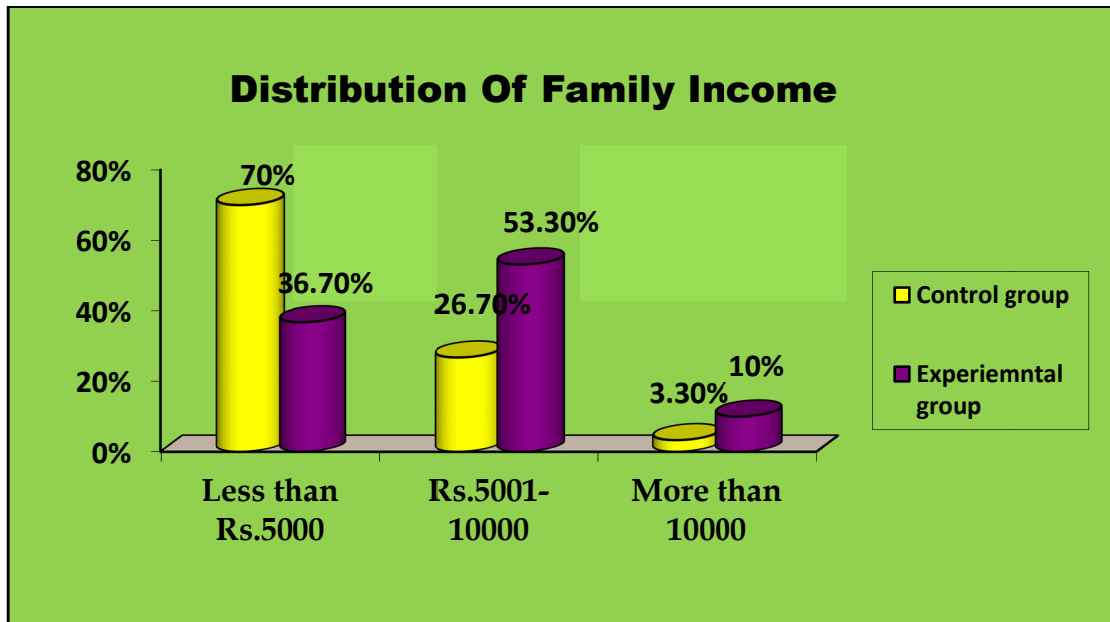


Figure 9: Percentage distribution according to their family income among Hypertensive clients

Above **cylinder diagram** revealed that majority of the clients in experimental group 53.3% in the range of Rs-5001-10000 income per month and in Control group 70% of the clients in the range of less than 5000 income per month.

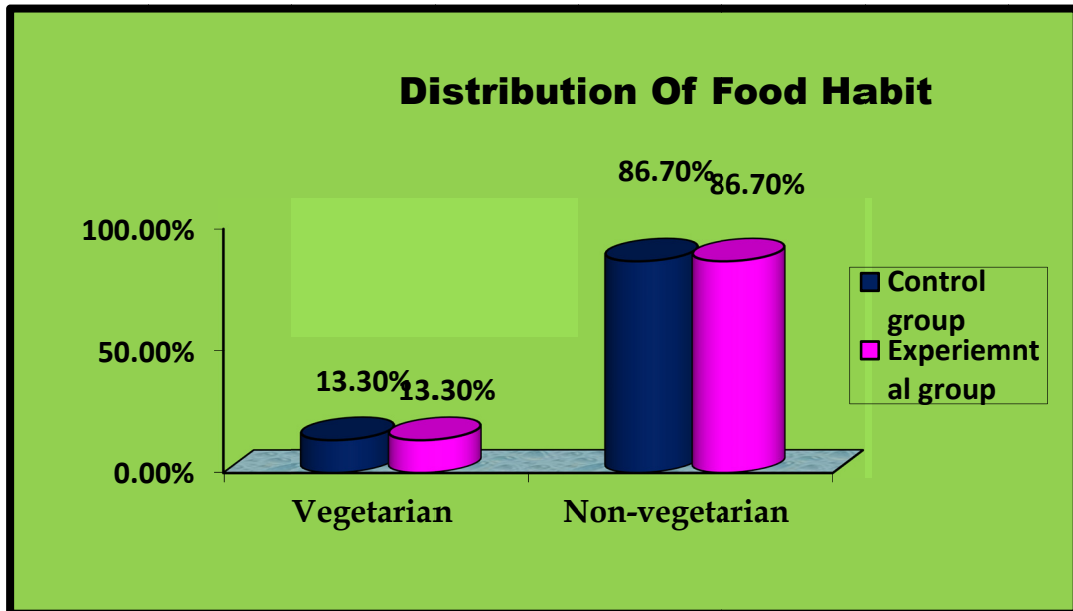


Figure 10:Percentage distribution according to their food habit among Hypertensive clients

The above **cylinder diagram** revealed that regarding food habits 86.7% non-vegetarian in both experimental and control group.

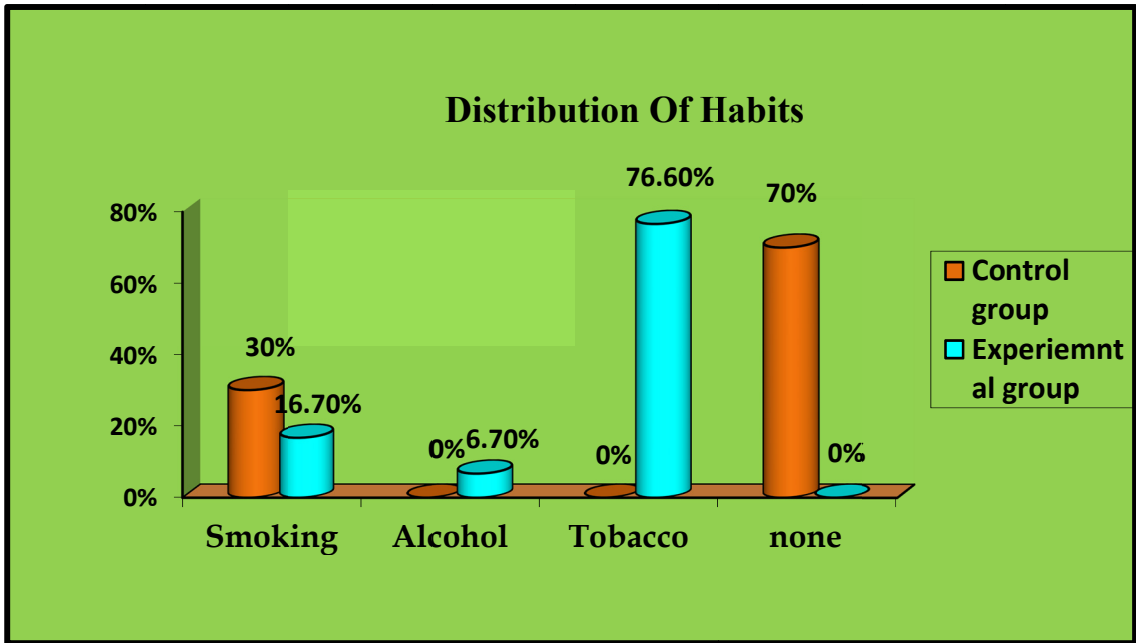


Figure 11: percentage distribution according to their habits among Hypertensive clients

The above **cylinder diagram** revealed that regarding habits 76.6% of experimental group have a habits of tobacco and 70% of the control group have no habits of smoking, alcohol and tobacco.

SECTION - I

**TABLE-2 DISTRIBUTION OF CLINICAL VARIABLES OF THE CLIENTS
WITH HYPERTENSION**

n = 60

| Clinical variables | Control group | | Experimental group | |
|---|---------------|-------|--------------------|-------|
| | f | % | f | % |
| 1.Duration of illness: | | | | |
| <1 year | 9 | 30% | 8 | 26.7% |
| 1-3 years | 11 | 36.7% | 10 | 33.3% |
| 3-5 years | 6 | 20% | 5 | 16.7% |
| >5 yrs | 4 | 13.3% | 7 | 23.3% |
| 2.Duration of treatment : | | | | |
| <1 year | 9 | 30% | 8 | 26.7% |
| 1-3 years | 11 | 36.7% | 10 | 33.3% |
| 3-5 years | 6 | 20% | 5 | 16.7% |
| >5 yrs | 4 | 13.3% | 7 | 23.3% |
| 3.Drug compliance: | | | | |
| Adequate | 30 | 100% | 30 | 100% |
| Inadequate | 0 | 0 | 0 | 0 |
| 4.Specify ,medication taken: | 30 | 100% | 30 | 100% |
| Allopathy | 0 | 0 | 0 | 0 |
| Naturopathy | 0 | 0 | 0 | 0 |
| Sidda | 0 | 0 | 0 | 0 |
| Homeopathy | | | | |
| 5.Sleeping hours : | | | | |
| Less than 8 hours | 17 | 56.7% | 13 | 43.3% |
| 8 hours | 13 | 43.3% | 17 | 56.7% |
| More than 8 hours | 0 | 0 | 0 | 0 |
| 6. How often checking Blood pressure level : | | | | |
| Once in a month | 25 | 83.3% | 23 | 76.7% |
| Weekly once | 0 | 0 | 3 | 10% |
| Twice a month | 5 | 16.7% | 3 | 10% |
| Only When needed | 0 | 0 | 1 | 3.3% |

| | | | | |
|--|----|-------|----|-------|
| 7.Family history of hypertension: | | | | |
| Yes | 12 | 40% | 10 | 33.3% |
| No | 18 | 60% | 18 | 60% |
| Don't know | 0 | 0 | 2 | 6.7% |
| 8.often taking non vegetarian food: | | | | |
| Daily | 0 | 0 | 2 | 6.7% |
| Twice a week | 0 | 0 | 1 | 3.3% |
| Once a week | 27 | 90% | 23 | 76.7% |
| Never | 3 | 10% | 4 | 13.3% |
| 9.Restricting salt in Diet : | | | | |
| Fully restricted | 2 | 6.7% | 1 | 3.3% |
| Half salt | 25 | 83.3% | 27 | 90% |
| No restriction | 3 | 10% | 2 | 6.7% |
| 10.Complication for hypertension: | 30 | 100% | 30 | 100% |
| No | 0 | 0 | 0 | 0 |
| Renal disease | 0 | 0 | 0 | 0 |
| Stroke | 0 | 0 | 0 | 0 |
| Retinopathy | 0 | 0 | 0 | 0 |
| Cardiovascular | 0 | 0 | 0 | 0 |
| I don't know | | | | |
| 11.Body mass index: | | | | |
| <18.5 | 0 | 0 | 0 | 0 |
| 18.5-24.99 | 28 | 93.3% | 18 | 60% |
| 25-25.99 | 2 | 6.7% | 9 | 30% |
| >30 | 0 | 0 | 3 | 10% |
| 12.Recent history of stressful event: | | | | |
| Yes | 1 | 3.3% | 2 | 6.7% |
| No | 29 | 96.7% | 28 | 93.3% |

The above table shows that the Hypertension related information of experimental and control group subjects those who were participated in this study.

With regard to the duration of illness in experimental group 8(26.7%) subjects had less than 1 year of illness, 10(33.3%) had 1-3 years of illness, 5(16.7%) had between 3-5 years and 7(23.3%) had more than 5 years of illness. In control group 9(30%) had less than 1 year of illness, 11(36.7%) had 1-3 years 6(20%) had between 3-5 years and 4(13.3%) had illness more than 5 years.

In the aspect of duration of Treatment in the experimental group 8(26.7%) subjects was less than 1 year of treatment, 10(33.3%) was 1-3 years of treatment, 5(16.7%) was between 3-5 years and 7(23.3%) was more than 5 years of treatment. In control group 9(30%) was less than 1 year of treatment, 11(36.7%) was 1-3 years of treatment, 6(20%) had between 3-5 years and 4(13.3%) had taking more than 5 years of treatment.

Regarding the drug compliance both in experimental and control group 30(100%) had adequate drug compliance. With the view of specified medication taken in the experimental group and control group all were taking Allopathy treatment.

When considered about sleeping hours in the experimental group 13(43.3%) had sleep less than 8 hours per day and 17(56.7%) had 8 hours of sleep. In control group 17(56.7%) had less than 8 hours of sleep per day, and 13(43.3%) had 8 hours of sleep per day.

In the aspect of checking Blood pressure 23(76.7%) subjects checked Once in a month, 3(10%) checked Weekly once, 3(10%) checked blood pressure Twice a month and 1(3.3%) checked Only When needed. In control group 25(83.3%) subjects checked Once in a month, 5(16.7%) checked blood pressure Twice a month.

Regarding the Family history of hypertension in experimental group 10(33.3%) subjects had a family history of hypertension,18(60%)does not had any history of hypertension and remaining 2(6.7%)subjects was not known.

In the view of taking non vegetarian food taken in experimental group 2(6.7%) clients taken non vegetarian Daily ,1(3.3%)subjects taken Twice a week 23(76.7%) clients taken Once a week 4(13.3%) was not taking non vegetarian food.

In the view of Restricting salt in Diet in experimental group 1(3.3%) subjects were fully restricted as prescribed, 27(90%) were half salt restricted and 2(6.7%) were had no restriction. In control group 2 (6.7%) were fully restricted as prescribed, 25(83.3%) were half salt restriction and 3(10%)were had no restriction.

Regarding Complication for hypertension in both experimental and control group 30(100%) had no complication. In the body mass index in experimental group 18(60%) had between the range of 18.5 -24.99,9(30%)subjects in the range of 25-29.99 and 3(10%)were more than 30.In control group 28(93.3%)had in the range of 18.5 -24.99 and 2(6.7%)had in the range of 25-29.99.

In the aspect of Recent history of stressful event in experimental group 2(6.7%) had the history of stressful event and 28(93.3%) have a no history. In control group 1(3.3%) had a history of stressful event and 29(96.7%) have a no history of stressful event.

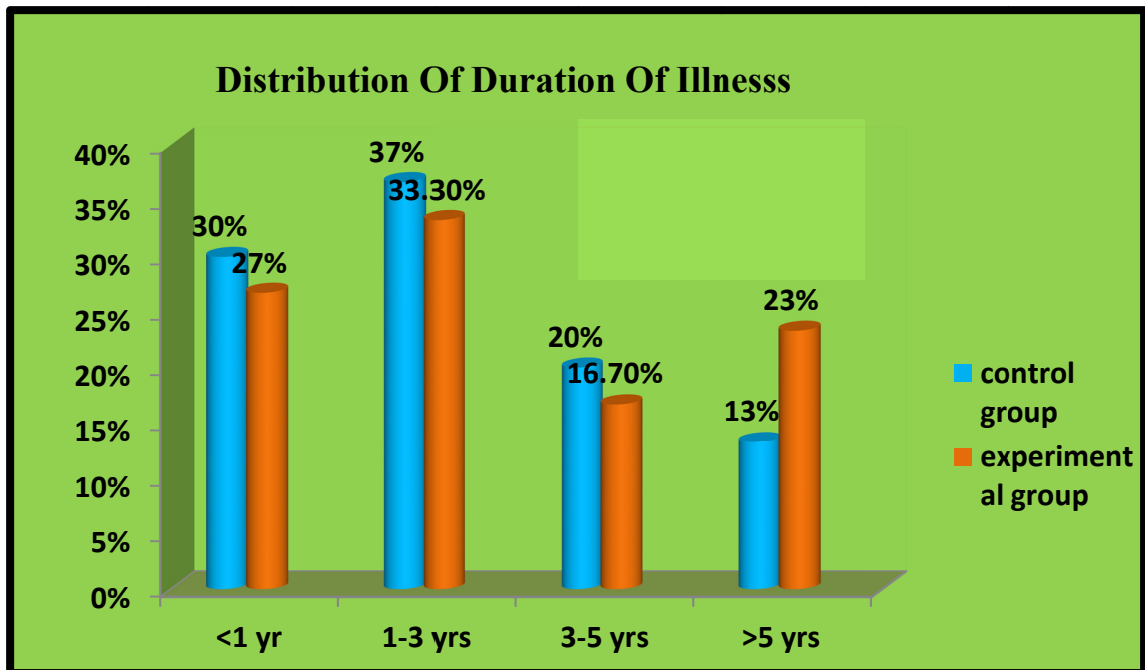


Figure 12: Percentage distribution according to their Duration of illness among Hypertensive clients

Above **cylinder diagram** revealed that maximum percentage 36.7% of hypertensive clients duration of illness was (1-3years) in control group and 33.3% in experimental group.

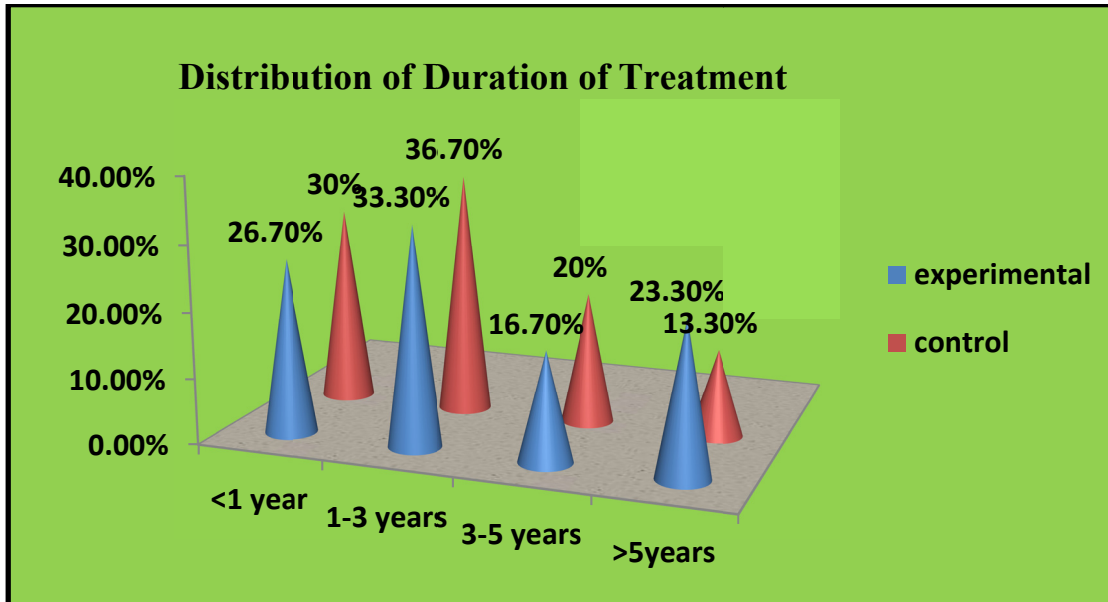


Figure 13: Percentage distribution according to their Duration of treatment among Hypertensive clients

Above **Cone diagram** revealed that maximum percentage 36.7% of hypertensive clients duration of treatment was (1-3years) in control group and 33.3% in experimental group.



Figure 14 : Percentage distribution according to Average hours of sleeping among Hypertensive clients.

The Above **clustered diagram shows** Majority of clients in experimental group (56.7%) had 8 hours of sleep and control group (56.7%) had less than 8 hours of sleep per day.

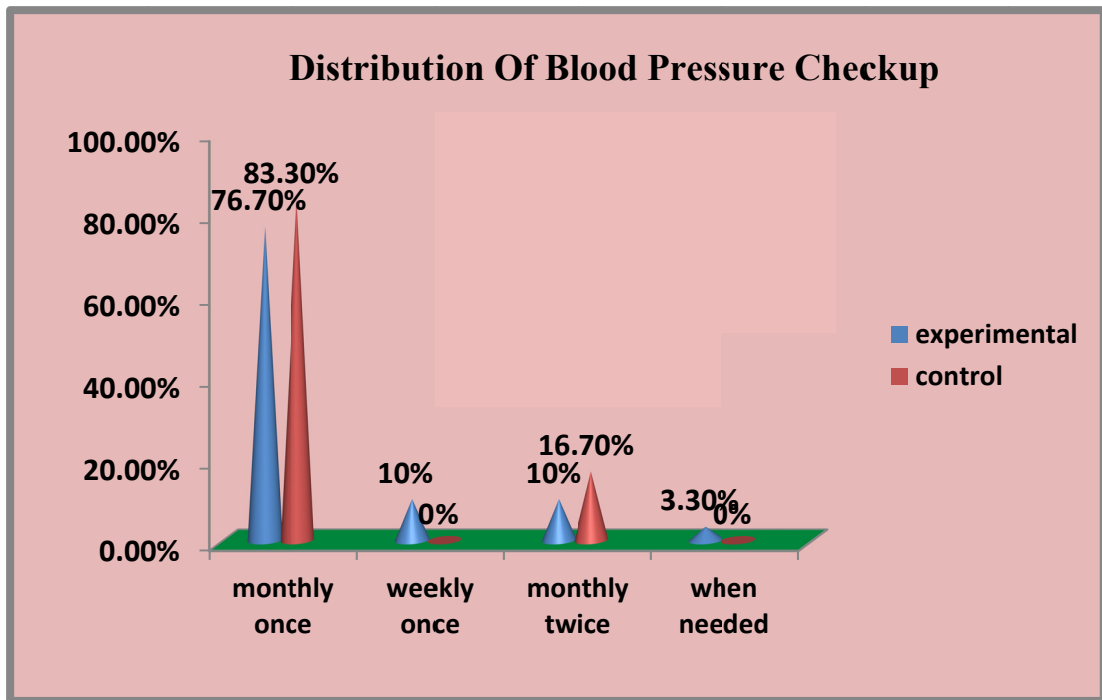


Figure 15: Percentage distribution according to their Blood pressure check up among hypertensive clients

Above **Cone diagram** revealed that maximum percentage of hypertensive clients 76.7% checking Blood pressure Monthly once in Experimental group and 83.3% in control group.



Figure 16: Percentage distribution according to their Family history of Hypertension among Hypertensive clients

Above **bar diagram** in experimental group 10(33.3%)subjects had a family history of hypertension,18(60%)does not had any history of hypertension and remaining 2(6.7%)subjects were not known.

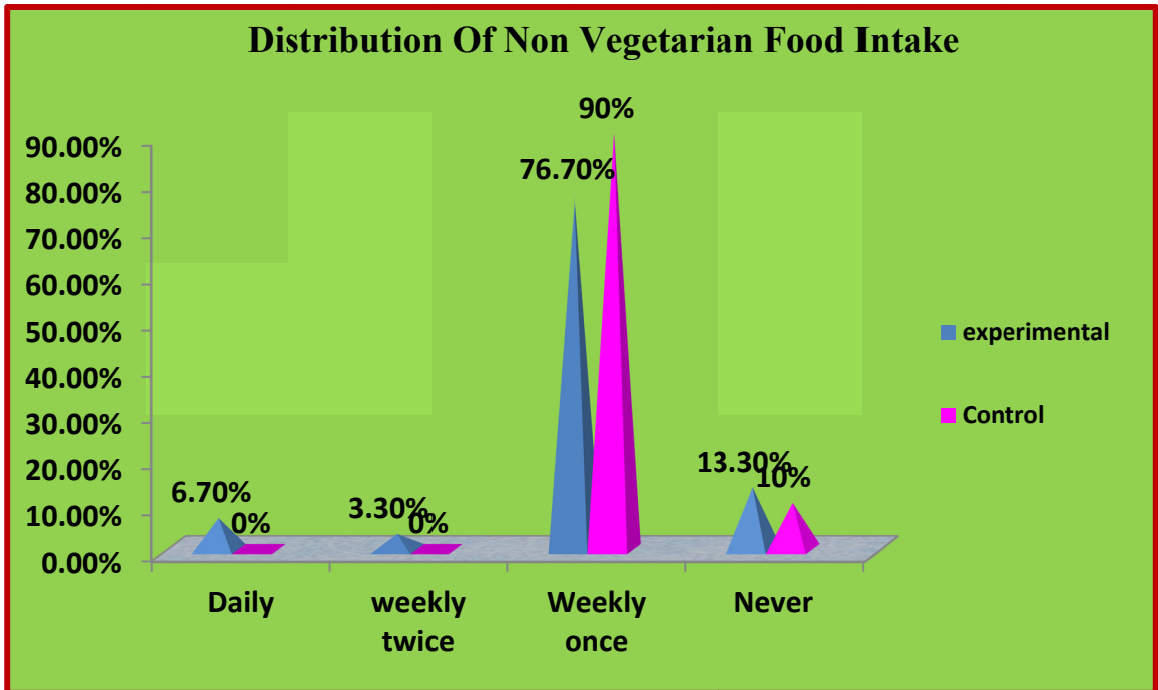


Figure 17: Percentage distribution according to their Non vegetarian food Intake among Hypertensive clients

Above **Cone diagram** revealed that maximum percentage of hypertensive clients taking Non vegetarian food in weekly once is 76.7% in Experimental group and 90% in control group.

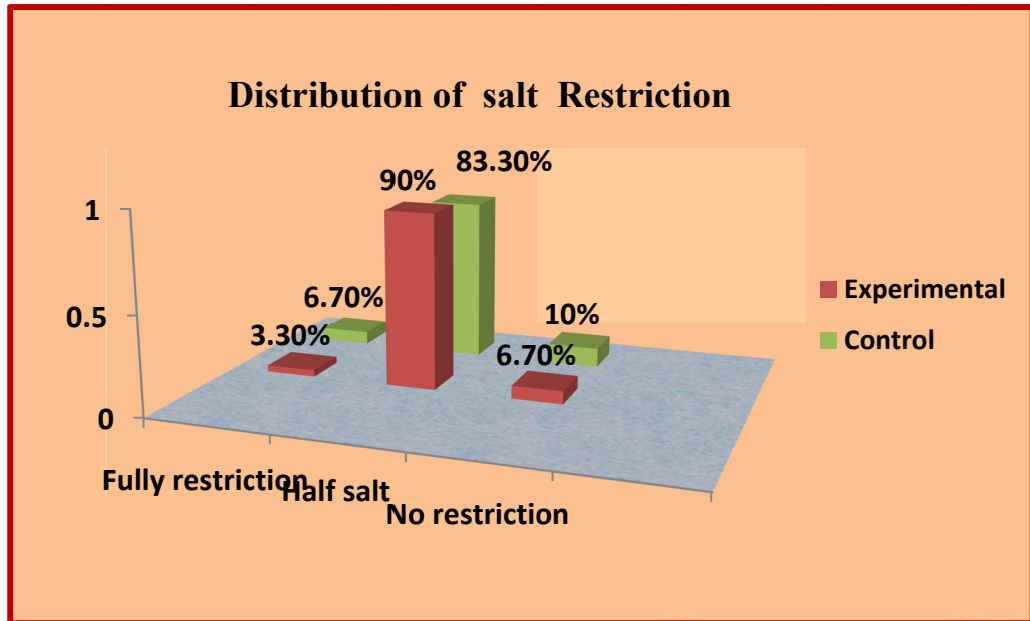


Figure 18: Percentage distribution according to their salt restriction among Hypertensive clients

Above **bar diagram** revealed that maximum percentage of hypertensive clients in experimental group(90%) taking half salt and (83.3%)of clients in control group taking half salt in diet.

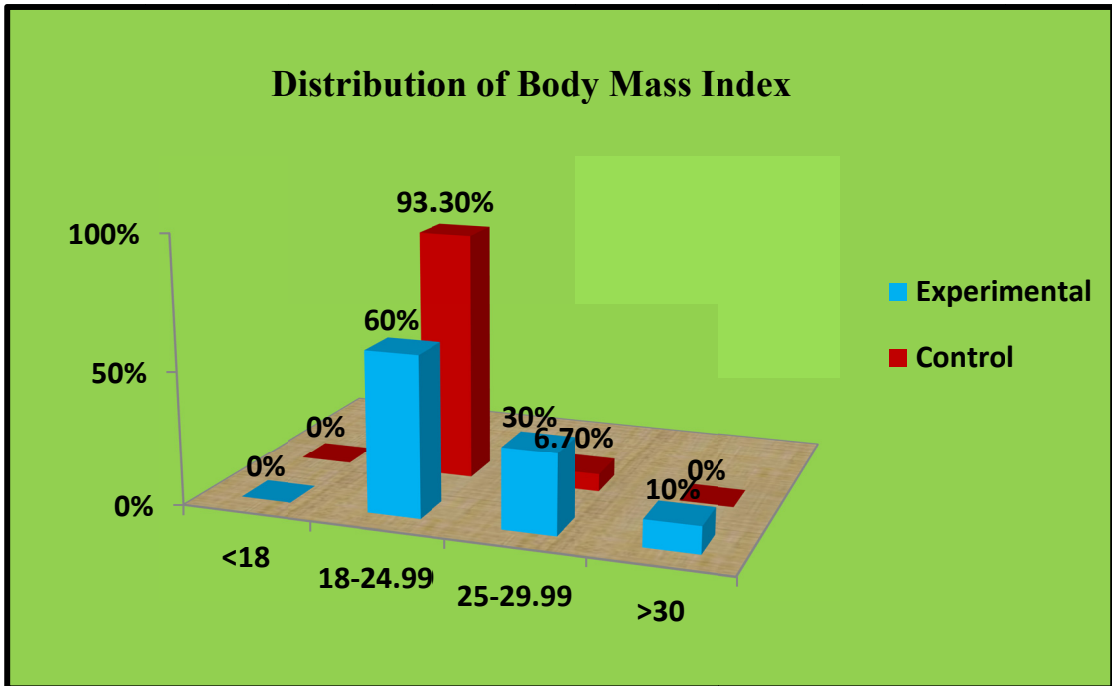


Figure 19: Percentage distribution according to their Body Mass index among Hypertensive clients

The Above bar diagram revealed that majority of the clients (60%) in Experimental group and (93.3%) in control group having body mass index in the range of 18-24.99 .

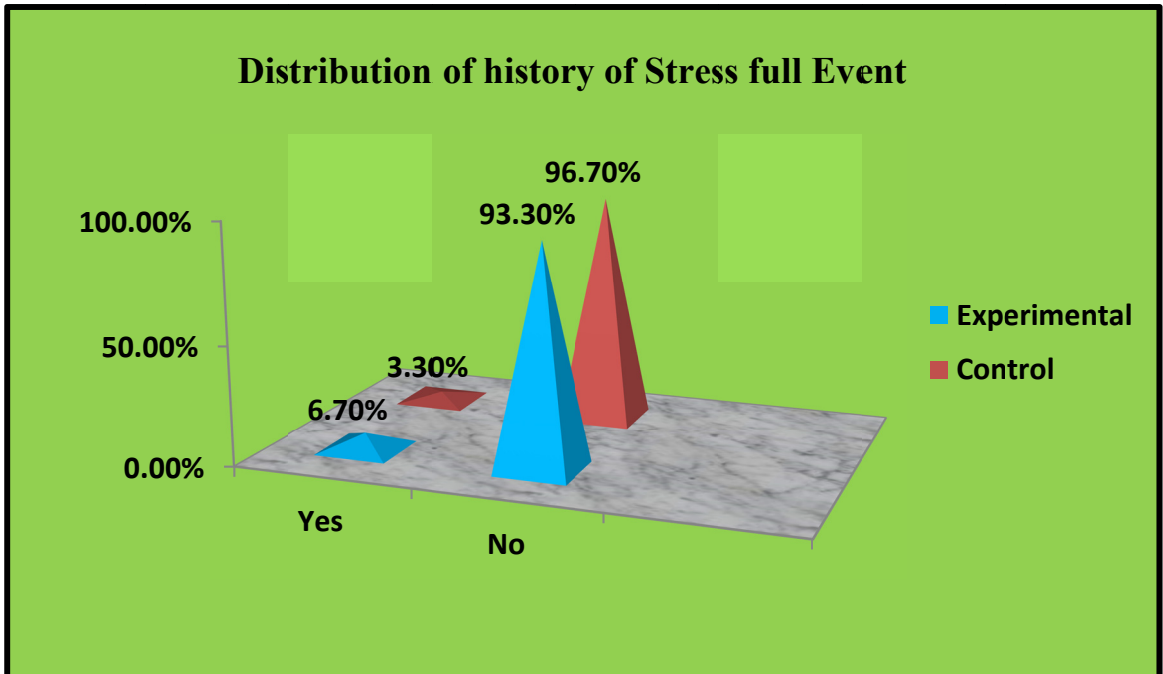


Figure 20: Percentage distribution according to their history of Stressful event among Hypertensive clients

Above **Cone diagram** revealed that In experimental group 93.3% had no stressful event and in control group 96.6% had no history of recent stressful event.

SECTION –II

DISTRIBUTION OF BLOOD PRESSURE IN CLIENTS WITH HYPERTENSION AMONG EXPERIMENTAL AND CONTROL GROUP.

**TABLE-3 DISTRIBUTION OF PRETEST AND POST TEST
SYSTOLIC BLOOD PRESSURE LEVEL AMONG CLIENTS WITH
HYPERTENSION IN EXPERIMENTAL AND CONTROL GROUP**

| Level of systolic blood pressure | control group | | | | Experimental group | | | |
|-------------------------------------|---------------|-----|-----------|------|--------------------|-----|-----------|----|
| | pre test | | post test | | pre test | | post test | |
| | f | % | f | % | f | % | F | % |
| Normal <120 mmHg | - | - | - | - | - | - | - | - |
| Pre hypertension 120 – 139mmHg | - | - | 1 | 3.3 | - | - | 12 | 40 |
| Stage-1 140 – 159mmHg | 30 | 100 | 29 | 96.7 | 30 | 100 | 18 | 60 |
| Stage-2 >160mmHG | - | - | - | - | - | - | - | - |

The above table represents that the pretest level of systolic blood pressure in experimental group (Stage I Hypertension) majority of clients (100%) were in the range of 140-159 mmHg and In control group majority of the clients (100%) were in the range of 140 -159 mmHg in pre test blood pressure.

In post test level of systolic blood pressure in Experimental group 40% of stage I hypertensive clients were in the range of 120-139 mmHg(pre Hypertension) and remaining 60% of the clients in the range of 140-159 mmHg(stage I Hypertension).In control group 3.3% in the range of 120-139 mmHg and 96.7% in the range of 140-159 mmHg.

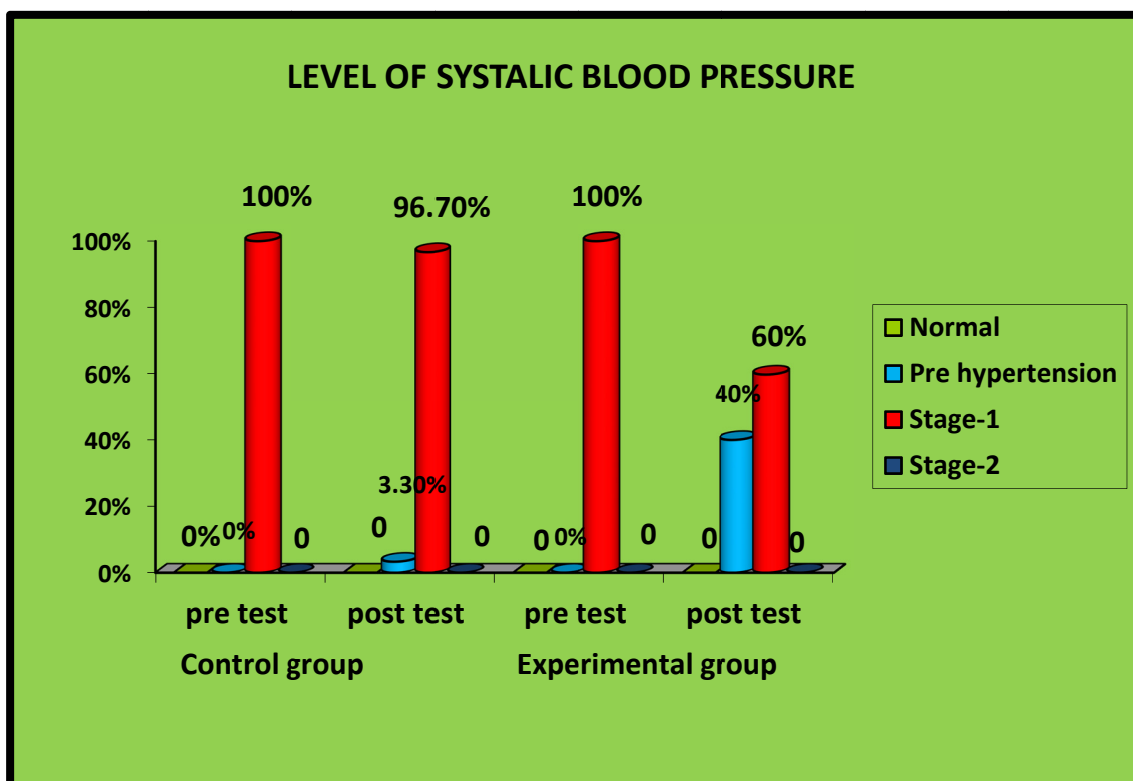


Fig.21. percentage distribution of pre test and post test systolic blood pressure in Experimental and control group

Above **Cylindrical diagram** shows that In pretest level systolic blood pressure in experimental group (Stage I Hypertension) majority of clients (100%) were in the range of 140-159 mmHg and In control group majority of the clients (100%) were in the range of 140 -159 mmHg in pre test blood pressure.

In post test level of systolic blood pressure the Experimental group 40%of the stage I hypertensive clients were in the range of 120-139 mmHg(pre Hypertension) and remaining 60% of the clients in the range of 140-159 mmHg(stage I Hypertension).In control group 3.3% in the range of 120-139 mmHg and 96.7% in the range of 140-159 mmHg.

TABLE- 4 DIASTOLIC BLOOD PRESSURE LEVEL IN CLIENTS WITH HYPERTENSION AMONG EXPERIMENTAL AND CONTROL GROUP

| Level of diastolic blood pressure | control group | | | | Experimental group | | | |
|-------------------------------------|---------------|-----|-----------|-----|--------------------|-----|-----------|----|
| | pre test | | post test | | pre test | | post test | |
| | f | % | f | % | f | % | f | % |
| Normal <80 mmHg | - | - | - | - | - | - | - | - |
| Pre hypertension 80- 89 mmHG | - | - | - | - | - | - | 9 | 30 |
| Stage I Hypertension 90 -99 mmHg | 30 | 100 | 30 | 100 | 30 | 100 | 21 | 70 |
| Stage II Hypertension >100 mm Hg | - | - | - | - | - | - | - | - |

Above the table represents that in experimental and control group in the pretest all the subjects were in the range of 90-99 mmHg of diastolic blood pressure. In post test level of diastolic blood pressure the experimental group 30% of clients were in the range of 80-89mmHg(pre Hypertension)and remaining 70% of clients in the range of 90-99mmHg(stage I Hypertension),In control group all the subjects were in the range of 90-99 mmHg(Stage I Hypertension)in Diastolic Blood pressure.

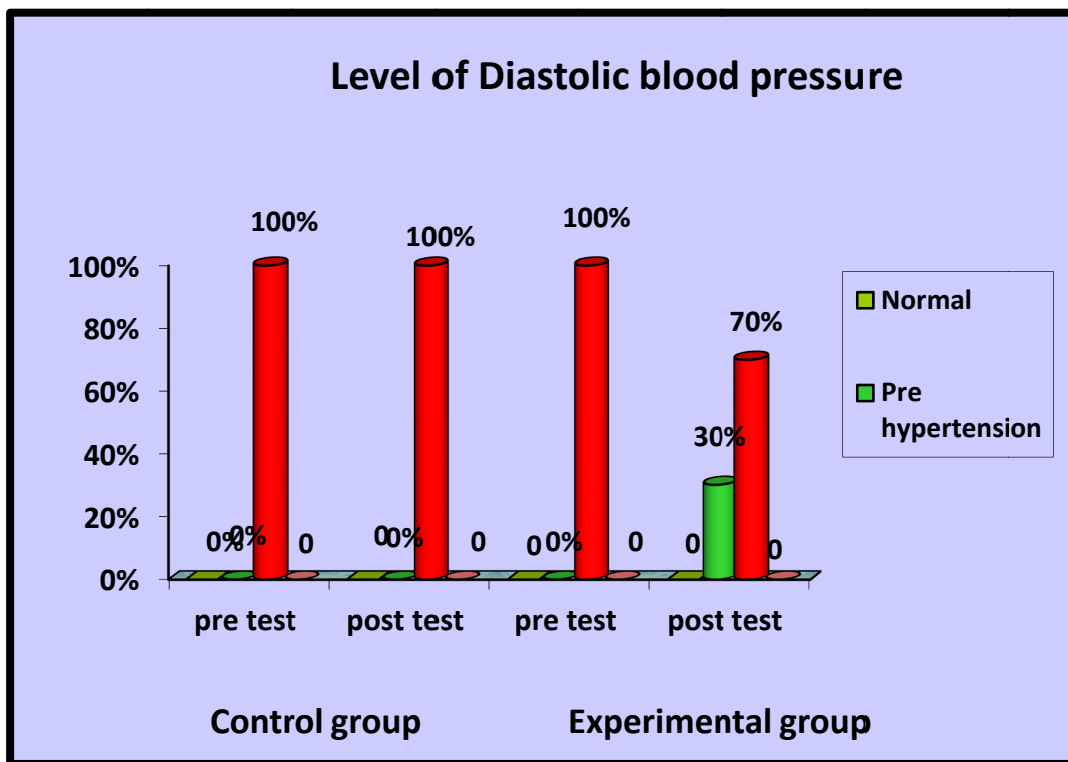


Fig.22. percentage wise distribution of pre test and post test Diastolic blood pressure in Experimental and control group

Above **Bar diagram** represents that in pretest the both experimental and control group all the subjects were in the range of 90-99 mmHg of diastolic blood pressure. In the post test of diastolic blood pressure level the experimental group 30% of clients were in the range of 80-89mmHg(pre Hypertension)and the remaining 70% of clients in the range of 90-99mmHg(stage I Hypertension),In control group all the subjects were in the range of 90-99 mmHg(Stage I Hypertension)of Diastolic Blood pressure.

SECTION - III

EFFECTIVENESS OF OATMEAL THERAPY ON BLOOD PRESSURE IN CLIENTS WITH HYPERTENSION AMONG EXPERIMENTAL GROUP

TABLE-5 THE MEAN AND SD VALUE OF PRE TEST AND POST TEST LEVEL OF BLOOB PRESSURE AMONG EXPERIMENTAL GROUP

| Experimental group | pre test | | post test | | Mean difference | 't'-value | P-value |
|--------------------------|----------|------|-----------|-------|-----------------|-----------|----------|
| | Mean | SD | Mean | SD | | | |
| Systolic blood pressure | 144.2 | 5.97 | 138.87 | 4.89 | 5.33 | 7.22 | 0.001*** |
| Diastolic blood pressure | 91.33 | 4.47 | 89.27 | 1.701 | 2.06 | 4.01 | 0.001*** |

(*** P<0.001 highly significant)

The above table depicts the effectiveness of Oat meal therapy among Hypertensive clients In experimental group. The mean pretest systolic blood pressure level was 144.2 with Standard deviation of 5.97, the systolic blood pressure lower from 144.2 to 138.87 in post test after Oatmeal therapy administration . The mean difference is 5.33mmHg, Paired 't' test was used to assess the effectiveness. The obtained t-value is 7.22=0.000.This reduction indicates that the intervention is statistically significant.

In Diastolic blood pressure the pre test mean was 91.33 with standard deviation of 4.47 and the post test mean was 89.27 with standard deviation of 1.701.The mean difference is 2.06 The obtained t-value was 4.01=0.000 which was statistically significant.

**TABLE-6 THE MEAN AND SD VALUE OF PRE TEST AND POST TEST
LEVEL OF BLOOD PRESSURE AMONG CONTROL GROUP**

| Control group | pre test | | post test | | Mean difference | 't'-value | P-value |
|--------------------------|----------|------|-----------|------|-----------------|--------------|--------------|
| | Mean | SD | Mean | SD | | | |
| Systolic blood pressure | 144 | 5.17 | 143.47 | 5.17 | 0.53 | 0.638 | 0.528 |
| Diastolic blood pressure | 91.07 | 2.72 | 91.33 | 2.25 | 0.26 | 0.643 | 0.525 |

(*** P<0.001 highly significant)

The above table depicts the mean pretest systolic blood pressure level was 144 with Standard deviation of 5.17, The mean difference is 5.33mmHg ,The obtained t-value is 0.638=0.528. In Diastolic blood pressure the pre test mean was 91.07 with standard deviation of 2.72 and the post test mean was 91.33 with standard deviation of 2.25.The mean difference is 0.26 The obtained t-value was 0.643=0.525 which was not significant.

SECTION – IV

TABLE- 7 COMPARISON BETWEEN THE PRE TEST AND POST TEST LEVEL OF BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION IN EXPERIMENTAL AND CONTROL GROUP

| S.No | Test | No | Systolic Blood Pressure | | | | Paired 't' test | Level Of Significant | Diastolic Blood Pressure | | | | Paired 't' test | Level Of Significant |
|------|-----------|----|-------------------------|------|---------------|------|-----------------|----------------------|--------------------------|-------|---------------|------|-----------------|----------------------|
| | | | Experimental Group | | Control Group | | | | Experimental Group | | Control Group | | | |
| | | | Mean | SD | Mean | SD | | | Mean | SD | Mean | SD | | |
| 1. | Pre Test | 30 | 144.2 | 5.97 | 144 | 5.17 | 3.54 | 0.001*** significant | 91.33 | 4.47 | 91.07 | 2.72 | 4.01 | 0.001*** significant |
| 2. | Post Test | 30 | 138.87 | 4.89 | 143.47 | 5.17 | | | 89.27 | 1.701 | 91.33 | 2.25 | | |

(*** P<0.001 highly significant)

In experimental group the systolic blood pressure lower from 144.2 to 138.87 in post test due to Oat meal administration the difference is 5.33 mmHg in systolic blood pressure were as in Diastolic blood pressure level lower from 91.33 to 89.27 and the difference is 2.06 in post test. This reduction indicates that the intervention is statistically significant at 0.001 level of significant.

SECTION-V

TABLE-8 ASSOCIATION BETWEEN THE POST TEST LEVEL OF BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION WITH THEIR SELECTED DEMOGRAPHIC VARIABLES

| Demographic Variables | | Post test level of systolic blood pressure | | | Total | Chi-square test | P value | Post test level of diastolic blood pressure | | | Total | Chi-square test | P value |
|-----------------------|------------------|--|------------------|----------------------|-------|-----------------|-------------|---|------------------|----------------------|-------|-----------------|-----------------------|
| | | Normal | Pre Hypertension | Stage I Hypertension | | | | Normal | Pre Hypertension | Stage I Hypertension | | | |
| Habits | Smoking | - | 4 | 1 | 5 | 4.92 (df=2) | 0.085 NS | - | 4 | 1 | 5 | 7.56 (df=2) | 0.023* significant |
| | Alcohol | - | 0 | 2 | 2 | | | - | 0 | 2 | 2 | | |
| | Tobacco | - | 0 | 0 | 0 | | | - | 0 | 0 | 0 | | |
| | None | - | 8 | 15 | 23 | | | - | 5 | 18 | 23 | | |
| Age (in years) | 31-40 yrs | - | 1 | 3 | 4 | 1.18 (df=2) | 0.554 NS | - | 1 | 3 | 4 | 0.408 (df=2) | 0.815 NS |
| | 41-50 yrs | - | 4 | 8 | 12 | | | - | 3 | 9 | 12 | | |
| | 51-60 yrs | - | 7 | 7 | 14 | | | - | 5 | 9 | 14 | | |
| Occupation | Sedentary worker | - | 9 | 13 | 22 | 0.69 (df=2) | 0.705 NS | - | 7 | 15 | 22 | 0.47 (df=2) | 0.791 NS |
| | Moderate worker | - | 3 | 4 | 7 | | | - | 2 | 5 | 7 | | |
| | Heavy worker | - | 0 | 1 | 1 | | | - | 0 | 1 | 1 | | |

***-P<0.05 ,significant**

The above table reveals that there is significant association between Level of Blood Pressure and Demographic variables such as Habits in Diastolic blood pressure and the remaining variables such as Age(in years), Gender, Education, Marital status, Occupation, Type of family, Family income, food habit , Exercise were not significant

SECTION-V

TABLE-9 ASSOCIATION BETWEEN THE LEVEL OF BLOOD PRESSURE IN CLIENTS WITH HYPERTENSION WITH THEIR SELECTED CLINICAL VARIABLES

| Clinical Variables | | Post Test Level Of Systolic Blood Pressure | | | Total | Chi-Square Test | P Value | Post Test Level Of Diastolic Blood Pressure | | | Total | Chi-Square Test | P Value |
|--------------------------------|-----------|--|------------------|----------------------|-------|-----------------|-----------------------|---|------------------|----------------------|-------|-----------------|-------------|
| | | Normal | Pre Hypertension | Stage I Hypertension | | | | Normal | Pre Hypertension | Stage I Hypertension | | | |
| 1.Duration of illness: | <1 year | - | 3 | 5 | 8 | 9.56 (df=3) | 0.023* Significant | - | 2 | 6 | 8 | 7.35 (df=3) | 0.062 NS |
| | 1-3 years | - | 2 | 8 | 10 | | | - | 2 | 8 | 10 | | |
| | 3-5 years | - | 5 | 0 | 5 | | | - | 4 | 1 | 5 | | |
| | >5 yrs | - | 2 | 5 | 7 | | | - | 1 | 6 | 7 | | |
| | | | | | | | | | | | | | |
| 2.Duration of treatment | <1 year | - | 3 | 5 | 8 | 9.56 (df=3) | 0.023* Significant | - | 2 | 6 | 8 | 7.35 (df=3) | 0.062 NS |
| | 1-3 years | - | 2 | 8 | 10 | | | - | 2 | 8 | 10 | | |
| | 3-5 years | - | 5 | 0 | 5 | | | - | 4 | 1 | 5 | | |
| | >5 yrs | - | 2 | 5 | 7 | | | - | 1 | 6 | 7 | | |
| | | | | | | | | | | | | | |

***-P<0.05,significant**

The above table reveals that there is significant association between clinical variables such as duration of illness and Duration of treatment in systolic blood pressure level and the clinical variables such as Drug compliance, medication taken, Sleeping hours, checking Bp level, taken non vegetarian food, .Restriction of salt in food, Body mass index, Recent history of stressful event were not Associated.

Discussion

CHAPTER – V

DISCUSSION

The study was focused to evaluate the effectiveness of Oatmeal therapy on Blood pressure among clients with hypertension who residing at Paravai, Madurai. The study findings are discussed with regard to the objectives, framework and Hypotheses.

The identification of factor influencing Hypertension is really challenging one in this dynamic world. The area of research aim to find out factors that affects the clients among hypertensive clients in selected rural area. It has been postulated that the inclusion of dietary fibers in the form of whole grain Oats may be useful in the regulation of normal blood pressure.

The researcher concluded that dietary intake of Fiber in the form of Oat meal therapy at an easily achievable dose sufficiently reduces Blood pressure among people with high blood pressure. This research study has been discussed was based on the objectives and the following supported studies

DISCUSSION OF DEMOGRAPHICAL VARIABLES

Regarding age among The Hypertensive clients 14(46.7%) of clients in between 51-60 years in the experimental group and 19(63.3%)clients were in between 51-60 years in control group. Among the clients sex most of the clients were female on Hypertension in both experimental and control group as the highest value of 21(70%) and 19(63.3%)in both group.

Regarding educational qualification maximum percentage 36.7% of hypertensive clients had a primary education in experimental group and 43.3% in control group.

Based on the marital status 93.3% of married in experimental group and 100% in control group. In the basis of the occupation maximum percentage 73.3% of hypertensive clients are sedentary worker in experimental group and 83.3% in control group. In the aspect of type of family 60% of experimental group in nuclear family and 83.3% of control group in nuclear family.

Based on the family income majority of the clients in experimental group 53.3% in the range of Rs-5001-10000 income per month and in Control group 70% of the clients in the range of less than 5000 income per month. Regarding the food habits 86.7% non-vegetarian in both experimental and control group. In the aspect of habits 76.6% of experimental group have a tobacco sewing and 70% of the control group have no habits of smoking, alcohol and tobacco.

DISCUSSION OF CLINICAL VARIABLES

In the basis of duration of illness, maximum percentage 36.7% of hypertensive clients duration of illness (1-3years) in control group and 33.3% in experimental group. In the basis of duration of treatment, 36.7% of hypertensive clients in duration of treatment (1-3years) in control group and 33.3% in experimental group.

Regarding the drug compliance both experimental and control group 30(100%) had adequate drug compliance. Another findings of study view specified medication taken in the experimental group and control group all most all of them

were taking Allopathy treatment. Majority of clients in experimental group (56.7%) had 8 hours of sleep and control group (56.7%) had less than 8 hours of sleep per day.

Regarding blood pressure checkup maximum percentage of hypertensive clients in Monthly once was 76.7% in Experimental group and 83.3% in control group. In experimental group, 10(33.3%) subjects had a family history of hypertension, 18(60%) does not have any history of hypertension and remaining 2(6.7%) subjects was not known.

Based on the non vegetarian food intake, maximum percentage of hypertensive clients taking Non vegetarian food in weekly once is 76.7% in Experimental group and 90% in control group. Another finding revealed that maximum percentage of hypertensive clients in salt restriction in Half salt taking clients is 90% in Experimental group and 83.3% in control group.

Regarding the Body mass index, in the Experimental group majority of the clients (60%) having in the range of 18-24.99 in the control group 93.3% having the range of 18-24.99.

The finding is similar to the study conducted by **V. Bindu et.al.**, (2013) on Effect of supplementation of oats porridge on hypertension subjects in Andhra Pradesh, India. The results revealed that the distribution of subjects according to BMI (Body Mass Index) and physical activity of the selected subjects. It is clear from the table that majority (77%) of the subjects had normal Body Mass Index level. Only 10% of them seem to be overweight. Body Mass Index of the individuals depends upon the type of life style. The term 'life style' is rather a diffuse concept often used to denote the way people live, reflecting a whole range of social values, attributes and

activities (Park, 1995). The data reveals that majority of the subjects (83%) were doing moderate work.

The First Objective Of The Study Is To Assess The Blood Pressure Among Clients With Hypertension Both In Experimental And Control Group

The pretest level of systolic blood pressure in experimental group (Stage I Hypertension) majority of clients (100%) were in the range of 140-159 mmHg and In control group majority of the clients (100%) were in the range of 140 -159 mmHg in pre test blood pressure.

In post test level of systolic blood pressure in Experimental group 40% of hypertensive clients were in the range of 120-139 mmHg(pre Hypertension) and remaining 60% of the clients in the range of 140-159 mmHg(stage I Hypertension).In control group 3.3% in the range of 120-139 mmHg and 96.7% in the range of 140-159 mmHg.

The Study findings are consistent with the study conducted by **Kokiwar Prashant R** Prevalence of Hypertension in Rural Community of central India, 924 study subjects aged 30 years and above were selected using systematic random sampling. Anthropometry, blood glucose, and blood pressure were measured with standard instruments and methodology for all the study subjects. Results revealed that Prevalence of hypertension was 19.04%. It was higher in females (23.4%) than males (14.4%). It was seen that prevalence of hypertension increased with age. Prevalence of Pre hypertension was high (18.8%). 4.3% had systolic hypertension and 0.9% had diastolic hypertension.

The Second Objective Of The Study Is To Evaluate The Effectiveness Of Oat Meal Therapy On Blood Pressure Among Clients With Hypertension In Rural Area Paravai At Madurai.

The pretest level of systolic blood pressure in experimental group (Stage I Hypertension) majority of clients (100%) were in the range of 140-159 mmHg and In control group majority of the clients (100%) were in the range of 140 -159 mmHg in pre test blood pressure.

In post test level of systolic blood pressure in Experimental group 40% of hypertensive clients were in the range of 120-139 mmHg(pre Hypertension) and remaining 60% of the clients in the range of 140-159 mmHg(stage I Hypertension).In control group 3.3% in the range of 120-139 mmHg and 96.7% in the range of 140-159 mmHg.

The obtained mean post test systolic blood pressure measurement score was 138.87 which were lower than the mean pretest systolic blood pressure of 144.2 in the experimental group. The obtained 't' value was 7.22 which was statistically significant by using the paired 't' test.

The obtained mean post test Diastolic blood pressure measurement score was 89.27 which were lower than the mean pretest Diastolic blood pressure of 91.33 in the experimental group. The obtained 't' value was which was 4.01 statistically significant by using the paired 't' test. This reduction indicated that effectiveness of Oat meal was given on blood pressure level in experimental group among hypertensive clients.

The present Study was consistent with the study conducted by *V. Bindu and B. Krishnaveni,(2013)* in Tirupathy, Andhrapradesh. Around 30 subjects were randomly selected as sub sample for in depth study and drawn into two equal groups each 15 as experimental group and control group. For the experimental group oats porridge (35g) was supplemented for 45 days in order to study the effect of supplementation on blood pressure. The results revealed that there was a decrease in blood pressure after supplementation. By the supplementation of oats porridge reduction in systolic blood pressure was reduced from 168.66 mmHg to 165.2 mmHg and diastolic pressure from 102.53 mmHg to 100.8 mmHg. The mean systolic blood pressure levels of the experimental group before and after supplementation with 35gm of oat porridge, indicating decrease in the systolic blood pressure from 168.66mg/dl to 165 mg / dl.

This findings also consistent with the another study conducted by *Joseph M. Keena.et al(2002)* on randomized, controlled, parallel-group pilot study designed about the Oat Ingestion Reduces Systolic and Diastolic Blood Pressure in Patients with Mild or Borderline Hypertension The study results reported that eating oatmeal group experienced a 7.5 mm Hg reduction in Systolic Blood Pressure ($P < .01$) and a 5.5 mm Hg reduction in Diastolic Blood Pressure ($P < .02$), while there was virtually no change in either Systolic Blood Pressure or Diastolic Blood Pressure in the control group. Adding oat cereals to daily diet can reduce the risk of developing high blood pressure and help treat the condition already developed.

Thus Hypothesis I there is a significant difference between the blood pressure among clients with hypertension before and after oat meal therapy was accepted.

The Third Objective Of The Study Was To Determine The Association Of Level Of Blood Pressure Among Clients With Hypertension With Their Selected Socio Demographic And Clinical Variables.

In order to find out the association between the post test blood pressure and selected demographic and clinical variables was computed. While testing the association between the post test blood pressure and their socio demographic variable such as Habits in Diastolic blood pressure was significantly associated at ($p < 0.05$) level among Hypertensive clients.

There was no significant association was found in the remaining demographic variables such as Age(in years), Gender, Education, Marital status, Occupation, Type of family, Family income, food habit , Exercise .

While testing the association between post test blood pressure and their clinical variables such as duration of illness and Duration of treatment in systolic blood pressure level was significantly associated at ($p < 0.05$) level among Hypertensive clients.

There was no significant association was found in the remaining clinical variables such as Drug compliance, medication taken, Sleeping hours, checking Bp level, taken non vegetarian food, .Restriction of salt in food, Body mass index, Recent history of stressful event .

Thus Hypothesis II there is a significant association between the post level of blood pressure and their selected socio demographic and clinical variables was accepted.

*Summary,
Conclusion &
Recommendations*

CHAPTER –VI

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This study dealt about the summary of the study findings, conclusion, Implication and recommendations.

6.1 SUMMARY

The aim of this study was to evaluate the effectiveness of oat meal therapy on blood pressure among clients with hypertension in selected rural area-paravai at Madurai.

OBJECTIVES OF THE STUDY WERE

- To assess the blood pressure among clients with hypertension both in experimental and control group in rural areaparavai at Madurai.
- To evaluate the effectiveness of oat meal therapy on blood pressure among clients with Hypertension in rural area paravai at Madurai.
- To determine the association of blood pressure among clients with hypertension with their selected socio demographic &clinical variables.

HYPOTHESES

- **H₁** – There is a significant difference between the blood pressure among clients with hypertension before and after oat meal therapy
- **H₂** - There is a significant association between the level of blood pressure and their selected socio demographic and clinical variables.

The conceptual frame work adopted for the study was **Modified calista Roy's adaptation model**. The model help the investigator in approaching the hypertensive

clients. Review of related research material helped the investigator in the preparation of the conceptual model, tool and sampling method by Non probability purposive sampling method was used.

A formal permission was obtained from Block medical officer at Samayanallur PHC to conduct study in Paravai. The investigator found out that so many things like cost, health care facility, family system and knowledge that influence the treatment among the Hypertensive clients. A survey was done in selected streets to identify the stage I hypertensive clients were selected for this study. The samples consist of sixty stage I hypertensive clients age from 30 years to 60 years. The structured questionnaire tool was developed and used for the data collection .Five experts did content validity and tool was found reliable. The pilot study was conducted at Paravai in other street 2 kilometer away from the present settings to find out the feasibility to conduct the final study and to determine the Methods for statistical analysis.

For major study 30 hypertensive clients were collected over a period of 6 weeks as experimental group and 30 control group. The data was collected with the help of structured questionnaire interview method was conducted for a period of 6weeks from 12.08.14 to 22.09.14. The first day pre test was conducted The blood pressure was measured on in the early morning both experimental and control groups. 2nd day onwards 35g of oats given in the form of malt, The malt is prepared by taking 35gms of oats and 150ml of water was added and make it to boil and given daily in the morning for 7 days per week for 6 weeks. 5 samples were assembled in common place, oats malt was prepared and distributed 200ml of malt for each samples. Time taken for each sample is 30 minutes was spent. At the end of 6th week

post test blood pressure was assessed for experimental and control groups. The research design was Quasi experimental Non equivalent control group pre test and post test design. The sample were selected by purposive sample technique based on inclusion criteria it about 30 minutes for each sample to collect the data. After the post test blood pressure was measured for both group, the collected data were enter in a data sheet and analysed and interrupted turn of the objectives using descriptive and inferential statistics.

The data collection tools used were

- Section-I** : Demographic variables Age, Sex, marital status, educational status, occupation, income, type of family, exercise and food habit.
- Section –II** : Clinical variables include –Duration of illness, duration of treatment, drug compliance, medication taken, Body Mass Index , sleeping hours, Restricting salt in food.
- Section –III** : Bio physiological measurement -Record of blood pressure includes the pre and post test of blood pressure in experimental group and control group.

6.2 MAJOR FINDINGS OF THE STUDY

- In the aspect of age maority of clients 14(46.7%) were in the age group of 51-60 years in experimental group, Where as 19(63.3%)samples belongs to 51-60 years of age group in control group.
- In the view of gender Most of the samples higher in proportion were females 21(70%) than male samples in both groups.

- Regarding the education Majority of samples 11(36.7%) were with primary education in experimental group, whereas 13(43.3%) had primary education **control** group.
- With regard to marital status majority of samples 28(93.3%) were married in experimental group, whereas 30(100%) were married in control group.
- Higher percentage of samples 22(73.3%) were doing sedentary work in experimental group, whereas 25(83.3%) were doing sedentary work in control group.
- With the view of type of family Majority of samples 18(60%) subjects belongs to nuclear family in experimental group; Whereas 25(83.3%) belongs to nuclear family in control group.
- Highest percentage of samples 16(53.3%) had Rs-5001-10000 in experimental group, whereas about 21(70%) had earning less than Rs-5000 per month in control group.
- Regarding diet both in experimental group and control group 4(13.3%) were vegetarians and 26(86.7%) were non-vegetarian.
- In the view of habits Most of the samples 23(76.6%) had a habit of tobacco chewing in experimental group, 11(70%) does not have any such habits in control group.
- When considering the exercise Majority of the samples 23(76.7%) subjects doing aerobic exercise like walking in experimental group, 24(80%) does not practice any exercise in control group.

- With regard to the duration of illness Highest percentage of samples 10(33.3%) had 1-3 years of illness in experimental group, 11(36.7%) had 1-3 years in control group.
- Most of the samples 10(33.3%) were taking 1-3 years treatment in experimental group, whereas 11(36.7%) were taking treatment 1-3 years in control group.
- Regarding drug compliance both experimental and control group 30(100%) had adequate drug compliance. With the view specified medication taken in the experimental group and control group all were taking Allopathy treatment only.
- Majority of the samples 17(56.7%) had 8 hours of sleep in the experimental group. Whereas 17(56.7%) had less than 8 hours of sleep per day In control group.
- Highest percentage of samples 23(76.7%) subjects checked blood pressure once in a month in experimental group, whereas 25(83.3%) subjects checked once in a month In control group.
- Most of the samples 18(60%) does not had any history of hypertension in experimental group.
- majority of 23(76.7%) clients taken Once a week in experimental group
- Most of the samples 27(90%) were half salt restricted in experimental group. 25(83.3%) were half salt restriction in control group.
- Both in experimental and control group 30(100%) had a no complication.
- Majority of the samples 18(60%) had between the range of 18.5 -24.99. in experimental group, 28(93.3%) had in the range of 18.5 -24.99 in control group.
- In the view of history of stressful event , Most of the samples 28(93.3%) have a no history of stressful event in experimental group, 29(96.7%) have a no history of stressful event in control group.

- The obtained mean post test systolic blood pressure measurement score was 138.87 which were lower than the mean pretest systolic blood pressure of 144.2 in the experimental group. The obtained 't' value was 7.22 which was statistically significant by using the paired 't' test.
- The obtained mean post test Diastolic blood pressure measurement score was 89.27 which were lower than the mean pretest Diastolic blood pressure of 91.33 in the experimental group. The obtained 't' value was which was 4.01 statistically significant by using the paired 't' test.
- It revealed that there was a significant association between demographic variable habits ($p < 0.023^*$) with the post test diastolic blood pressure of clients in experimental group.
- There was a significant association between clinical variables like duration of illness ($\chi^2 = 7.35$), duration of treatment ($\chi^2 = 7.35$) and post test blood pressure scores in experimental group.

6.3 CONCLUSION

Consuming oat meal is effective and feasible drink to all. Soluble fiber-rich whole oats may be an effective dietary therapy in the prevention and adjunct treatment of hypertension. It is evident that Oat cereals to the normal diet of persons with hypertension significantly reduce both systolic and diastolic blood pressure. There was association between the post test blood pressure and their socio demographic variable such as Habits in Diastolic blood pressure and in clinical variables such as duration of illness and duration of treatment in Systolic blood pressure was significantly associated. The study findings provides the statistical evidence which indicate that oatmeal therapy is one of the best alternative therapy which may be used to lower the blood pressure level.

6.4 IMPLCATONS

The Investigator drawn the several implications from this study for various areas such As Nursing Service, Nursing Education, Nursing Administration and Nursing Research.

NURSING SERVCE

- Oat meal therapy can be used to improve physical well being and reduce morbidity and mortality rates of clients with hypertension.
- Nursing personnel working n the community department should be given an in service education to update and improve their knowledge regarding dietary management of clients with various non communicable diseases.
- Health promotion is a vital function of the community health nurses and nurses can use this oat meal therapy on three levels of prevention (.e. primary, secondary and tertiary).
- To inculcate knowledge regarding the conception of fiber diet and life style modification.

NURSING EDUCATON

- Nurse educator can incorporate the pharmacological and non pharmacological methods of treatment strategies in the management of hypertension.
- Enable the students to acquire knowledge on oat meal therapy and its therapeutic benefits in relation to the blood pressure.

NURSING ADMNSTRATION

- Administrator in nursing should practice and take part in recommending the low cost complementary and alternative medicine and illuminate the effectiveness of it to the policy makers to introduce in the community

- Enable the administrators to conduct continuing education programme for nurses regarding alternative therapies in treating hypertension.
- Public health policy makers to assign sufficient priority and resources to hypertension management and prevention.

NURSNG RESEARCH

- This study can be a base line for future studies to build upon and motivate the investigators to conduct further studies.
- The study would help to expand the scientific body of professional knowledge from which further research can be conducted.
- This study can be done with large samples.
- This study can be done with all stages of hypertension.
- Study can be done for long duration and other biochemical parameters (lipid profile) can be monitored along with the blood pressure level.

RECOMMENDATON

- The study can be replicated on large sample there by findings can be generalized for large population.
- Comparative study can be conducted in rural and urban community settings.

LIMITATION

- I have to give oat meal other than clients from the family and others.

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Appendices

APPENDIX-I

PERMISSION LETTER

From

Ms.K.Krishnaveni, M.Sc (N) 1 year
Community health nursing department,
College of Nursing,
Madurai Medical College,
Madurai-20.

Permitted
M
7/1/14

TO

The Deputy director of health service,
Vishwanathapuram,
Madurai-

Deputy Director
of Health Services
Madurai-14

Through : The Proper Channel.

Respected sir/ madam,

Sub: Requesting For Permission to conduct dissertation study at Paravai-reg:-

I am M.sc (Nursing) first year student of college of nursing, madurai medical college, Madurai, under The Tamilnadu Dr. M.G.R Medical University, Chennai. As a partial fulfillment of my M.sc (N) Degree Programme, I am conducting a research on "A study to assess the effectiveness of oatmeal on blood pressure among clients with hypertension in selected rural areas -Paravai at Madurai".

I kindly request you to consider my letter and allow me to conduct the study in Paravai.

Thanking You,

Date : 06.01.14

Yours faithfully,

Place : Madurai


(K.Krishnaveni)

Forwarded
S.P. 7
6/1/14

APPENDIX - II

Ref. No. 68/E4/2/2014,

Govt. Rajaji Hospital,
Madurai.20. Dated: 21.02.2014

Institutional Review Board / Independent Ethics Committee.

Capt. Dr.B. Santhakumar, M.D., (F.M.,) deanmdu@gmail.com

Dean, Madurai Medical College &

Govt Rajaji Hospital, Madurai 625020. **Convenor**

Sub: Establishment-Govt. Rajaji Hospital, Madurai-20-
Ethics committee-Meeting Minutes- for February 2014
Approved list - Regarding.

The Ethics Committee meeting of the Govt. Rajaji Hospital, Madurai was held on 07.02.2014, Friday at 10.00 am to 12.00.noon at the Anaesthesia Seminar Hall, Govt. Rajaji Hospital, Madurai. The following members of the committee have attended the meeting.

-
- | | | |
|--|---|---------------------|
| 1. Dr.V. Nagarajan, M.D., D.M (Neuro) Ph: 0452-2629629 Cell.No 9843052029 nag9999@gmail.com | Professor of Neurology (Retired) D.No.72, Vakkil New Street, Simmakkal, Madurai -1 | Chairman |
| 2. Dr.Mohan Prasad , M.S M.Ch Cell.No.9843050822 (Oncology) drbkcmp@gmail.com | Professor & H.O.D of Surgical Oncology(Retired) D.No.32, West Avani Moola Street, Madurai -1 | Member Secretary |
| 3. Dr. Parameswari M.D (Pharmacology) Cell.No.9994026056 drparameswari@yahoo.com | Director of Pharmacology Madurai Medical College | Member |
| 4. Dr.S. Vadivel Murugan, MD., (Gen.Medicine) Cell.No 9566543048 svadivelmurugan_2007@rediffmail.com | Professor & H.O.D of Medicine Madurai Medical College | Member |
| 5. Dr.S. Meenakshi Sundaram, MS (Gen.Surgery) Cell.No 9842138031 drsundarms@gmail.com | Professor & H.O.D of Surgery Madurai Medical College | Member |
| 6. Mrs. Mercy Immaculate Rubalatha, M.A., Med., Cell. No. 9367792650 lathadevadoss86@gmail.com | 50/5, Corporation Officer's quarters, Gandhi Museum Road, Thamukam, Madurai-20 | Member |
| 7. Thiru..Pala. .Ramasamy , BA.,B.L., Cell.No 9842165127 palaramasamy2011@gmail.com | Advocate, D.No.72.Palam Station Road, Sellur, Madurai -2 | Member |
| 8. Thiru. P.K.M. Chelliah ,B.A Cell.No 9894349599 pkmandco@gmail.com | Businessman, 21 Jawahar Street, Gandhi Nagar, Madurai-20 | Member |

The following Projects was approved by the committee.

| Name of P.G. | Course | Name of the Project | Remarks |
|----------------|---|---|----------|
| K. Krishnaveni | M.Sc., (Nursing) College of Nursing, Madurai Medical College, Madurai. | A study to assess the effectiveness of oats meal therapy on blood pressure among clients with hypertension in selected rural area Paravai at Madurai. | Approved |

Please note that the investigator should adhere the following: She/He should get a detailed informed consent from the patients/participants and maintain it Confidentially.

1. She/He should carry out the work without detrimental to regular activities as well as without extra expenditure to the institution or to Government.

2. She/He should inform the institution Ethical Committee, in case of any change of study procedure, site and investigation or guide.

3. She/He should not deviate the area of the work for which applied for Ethical clearance.

She/He should inform the IEC immediately, in case of any adverse events or Serious adverse reactions.

4. She/He should abide to the rules and regulations of the institution.

5. She/He should complete the work within the specific period and if any

Extension of time is required He/She should apply for permission again and do the work.


6. She/He should submit the summary of the work to the Ethical Committee on Completion of the work.

7. She/He should not claim any funds from the institution while doing the work or on completion.

8. She/He should understand that the members of IEC have the right to monitor the work with prior intimation.


Member Secretary

Chairman
Ethical Committee


26.2.14 DEAN/Convenor
Govt. Rajaji Hospital,
Madurai- 20.

To
The above Applicant
-thro. Head of the Department concerned


26/2/14

APPENDIX-III

PERMISSION LETTER

From

Ms.K.Krishnaveni, M.Sc (N) I year
Community health nursing department,
College of Nursing,
Madurai Medical College,
Madurai-20.

TO

The Medical Officer,
Primary Health centre,
Samayanallur.
Madurai

Through : The Proper Channel.

Respected sir/ madam,

Sub: Requesting For Permission to conduct dissertation study at Paravai-reg:-

I am M.sc (Nursing) first year student of college of nursing, Madurai medical college, Madurai, under The Tamilnadu Dr. M.G.R Medical University, Chennai. As a partial fulfillment of my M.sc (N) Degree Programme, I am conducting a research on "A study to assess the effectiveness of oatmeal on blood pressure among clients with hypertension in selected Rural areas -Paravai at Madurai".

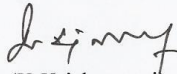
I kindly request you to consider my letter and allow me to conduct the study in Paravai.

Thanking You,

Date : 06.01.14

Place : Madurai

Yours faithfully,


(K.Krishnaveni)

Forwarded
S.P
6/1/14

Principal
COLLEGE OF NURSING
Madurai Medical College
Madurai-20.


BLOCK MEDICAL OFFICER
Govt. Primary Health Centre
Samayanallur
Madurai Dist

APPENDIX - IV
CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A – Demographic variables

SECTION B – Clinical variables

Prepared for data collection by, Mrs.K.Krishnaveni,II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai. Who has undertaken the study field on thesis entitled “ **A STUDY TO EVALUATE THE EFFECTIVENESS OF OAT MEAL THERAPY ON BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION IN SELECTED RURAL AREA PARAVAI AT MADURAI**” has been validated by me.

SIGNATURE OF THE EXPERT

NAME:

DESIGNATION:

ADDRESS:

DATE:

K. Suleem
7/8/14

DIRECTOR
INSTITUTE OF COMMUNITY ME
MADURAI MEDICAL COL
MADURAI.

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A – Demographic variables

SECTION B – Clinical variables

Prepared for data collection by, Mrs.K.Krishnaveni,II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai. Who has undertaken the study field on thesis entitled “ **A STUDY TO EVALUATE THE EFFECTIVENESS OF OAT MEAL THERAPY ON BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION IN SELECTED RURAL AREA PARAVAI AT MADURAI**” has been validated by me.



SIGNATURE OF THE EXPERT

12/8/14

NAME: Dr. Juliet Sylvia, M.Sc (N), Ph.D.,

DESIGNATION: Professor, Head of the
Department. Community health Nursing

ADDRESS: ultra college,

DATE:

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A – Demographic variables

SECTION B – Clinical variables

Prepared for data collection by, Mrs.K.Krishnaveni,II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai. Who has undertaken the study field on thesis entitled “ **A STUDY TO EVALUATE THE EFFECTIVENESS OF OAT MEAL THERAPY ON BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION IN SELECTED RURAL AREA PARAVAI AT MADURAI**” has been validated by me.



SIGNATURE OF THE EXPERT

NAME: Mr. D. JOHN SAN ARUN PRABU
M.Sc (N), M.Sc (Psy), M.Phil (Psy), Ph.D.,

DESIGNATION: Professor,

ADDRESS: C. S. I. Jeyaraj annapattinam
College of Nursing, +
Allied sciences,

DATE:

Panmalai,
Madurai - 625004, .

CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A – Demographic variables

SECTION B – Clinical variables

Prepared for data collection by, Mrs.K.Krishnaveni,II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai. Who has undertaken the study field on thesis entitled “ **A STUDY TO EVALUATE THE EFFECTIVENESS OF OAT MEAL THERAPY ON BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION IN SELECTED RURAL AREA PARAVAI AT MADURAI**” has been validated by me.

SIGNATURE OF THE EXPERT

NAME: VEMBU.K M.Sc (N),

DESIGNATION: FACULTY IN NURSING .

ADDRESS: COLLEGE OF NURSING ,
JIPMER .

DATE:



CERTIFICATE OF VALIDATION

This is to certify that the tool

SECTION A – Demographic variables

SECTION B – Clinical variables

Prepared for data collection by, Mrs.K.Krishnaveni,II year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai. Who has undertaken the study field on thesis entitled “ **A STUDY TO EVALUATE THE EFFECTIVENESS OF OAT MEAL THERAPY ON BLOOD PRESSURE AMONG CLIENTS WITH HYPERTENSION IN SELECTED RURAL AREA PARAVAI AT MADURAI**” has been validated by me.

A. Ganesh

SIGNATURE OF THE EXPERT

NAME: *Ganesh A.*

DESIGNATION: *Lecturer*

ADDRESS: *College of Nursing*

DATE:



APPENDIX - V

ஓப்புதல் படிவம்

பெயர் :

தேதி :

வயது :

ஆராய்ச்சி சேர்க்கை எண்.

மதுரை மாவட்டம், பரவையில் வசிக்கும் சிகிச்சையலிக்கப்பட்ட முதல் நிலை உயர் இரத்த அழுத்த அளவில் ஓட்ஸ்ன் திற்ன் பற்றிய மதிப்பீட்டு ஆய்வின் முன் விவரம் எனக்கு விளக்கமாக எடுத்துரைக்கப்பட்டது. இந்த ஆய்வில் பங்குபெருவதில் உள்ள நன்மைகள் மற்றும் தீமைகள் பற்றி நான் புரிந்துகொண்டேன். நான் இந்த ஆய்வில் தானகவே முன்வந்து பங்கு பெருகிறேன். மேலும் எனக்கு இந்த ஆய்வில் இருந்து எந்த நேரமும் விலகிகொள்ள முன் அனுமதி வழங்கப்பட்டுள்ளது. என்னுடைய சிகிச்சை ஆவணங்களை பர்வை யிட்டு அதில் உள்ள விவரங்களை ஆய்வில் பயன்படுத்திக்கொள்ள அனுமதி அளிக்கிறேன். என்னுடைய பெயர் மற்றும் அடையாளங்களை ரகசியமாக வைத்து கொள்ளப்படும் என்று எனக்கு உறுதி அளிக்கப்பட்டுள்ளது.

இப்படிக்கு

APPENDIX – VI

CALIBRATION CERTIFICATE

QUALITY CONCEPTS

67, 1st Floor, P&T Nagar Main Road,
P&T Nagar, Madurai - 625 017.
Tel : 91-452-4231644
E-mail : qualityconcepts@in.com

CALIBRATION CERTIFICATE


01. Certificate No. & Date : 20141131 31.07.2014
02. Page no. : 01 of 01
03. Name of the Client : **K.Krishnaveni.**
04. Name of the Instrument : **II Year, MSC Nursing, Madurai.**
: Sphygmomanometer (BP Apparatus)
05. Identification No. of the instrument : **07880**
06. Range of the instrument : 0-300 mm Hg
07. Least Count : 2 mm Hg
08. Make : **Diamond**
09. Calibrated on : 31.07.2014
10. Next Calibration due on : 31.07.2015 (User defined)
11. Standards Followed : IS 3390

12. Calibration Results

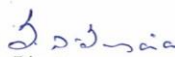
| Sl. No. | Indicated Value mm Hg | Standard Value mm Hg | Error mm Hg |
|---------|-----------------------|----------------------|-------------|
| 01 | 280 | 280 | 0 |
| 02 | 200 | 200 | 0 |
| 03 | 160 | 160 | 0 |
| 04 | 140 | 140 | 0 |
| 05 | 120 | 120 | 0 |
| 06 | 100 | 100 | 0 |
| 07 | 80 | 80 | 0 |
| 08 | 60 | 60 | 0 |
| 09 | 0 | 0 | 0 |

13. Calibration Traceable to : NATIONAL STANDARDS (Digital Pressure
Transducer certified by Si' Tarc vides
Cert. No 063932
14. Allowable Tolerance as per IS 3390 : + 2 mm Hg or - 3 mm Hg
15. Instrument status : Deviations are within specified limits

Note: Calibrated and certified for ISO and other Quality System Standards' requirement only. The results were observed at the time of calibration.

Calibrated by
Signature : 
Designation : Chief Technician



Approved by
Signature : 
Designation : Director

APPENDIX - VII
INTERVIEW SCHEDULE ON BLOOD PRESSURE AMONG
HYPERTENSIVE CLIENTS

SECTION-A
DEMOGRAPHIC VARIABLES

1.Age(in years):

- a) 31-40 yrs
- b) 41-50 yrs
- c) 51-60 yrs

2.Gender :

- a) Male
- b) Female

3.Education:

- a) Primary
- b) Higher Secondary
- c) Graduate
- d) Illiterate

4.Marital status:

- a) Single
- b) Married
- c) Divorced
- d) Widow/widower

5.Occupation :

- a) Sedentary worker
- b) Moderate worker
- c) Heavy worker

6.Type of family :

- a) Nuclear family
- b) Joint family

7.Family income:

- a) Less than Rs.5000
- b) Rs.5001-10000
- c) More than 10000

8.food habit :

- a) Vegetarian
- b) Non-vegetarian

9.Habits:

- a) Smoking
- b) Alcohol
- c) Tobacco
- d) None

10.Exercise:

- a) Physical Exercise
- b) Aerobic exercise
- c) Yoga
- d) Nothing

SECTION-B
CLINICAL VARIABLES

1.Duration of illness:

- a) <1 year
- b) 1-3 years
- c) 3-5 years
- d) >5 yrs

2.Duration of treatment :

- a) <1 year
- b) 1-3 years
- c) 3-5 years
- d) >5 yrs

3.Drug compliance:

- a) Adequate
- b) Inadequate

4.Specify ,medication taken:

- a) Allopathy
- b) Naturopathy
- c) Sidha
- d) Homeopathy

5.Sleeping hours :

- a) Less than 8 hours
- b) 8 hours
- c) More than 8 hours

6.How checking Bp level :

- a) Once in a month
- b) Weekly once
- c) Twice a month
- d) Only When needed

7.Family history of hypertension:

- a) Yes
- b) No
- c) Don't know

8.often taking non vegetarian food:

- a) Daily
- b) Twice a week
- c) Once a week
- d) Never**

9.Restricting salt in food :

- a) Fully restricted
- b) Half salt
- c) No restriction**

10.Complication for hypertension:

- a) No
- b) Renal disease
- c) Stroke
- d) Retinopathy
- e) Cardiovascular
- f) I don't know**

11.Body mass index:

- a) <18.5
- b) 18.5-24.99
- c) 25-25.99
- d) >30**

12.Recent history of stressful event:

- a) Yes
- b) No**

SECTION – C
SCORING KEY

As Per JACHO Classification

| | Systolic (mm Hg) | Diastolic (mm Hg) |
|------------------|-------------------------|--------------------------|
| Normal | <120 | <80 |
| Pre hypertension | 120 – 139 | 80 – 89 |
| Stage 1 | 140 – 159 | 90 – 99 |
| Stage 2 | ≥160 | ≥100 |

APPENDIX- VIII

பிரிவு - அ

தனிவிபரப்பட்டியல்

1. வயது
 - அ) 31 - 40 வயது
 - ஆ) 41 - 50 வயது
 - இ) 51 - 60 வயது
2. பாலினம்
 - அ) ஆண்
 - ஆ) பெண்
3. கல்வித்தகுதி
 - அ) ஆரம்ப நிலைக்கல்வி
 - ஆ) உயர்நிலைக்கல்வி
 - இ) பட்டப்படிப்பு
 - ஈ) படிப்பறிவின்மை
4. திருமண நிலை
 - அ) தனித்திருப்பவர்
 - ஆ) திருமணமானவர்
 - இ) விவாகரத்து ஆனவர்
5. வேலையின் தன்மை
 - அ) உட்கார்ந்த நிலை வேலை
 - ஆ) மிதமான வேலை
 - இ) கடினமான வேலை
6. குடும்ப வகை
 - அ) தனிக்குடும்பம்
 - ஆ) கூட்டுக் குடும்பம்

7. மாத வருமானம்

அ) ரூ. 5000 கீழ்

ஆ). ரூ. 5000 - ரூ. 10000

இ). ரூ. 10000 மேல்

8. உணவு வகை

அ) சைவம்

ஆ) அசைவம்

9. பழக்கம்

அ) புகைபிடித்தல்

ஆ). மது அருந்துதல்

இ) புகையிலை போடுதல்

ஈ) எதுவுமில்லை

10. உடற்பயிற்சி

அ) உடல்சார்ந்த பயிற்சி

ஆ) காற்றோட்டமான உடற்பயிற்சி

இ) யோகா

ஈ) எதுவுமில்லை

பிரிவு ஆ

மருத்துவ விபரப் பட்டியல்

1. நோயின் கால அளவு
 - அ) ஒரு வருடத்திற்கு கீழ்
 - ஆ) 1 முதல் 3 வருடங்கள்
 - இ) 3 - 5 வருடங்கள்
 - ஈ) 5 வருடத்திற்கு மேல்
2. சிகிச்சையின் கால அளவு
 - அ) 1 வருடத்திற்கு கீழ்
 - ஆ) 1 - 3 வருடங்கள்
 - இ) 3 - 5 வருடங்கள்
 - ஈ) 5 வருடத்திற்கு மேல்
3. மாத்திரை உட்கொள்ளும் வகை
 - அ) தொடர்ச்சியாக
 - ஆ) தொடர்ச்சியில்லாமல்
4. உட்கொள்ளும் மருந்தின் வகை
 - அ) ஆங்கில மருத்துவம்
 - ஆ) இயற்கை மருத்துவம்
 - இ) சித்த மருத்துவம்
 - ஈ) ஹோமியோபதி
5. ஒரு நாள் சராசரி தூக்கத்தின் அளவு
 - அ) 8 மணி நேரத்திற்கும் குறைவாக
 - ஆ) 8 மணி நேரம்
 - இ) 8 மணி நேரத்திற்கு மேல்
6. இரத்த அழுத்தத்தை எத்தனை நாட்களுக்கு ஒரு முறை பரிசோதிப்பீர்கள்?
 - அ) மாதம் ஒரு முறை
 - ஆ) வாரம் ஒரு முறை
 - இ) மாதம் இரு முறை
 - ஈ) தேவைப்படும் போது மட்டும்
7. குடும்பத்தில் இரத்த அழுத்தத்தால் பாதிக்கப்பட்டவர்கள்
 - அ) ஆம்
 - ஆ) இல்லை
 - இ) எனக்குத் தெரியாது

8. அசைவ உணவுகளை எத்தனை முறை எடுத்துக் கொள்வீர்கள்?

- அ). தினமும்
- ஆ). வாரத்திற்கு இரண்டு முறை
- இ). வாரத்திற்கு ஒரு முறை
- ஈ) எப்பொழுதும் இல்லை.

9. உப்பு சார்ந்த உணவு கட்டுபாடு

- அ). முற்றிலும் தவிர்வேன்
- ஆ) எப்பொழுதாவது சாப்பிடுவேன்
- இ) .விரும்பும் பொதெல்லாம் சாப்பிடுவேன்

10.பக்கவிளைவுகல் எதும் உள்ளதா?

- அ). இல்லை
- ஆ) சிறுநீரக தொந்தரவு
- இ) .பக்கவாதம்
- ஈ) இருதய நோய்

11. பீ.எம்.ய்

- அ)<18.50
- ஆ) 18.50 -24.99
- இ)25 – 25.99
- ஈ)>30

12.கடந்த சில நட்கலில் மன அழுத்தம் உண்டக்க கூடிய நிகழ்வுகல் நடந்ததா?

- அ). ஆம்
- ஆ). இல்லை

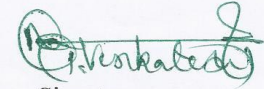
APPENDIX- IX

CERTIFICATE OF ENGLISH EDITING

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the dissertation "A study to evaluate the effectiveness of oats meal therapy on blood pressure among clients with hypertension in selected rural area paravai at Madurai" done by Mrs.K..Krishnaveni, M.Sc., Nursing II year student, College of Nursing, Madurai Medical College, Madurai - 20 has been edited for English language appropriateness.

Name: T. VENKATESH,



Signature

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Vadapudupatty, Annanji po,
Periyakulam (TD), Theni (TD).
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APPENDIX - X

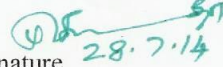
CERTIFICATE OF TAMIL EDITING **TO WHOM SO EVER IT MAY CONCERN**

This is to certify that the dissertation by K.KRISHNAVENI II year M.sc(N)student, college of nursing, Madurai Medical College, Madurai, Who has undertaken the study field on dissertation entitled **“A Study To Evaluate The Effectiveness Of Oat Meal Therapy On Blood Pressure Among Clients With Hypertension In Selected Rural Area-Paravai At Madurai.”** has been edited for Tamil language appropriateness.

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Theni (DT)
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Signature:  28.7.14

HEAD MISTRESS
GOVT. HIGH SCHOOL
T. KALLIPATTY - 625605
THENI DIST

APPENDIX XI

PREPARATION OF OAT MEAL

Take 35gms of oats and 150ml of water was added and make it to boil and the 200ml of malt was given daily in the morning for 45 consecutive days .5 samples were assembled in common place, followed by the preparation of 175 gms of oats with 750ml of water and totally 1000ml of oats malt was prepared and distributed 200ml of malt for each samples.

APPENDIX XII

RESEARCHER MEASURE THE BLOOD PRESSURE



RESEARCHER PREPARE THE OAT MEAL



SAMPLE CONSUME THE OAT MEAL

