

Study to Evaluate Effectiveness of Structured Teaching Programme on Knowledge Regarding Hypertension and Its Management among Hypertensive Clients in Selected Hospitals of Amritsar

Kawaljit Kaur*, SekarP., Ramesh Kumari, Bimla Rani

Mai Bhago College of Nursing Tarn Taran (Punjab) India

Abstract

Hypertension is an important risk factor for cardiovascular and renal diseases including stroke, coronary heart diseases, heart failure and kidney failure. Hypertension—the silent killer—remains asymptomatic until its damage effects are seen. It has been figured that almost one third of B.P.-related deaths occur from coronary heart disease. It is also estimated that a 3 mm Hg reduction in systolic B.P. could lead to an 80% reduction in stroke mortality and a 5% reduction in mortality from coronary heart disease. The present study was undertaken to evaluate the effectiveness of structured teaching programme (STP) on knowledge regarding hypertension and its management among hypertensive clients in selected hospitals of Amritsar, Punjab, India. The aim of study was to evaluate the effectiveness of interventional strategy on knowledge regarding hypertension. A pre-experimental one group pre-test and post-test research design was used. The sample size was 100 which was selected from the medical wards of GND and Civil hospital Amritsar, Punjab, India. The tool used for the data collection was self-structured knowledge questionnaire. The nonprobability purposive sampling technique was used to select the subjects. It can be seen from the result that the overall pre-test mean knowledge score was 8.72 with SD 2.83 as compared to overall post-test mean knowledge score of 13.75 with SD 3.92. The data subjected for statistical paired t-test showed a highly significant difference ($p < 0.05$) existing between pre-test and post-test over all mean knowledge score ($t = 10.48^*$). The present study recommend that a similar study can be undertaken on large sample for better generalization by adopting an experimental design to improve knowledge of hypertensive clients regarding hypertension and its management.

Keywords: Hypertension, Knowledge, High Blood Pressure

***Author for Correspondence:** Email ID: roopkamal21@gmail.com

INTRODUCTION

"We cannot change our genes or sex, but we can definitely modify our lifestyle thereby protecting ourselves from hypertension".

The heart is beating almost 100,000 times a day, more than 36 million times each year, so it is also known as the engine of human life. Infinitely beating examines the heart as a muscle, pushing approximately five quarts of blood in a long course to

deliver oxygen to every cell of the human body^[1]. Hypertension is the silent killer which remains asymptomatic until the damage effect of it can be seen. Hypertension is an important and common risk factor for considerable morbidity and mortality not only in the developed countries but also in developing countries. Thus, the problem of hypertension can be truly considered as pandemic^[2]. Hypertension is an important risk factor for cardiovascular and renal diseases

including stroke, coronary heart diseases, heart failure and kidney failure. It has been estimated that almost a third of B.P.-related deaths occur from coronary heart disease. It is also estimated that a 3 mm Hg reduction in systolic B.P. could lead to an 80% reduction in stroke mortality and a 5% reduction in mortality from coronary heart disease^[3]. Nowadays, the health system is giving more emphasis on lifestyle modifications along with other measures to reduce the high incident rate. It is important for us to know how we live, because it determines our choices and this choice decide how healthy we are. Our daily routine may lead us to many risk factors. Lifestyle like eating out at restaurant and eating fast foods, drinking alcohol, smoking, staying up late and not getting enough sleep, spending more time in front of TV, computer and more use of vehicles rather than walking are some of the risk factors^[4].

It has been shown in an annual report in January 2010 that approximately 1 billion people worldwide have high B.P., and this number is expected to increase to 1.56 billion by the year 2025. That translates to about one out of every four adults being afflicted with hypertension. Hypertension is prevalent in developing as well as developed countries^[5]. Prolonged, uncontrolled or inadequate treatment of hypertension is a major risk factor for the occurrence of heart attack, stroke, kidney failure and other cardiovascular diseases. Data from 2004 show alarming double-digit figures. With the steadily aging population across the globe and fast-paced lifestyles leading to unhealthy diets and lack of exercise, the increasing trend for the past five years is expected to continue^[6]. In India, the prevalence rate of hypertension was 59.9 and 69.9 per 1000 in males and females, respectively in the urban population; and 35.5 and 35.9 per 1000 in males and females, respectively in the rural population.

Recent data on hypertension in the population of Chandigarh (Union Territory and capital of Punjab and Haryana States of India) revealed that the prevalence of hypertension has become double in the last 30 years in the residents of Chandigarh (from 26.9% to 45.80% in the year 1968 and 2002). The WHO survey (2005) showed that in India the prevalence was 59.9 and 69.9 per 1000 in males and females, respectively in urban area and 35.5 and 35.9 per 1000 in male and female in rural area, respectively^[7].

REVIEW OF LITERATURE

A simple randomized study measured the prevalence of hypertension in 20 villages of East and West Godavari region of Andhra Pradesh. The aim of the study was to find which sex ratio of the population had more prevalence of hypertension. A random sample of 4535 adults of age 30 years and above was selected by the simple random sampling. The results showed that 26.6% were male hypertensive patients and 27.5% were female hypertensive patients. The researcher emphasized the need of prevention of hypertension. So this study concluded that prevalence of hypertension was high in female population, and an appropriate programme shall be launched considering modifiable risk factors to prevent the occurrences of cardiac diseases^[8].

A study found the association between body mass index (BMI) and hypertension and risk factor of hypertension. The sample size was 250 men and 300 women. Random controlled trials showed that 65% of US adults had a BMI greater than or equal to 25 Kg/m². Among them, 30% were hypertensive. Thus the study concluded that there was an increased association of BMI and hypertension^[9].

An experimental study evaluated the effectiveness of lifestyle modification interventions on hypertension among

overweight hypertensive patients. A total of 44 hypertensive overweight adults were randomly selected in an experimental group and lifestyle modification interventions were implemented. The control group was without lifestyle modification intervention and they were regularly taking antihypertensive medications. At the end of intervention, the results showed mean 4 Kg weight loss in 30% of lifestyle modification intervention group among hypertensive overweight adults and B.P. was also lowered. So this study concluded that a comprehensive lifestyle intervention can substantially lower B.P. and improve B.P. control as compared to taking medications alone^[10].

A detailed study evaluated the knowledge and learning needs of hypertensive patients visiting outpatient department (OPD) at D.M.C. Ludhiana, Punjab, India. The aim of the study was to assess the level of awareness of hypertensive patients to control their B.P. A total of 50 hypertensive patients were selected as sample for the evaluation. Data were collected with interview schedule having 25 items related to knowledge of patients regarding hypertension. It was found that 46% gave priority for steps to control hypertension, another 34% patients showed priority to learn about meaning of B.P. The result showed that more than half i.e., 27 (54%) subjects had good knowledge, 15 (30%) subjects had average knowledge and 7(14%) subjects had excellent knowledge and only 1 (2%) subjects had poor knowledge regarding hypertension. Whereas, another 10% gave priority to knowing about signs and symptoms and measure of B.P. These findings recommended that nursing personnel should be appointed in the OPDs to assess the learning needs of hypertensive patients in controlling B.P.^[11]. A study evaluated the effectiveness of structured teaching programme (STP) on

prevention of complications of hypertension among hypertensive clients attending clinic at the Victoria Hospital, Bangalore, India. The research design selected for the study was a quasi-experimental one group pre-test post-test design. The setting was clinic at the Victoria Hospital, Bangalore, India. The sample included 50 hypertensive clients selected by purposive sampling technique. The STP on prevention of complications of hypertension. The findings showed that the mean post-test knowledge score of the subjects which was 89.0% was higher than the mean pre-test score of 32.96%. The association between pre-test knowledge score and gender ($\chi^2 [1] = 6.76$ and pre-test knowledge score and occupation ($\chi^2 [1] = 4.467$ was significant whereas the association between post-test knowledge score and gender and occupation was not significant^[12].

PURPOSE OF THE STUDY

The purpose of the study was to find out the effectiveness of STP on knowledge regarding hypertension and its management. Hypertensive patients had poor knowledge regarding hypertension during pre-test. After administration of structured teaching programme, the knowledge score was increased. Teaching was given regarding the causes, sign and symptoms, effects, complications, management and prevention of hypertension. Teaching was given with the help of charts, handouts and projector.

METHODOLOGY

The research design adopted for this study was pre-experimental, one group pre-test, post-test design, to measure the effectiveness of planned teaching programme on a sample of 100 respondents. This study has been conducted at selected hospitals of Amritsar-GND and Civil Hospital. Target population for the study was hypertensive clients admitted in the medical wards of

GND and Civil hospital, Amritsar, India. Nonrandom sampling technique is a type of probability sampling approach which was found to be appropriate for the present study. A self-administered structured questionnaire and planned teaching programme was selected for the study. It was considered to be the most appropriate instrument to elicit the responses from literate respondents. The paper includes seven items related to the demographic variables of the respondents such as age, gender, education, occupation, residence, duration of hypertension, and family history of hypertension. Later sections of

the paper consist of 30 items of objective type related to knowledge of hypertension and its management. All the items were scored. Each correct answer was given a score of one and wrong answers a score of zero. Reliability of the tool was established by using split half technique, which measures the coefficient of internal consistency. The reliability of the split half test was found by using Karl Pearson Correlation by deviation method formula. Coefficient of correlation of the knowledge tool was found to be 0.90. Hence the tool was found reliable.

ANALYSIS

Table 1: Frequency and Percentage Distribution of Demographic Characteristics of Hypertensive Clients.

S. No	Demographic Characteristics	Frequency	Percentage
1.	<i>Age (years)</i>		
a.	35–40	23	23%
b.	41–45	38	38%
c.	46–50	24	24%
d.	51–55	15	15%
2.	<i>Gender</i>		
a.	Male	67	67%
b.	Female	33	33%
3.	<i>Educational status</i>		
a.	Primary education	47	47%
b.	Secondary education	43	43%
c.	Graduation	7	7%
d.	Post-graduation	3	3%
4.	<i>Residence</i>		
a.	Urban	37	37%
b.	Rural	63	63%
5.	<i>Occupation</i>		
a.	Skilled worker	39	39%
b.	Unskilled worker	18	18%
c.	Professional	10	10%
d.	Unemployed	23	23%
6.	<i>Family history of hypertension</i>		
a.	Present	56	56%
b.	Absent	44	44%
7.	<i>Duration of hypertension</i>		
a.	Less than one year	13	13%
b.	1–3 years	24	24%
c.	4–5 years	23	23%
d.	More than 5 years	40	40%

Classification of subjects according to age, gender, education, residence, occupation, family history of hypertension and duration of hypertension is given in Table 1. The results indicate that majority of hypertensive clients, i.e., 38% (38) were in the age group of 41–45 years, 24% (24) hypertensive clients were in the age group of 46–50 years, 23% (23) hypertensive clients were in the age group of 35–40 years; and minimum number of hypertensive clients, i.e., 15% (15) were in the age group of 51–55 years. Majority of hypertensive clients were male, i.e., 67% (67) while 33% (33) hypertensive clients were female. Majority of hypertensive clients, i.e., 47% (47) were in primary education, 43% (43) were in secondary education, 7% (7) were graduate and minimum number of hypertensive clients were postgraduate, i.e., 3% i.e. (3).

Majority of hypertensive clients 63% (63)

belonged to the rural area and minimum number of hypertensive clients, i.e., 37% (37) belonged to the urban area. Majority of hypertensive clients, i.e., 39% (39) were skilled workers, 23% (23) were unemployed, 18% (18) were unskilled workers and minimum number of 10% (10) were professionals. A total of 56% (56) hypertensive clients had a family history of hypertension while 44% (44) clients had no family history of hypertension.

Majority of hypertensive clients, i.e., 40% (40) were in the duration of hypertension >5 years, 24% (24) hypertensive clients were in the duration of hypertension for 1–3 years, 23% (23) hypertensive clients were in the duration of hypertension for 4–5 years and minimum number of hypertensive clients, i.e., 13% (13) were in the duration of hypertension <1 year.

Table 2: Level of Pre-test Knowledge among Hypertensive Clients Regarding Hypertension and Its Management.

S. No.	Level of knowledge	Frequency	Percentage
1	Inadequate level	77	77%
2	Moderate level	23	23%
3	Adequate level	0	0%

No hypertensive clients had adequate knowledge, 20% (20) hypertensive clients had moderate knowledge and 80% (80)

hypertensive clients had inadequate pre-test knowledge regarding hypertension and its management (Table 2).

Table 3: Level of Post-test Knowledge among Hypertensive Clients Regarding Hypertension and Its Management.

S. No.	Level of knowledge	Number of hypertensive clients	Percentage
1.	Adequate level	17	17%
2.	Moderate level	67	67%
3.	Inadequate level	16	16%

A total of 17% (17) hypertensive clients had adequate knowledge, 67% (67) hypertensive clients had moderate knowledge and 16% (16) hypertensive

clients had inadequate post-test knowledge regarding hypertension and its management (Table 3).

Table 4: Effectiveness of Structured Teaching Programme Regarding Hypertension and Its Management.

Aspects	Maximum score	Mean score	S.D.	Paired t-test
Pre test	30	8.72	2.83	10.48*
Post test	30	13.75	3.92	

* Significant at 0.05 level.

Overall mean knowledge score of pre-test and post-test on knowledge regarding hypertension and its management among hypertensive clients established in Table 4. It can be seen from the findings that the overall pre-test mean knowledge score was found to be 8.72 with SD 2.83 as

compared to overall post-test mean knowledge score noticed as 13.75 with SD 3.92. The data subjected for statistical paired t-test showed a highly significant difference ($p < 0.05$) existing between pre-test and post-test over all mean knowledge score ($t = 10.48$).

Table 5: Association between the Post-test Knowledge Scores of Hypertensive Clients with Selected Demographic Variables.

S.No.	Demographic variables	Level of knowledge						Calculated value	df	Table value
		A	MA	IA	F	%	F			
1.	Age (years)	F	%	F	%	F	%	0.39	6	12.59
a.	35–40	4	4	17	17	4	4	NS		
b.	41–45	7	7	25	25	5	5			
c.	46–50	3	3	15	15	4	4			
d.	51–60	3	3	10	10	3	3			
2.	Gender							0.49	2	5.99
a.	Male	11	11	44	44	9	9	NS		
b.	Female	6	6	23	23	7	7			
3.	Educational status							166.26	6	12.59
a.	Primary education	2	2	15	15	7	7	S		
b.	Secondary education	3	3	29	29	4	4			
c.	Graduation	5	5	12	12	3	3			
d.	Postgraduation	7	7	11	11	2	2			
4.	Residence							2.1	2	5.99
a.	Urban	11	11	42	42	7	7	NS		
b.	Rural	6	6	25	25	9	9			
5.	Occupation							106.65	6	12.59
a.	Skilled worker	8	8	19	19	3	3	S		
b.	Unskilled worker	3	3	18	18	5	5			
c.	Professional	4	4	13	13	3	3			
d.	Unemployment	2	2	17	17	5	5			
6.	Family history of hypertension							3.15	2	5.99
a.	Present	12	12	44	44	7	7	NS		
b.	Absent	5	5	23	23	9	9			
7.	Duration of hypertension							4.63	6	12.59
a.	Less than one year	3	3	8	8	5	5	NS		
b.	1–3 years	3	3	13	13	4	4			
c.	3–5 years	4	4	19	19	3	3			
d.	More than 5 years	7	7	27	27	4	4			

A–Adequate; M–moderate; IA–inadequate; F–frequency; NS–nonsignificant; S–significant; df–degree of freedom.

Table 5 shows the association of post-test knowledge scores of hypertensive clients with selected demographic variables. The impact of age, gender and residence on knowledge of hypertensive clients was found to be nonsignificant as the calculated value was less than the tabulated value at 0.05 level of significance. Result of Chi square test depicted the significant impact of education and occupation on the knowledge score of hypertensive clients on knowledge regarding hypertension and its management. Regarding the impact of family history of hypertension and duration of hypertension on mean knowledge score on knowledge regarding hypertension and its management was found to be non-significant ($p>0.05$) as indicated by Chi-test results.

LIMITATIONS AND RESEARCH REQUIRED

The study was limited to only hypertensive clients in between the age group of 35–55 years. There was no involvement of other family members in this study. Clients who already had developed hypertension were included in the study. The study recommends a similar study on large sample size for better generalization. A similar study can be undertaken by adopting an experimental design to improve the knowledge of hypertensive clients regarding hypertension and its managements.

CONCLUSION

The major goal of nursing practice is to impart knowledge and bring about changes in the people's unhealthy practices.

The present study was done to evaluate the effectiveness of STP on knowledge regarding hypertension and its management among hypertensive clients in selected hospitals of Amritsar, Punjab, India. Following conclusions were made on the basis of the study:

The results revealed that no hypertensive clients had adequate knowledge, 20 (20%) hypertensive clients had moderate knowledge and 80 (80%) hypertensive clients had inadequate pre-test knowledge regarding hypertension and its management. Majority of the hypertensive clients, i.e., 17 (17%) had adequate knowledge, 67 (67%) hypertensive clients had moderate knowledge and 16 (16%) hypertensive clients had inadequate knowledge regarding hypertension and its management.

Research Hypothesis

H₁-which stated that there will be a significant difference between pre-test and post-test knowledge after STP among hypertensive clients is accepted.

H₂- There will be significant effect of STP regarding knowledge of hypertension is also accepted.

H₃- There is significant association between post-test score and selected demographic variables.

Hence there is significant association between post-test knowledge score with educational status and occupation is also accepted.

H₄- There is significant difference between pre-test and post-test knowledge score and the selected demographic variables

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