



A Study To Assess The Effectiveness of A Structured Teaching Programme on Knowledge Regarding Lifestyle Modifications To Control Hypertension Among Hypertensive Patients in Selected Urban Areas of Bangalore

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Abstract

Hypertension is one of the most common lifestyle-related diseases worldwide. Hypertension is one of the most common. Due to its high prevalence, associated mortality, and economic burden, hypertension remains a major public health challenge worldwide and cost to society, preventing and treating hypertension is an important public health challenge. Adoption of healthy lifestyle modification practices improves overall health, lowers blood pressure, and reduces the risk of hypertension-related complications. A stage one hypertensive patient can do lifestyle modification practices for 6–12months without cardiovascular complications or the use of medicine. Aim of this research was to evaluate the effectiveness of structured teaching programme on knowledge regarding life style modifications to control hypertension. Design: A pre-experimental one-group pre-test and post-test design was adopted. Setting: this study was conducted in Bommanahalli Zone, Bangalore. Sample: A non-

probability convenience sample of 60 hypertensive patients. Tools: A structured knowledge questionnaire was used for data collection. Results: The overall analysis of level of knowledge of hypertensive patients regarding life style modifications to control hypertension scores of the subjects at pre-test were 17.07 (42.67%) with standard deviation 5.816, which indicates inadequate knowledge on life style modifications to control hypertension among hypertensive patients. After administration of STP mean knowledge scores of the subjects was 30.97 (77.42%) with standard deviation 5.314 found to be improvement in the level of knowledge among hypertensive patients. Among the participants 76.7% of the hypertensive patients had inadequate knowledge and 23.3% of them had moderate knowledge in the pretest. After administration of the STP 58.3% of the subjects had adequate knowledge, 41.7% had moderate knowledge and only 00% had inadequate knowledge regarding life style modifications to control hypertension. Conclusion: The structured teaching

programme significantly improved the knowledge of hypertensive patients regarding lifestyle modifications to control hypertension. Also there was a significant correlation between knowledge score. And there was a significant association between level of knowledge of Hypertensive patients and selected demographic variables such as age, gender, marital status, educational qualification, type of work, area of residence, Exercise and previous knowledge.

Keywords: Hypertension; Lifestyle modification; Structured teaching programme; Knowledge; Hypertensive patients.

Introduction

Health is a state of physical, mental, and social well-being influenced by lifestyle, environmental, social, and economic factors. Among the major non-communicable diseases, hypertension remains a significant global public health problem due to its high prevalence and serious complications. Often referred to as the "silent killer," hypertension is characterized by persistently elevated blood pressure and increases the risk of cardiovascular disease, stroke, and kidney disorders.¹

Globally, more than one billion people are affected by hypertension, and its prevalence continues to rise due to unhealthy dietary habits, physical inactivity, obesity, stress, tobacco use, alcohol consumption, and genetic predisposition. In India, hypertension is one of the leading contributors to morbidity and mortality, with several community-based studies reporting a high prevalence among adults. Poor awareness and inadequate lifestyle practices remain major barriers to effective blood pressure control.²

Research has shown that lifestyle modifications, including a healthy diet, regular physical activity, weight management, stress reduction, smoking cessation, and limiting alcohol intake, play a crucial role in preventing

and controlling hypertension. However, many patients lack adequate knowledge regarding these measures, highlighting the need for effective health education interventions.³

Hence, the researcher intends to evaluate the effectiveness of a structured teaching programme on knowledge regarding lifestyle modifications among hypertensive patients. The study will employ a pre-test and post-test design to assess whether the educational intervention improves patients' knowledge and promotes better self-management of hypertension.

Need for the Study

Hypertension is one of the leading non-communicable diseases and a major cause of premature mortality worldwide. Rapid urbanization, population ageing, unhealthy dietary habits, physical inactivity, obesity, stress, and tobacco and alcohol use have contributed to its increasing prevalence. Despite being preventable and controllable, hypertension continues to impose a significant burden on individuals, families, and healthcare systems. Recognizing this challenge, the Government of India has implemented initiatives such as the India Hypertension Control Initiative (IHCI) to improve awareness, early detection, and effective management of hypertension.⁴

Studies conducted in India have reported a high prevalence of hypertension, with notable regional and urban-rural variations. In karnataka, hypertension affects more than one-fifth of the adult population, while awareness, treatment adherence, and blood pressure control remain sub optimal. Research has consistently demonstrated that unhealthy lifestyle practices and inadequate knowledge regarding hypertension contribute to poor disease control and increased risk of cardiovascular complications.⁵

Evidence from national and international studies indicates that healthy lifestyle modifications, including a balanced diet, regular physical activity, weight management, stress reduction, smoking cessation, and limiting alcohol intake, significantly reduce the risk of hypertension and improve blood pressure control. However, many hypertensive patients lack adequate knowledge about these preventive measures, emphasizing the need for structured educational interventions.⁶

Therefore, there is a need to improve patients' knowledge regarding lifestyle modifications for effective hypertension management. Hence, the researcher has undertaken this study to evaluate the effectiveness of a structured teaching programme on knowledge regarding lifestyle modifications among hypertensive patients, with the aim of promoting better self-management and reducing hypertension-related complications.

Aim of the Study

The aims of the study were:

1. To assess the baseline knowledge regarding lifestyle modifications among hypertensive patients in selected urban areas.
2. To evaluate the effectiveness of a structured teaching programme on knowledge regarding lifestyle modifications.
3. To compare the pre-test and post-test knowledge scores.

Subjects and Methods

Research design

A pre-experimental one-group pre-test and post-test design was adopted.

Sample and Setting

A convenience sample of 60 hypertensive patients was selected from the Bommanahalli Zone, Bengaluru.

Criteria for selection of samples

Inclusion Criteria

- Hypertensive patients aged ≥ 18 years.
- Willing to participate.
- Available during data collection.

Exclusion Criteria

- Critically ill patients.
- Patients with psychiatric illness.
- Individuals unwilling to participate.

Data collection tools

Based on the research problem and objectives of the study, the following steps were undertaken to select and develop the data collection tool.

Part - I: Demographic Data

This section consisted of items seeking personal information such as Age, gender, marital status, educational status, occupation, monthly income, area of residence, exercise, habits and source of information.

Part - II: Knowledge questionnaires

The knowledge questionnaires consisted of 40 items on knowledge regarding Introduction and risk factors of hypertension, Symptoms and complications of hypertension and Life style modifications to control hypertension.

Each question had 4 responses with which one correct response and 3

Distractors. Score '1' was given for correct response in a single question and score '0'

was given for wrong response. The total numbers of items were 40 giving rise to maximum score of 40.

The resulting score were ranged as follows

- Adequate knowledge : more than 75 % (31 and above)
- Moderately adequate knowledge: 50 – 75 % (21-30)
- Inadequate knowledge: less than 50 % (less than 20)

Content Validity and reliability

Content validation was established by consulting experts in related field. Suggestions and recommendations of the experts which were considered to modify the contents of the STP in simple and appropriate manner. In order to establish the reliability of the tool, split- half method was used. The tool was administered to 10 participants and the test was first divided into 2 equal halves and correlation of the half test was found by using Spearman Brown's prophecy formula and significance of the correlation was tested by using probable error. The reliability of the whole test was then estimated by Spearman's brown prophecy formula. The reliability of the knowledge questionnaire was 0.88. Hence the tool was found to be reliable.

Pilot Study

Pilot study was conducted on 10 subjects in Bommanahalli Zone, Bangalore from 15-02-2025 to 21-02-2025. The permission to conduct pilot study was obtained from the Health Officer of Bommanahalli Zone. Subjects were chosen by non-probability convenient sampling technique. The purpose of the study was explained and informed consent obtained. Structured questionnaire was given and filled among hypertensive patients regarding life style modifications to control hypertension.

Data Collection Procedure

The data collection was done for 4 weeks in selected urban areas, Bangalore. A formal written permission was obtained from the Health Officer, Bommanahalli Zone, Bangalore and data collected within a given period from 15-03-2025 to 15-04-2025. Data were collected from 60 hypertensive patients who fulfilled the inclusion and exclusion criteria.

The techniques followed during the Structured Questionnaire administration are

- Hypertensive patients were made to feel comfortable and relaxed
- A rapport was established
- Consent was taken
- Questionnaire administered after explaining the method to answer it
- The completed questionnaires were collected, followed by administration of the structured teaching programme.
- After, post test was conducted to the same samples.

Statistical analysis

Descriptive statistics such as frequency and percentage to describe the demographic characteristics of the participants; Mean, mean percentage and standard deviation will be used to describe the knowledge of hypertensive patients regarding life style modifications to control hypertension. Inferential statistical methods like Paired't' test will be used to compare the knowledge level of Hypertensive patients. Chi-square (χ^2) test will be used to find out the association between selected demographic variables and knowledge level of hypertensive patients.

Section I: Demographic Characteristics

Majority 53.3% belongs to the age group of 31-45 years and 20% belonged to the age group of 46-60 years. Among the subjects 33.3% of the samples were males and remaining 66.7% of the subjects were females. Majority 51.7% of the subjects were married and 25% were unmarried. Among the subjects 26.7% of them had education up to intermediate/PUC, 25% of them had degree education and remaining 33.3% of the subjects had no formal education. Majority 31.7% of the subjects were moderately heavy worker, 21.7% were sedentary workers and 23.3% were housewives. Among participants 45% of the samples had monthly income between Rs. 10001-20000 and 28.3% of the subjects had

income between Rs.20001-30000. Majority 46.7% of the subjects lives in Semi urban and remaining 53.3% of them lives in urban areas. Among the hypertensive patients 30% of them were walking, 15% of them were jogging and 8.3% of the subjects were doing aerobic exercises. Among the subjects 18.3% had the habit of smoking, 11.7% of them had the Habit of smoking and alcohol and 10% of the subjects had pan chewing habit. In regard to source of information, 30% of them gets information from Health personnel, 18.3% of them gets information from Family/Friends and 15% of them gets information from mass media.

Section II: Knowledge level of hypertensive patients regarding Life style modifications to control hypertension.

Knowledge level	Pre test		Post test	
	Frequency	%	Frequency	%
a. Inadequate knowledge	46	76.7	0	0
b. Moderate knowledge	14	23.3	25	41.7
c. Adequate knowledge	0	0	35	58.3
Total	60	100.0	60	100

Majority 76.7% of the hypertensive patients had inadequate knowledge and 23.3% of them had moderate knowledge in the pretest. After administration of the structured teaching programme 41.7% of the subjects had moderate knowledge and remaining 58.3% had adequate knowledge regarding Life style modifications to control hypertension in the post test.

Knowledge	No. of Items	Max Score	Mean	Mean %	Median	SD
Pre test	40	40	17.07	42.67	17.5	5.816
Post test	40	40	30.97	77.42	33.0	5.314

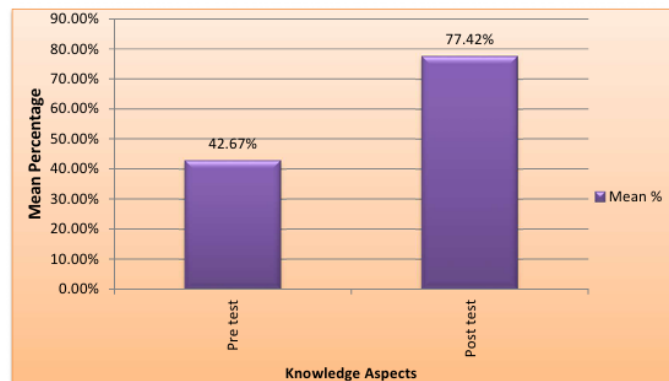


Figure 1: Mean Percentage of pre test and post test knowledge scores of hypertensive patients

The overall mean pretest knowledge score obtained by the hypertensive patients was 17.07 (42.67%) with standard deviation 5.816, which indicates inadequate knowledge. The overall posttest mean knowledge score obtained by the hypertensive patients was 30.97 (77.42%) with standard deviation 5.314.

Section III: Comparison of the pre-test and post-test knowledge score of hypertensive patients

	Mean	S D	Mean difference	t Value	Df	Inference
Pre test	17.07	5.816	13.9	18.683	59	S
Post test	30.97	5.314				

The overall pretest mean knowledge score obtained by the hypertensive patients was 17.07 (42.67%) with standard deviation 5.816, which indicates inadequate knowledge and the overall posttest mean knowledge score obtained by the hypertensive patients was 30.97 (77.42%) with standard deviation 5.314. The total difference in the mean of overall knowledge score was 13.9 with the 't' value of 18.683 and found to be significant at the level of $p < 0.01$. It means there is significant difference between pretest and posttest level of knowledge of hypertensive patients regarding Life style modifications to control hypertension.

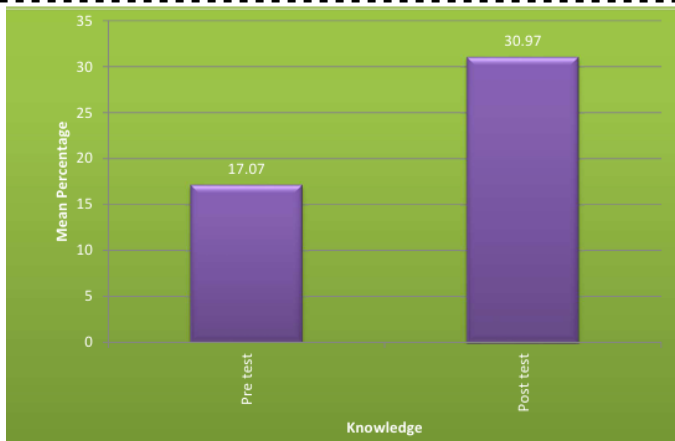


Figure 2: Comparison of mean pre-test and post-test knowledge scores

Section IV: Association between knowledge scores of hypertensive patients regarding Life style modifications to control hypertension and selected demographic variables

It was evident that there was a statistically significant association between the knowledge score with demographic variables such as educational status and exercise at the probability level of $p < 0.05$. Hence the research hypothesis stated that there will be significant association between the knowledge score of the hypertensive patients with selected demographic variable is accepted.

Discussion

The findings of the present study demonstrated that the structured teaching programme significantly improved participants' knowledge regarding lifestyle modifications. Similar findings were reported by Gupta et al. and Lelong et al., who observed that educational interventions significantly enhanced awareness and promoted healthy behavioural practices among hypertensive patients.

Conclusion

The structured teaching programme was effective in improving the knowledge of hypertensive patients regarding lifestyle modifications to control hypertension.

Recommendations

- Similar studies may be conducted with larger sample sizes.
- Randomized controlled trials are recommended.
- Long-term follow-up studies may assess behavioural changes.
- Community-based educational programmes should be encouraged.

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