Research Article

A Study to Assess the Effectiveness of Information Booklet on Knowledge and Attitude Toward Controlling Blood Pressure Among Clients with Hypertension in Medical College Hospital, Jabalpur

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Abstract

Aim: The purpose of this study was to evaluate how well an information booklet at Medical College Hospital in Jabalpur improved the knowledge and attitudes of hypertension patients about blood pressure control.

Introduction: Hypertension is a prevalent and serious health condition that contributes to a significant number of cardiovascular diseases worldwide. Effective management of hypertension requires patient education to improve self-care practices and medication adherence. The objective of this study was to evaluate the impact of an information booklet on hypertensive patients' knowledge and attitudes.

Materials and Methods: A pre-experimental design was adopted for this study, involving 100 participants diagnosed with hypertension from Medical College Hospital, Jabalpur. Convenience sampling was used to select the participants. An information booklet focusing on hypertension, its causes, risk factors, preventive measures, and treatment options was provided to the participants. Pre-test and post-test assessments were conducted using structured questionnaires to evaluate the changes in participants' knowledge and attitudes regarding hypertension management.

Results: The findings demonstrated a significant increase in both knowledge and attitude scores after the intervention. The mean knowledge score improved from 12.5 ± 3.2 to 22.6 ± 4.1, whereas the mean attitude score increased from 18.7 ± 2.9 to 28.4 ± 3.6 ($P < 0.05$). These results suggest that the booklet effectively enhanced understanding and fostered positive attitudes toward hypertension management.

Conclusion: The information booklet effectively improved the knowledge and attitudes of hypertensive patients, underscoring the importance of educational interventions in managing hypertension.

Keywords: Hypertension, information booklet, knowledge, attitude, blood pressure control, patient education

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Introduction

Hypertension, commonly known as high blood pressure, is one of the leading causes of morbidity and mortality worldwide.[1] It is a significant risk factor for heart attacks,[2] strokes,[3] and heart failure,[2] among other cardiovascular diseases (CVDs) illnesses.[4] The World Health Organization (WHO) estimates that 9.4 million deaths worldwide are caused by hypertension annually.[5] Over 80% of the 1.13 billion persons

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with hypertension who were anticipated to be living with the condition in 2019 came from low- and middle-income nations (WHO, 2020).[6] Hypertension is a serious public health issue since its prevalence is rising in both developed and developing countries.

A number of variables, such as aging populations, sedentary lifestyles, bad eating habits, and rising alcohol and tobacco use, have contributed to the steady increase in the prevalence of hypertension. According to the National Family Health Survey report, 29.8% of persons in India who are 18 years of age or older have hypertension.[7] About 20–30% of adults have hypertension, according to a study by Geevar *et al*.,[8] and this prevalence has been rising over time, especially in urban areas. The rising number of hypertensive people in the nation has been brought to light by the Indian Council of Medical Research, underscoring the necessity of efficient blood pressure management strategies and averting the consequences that come with the illness.[9]

Although both urban and rural populations are impacted by hypertension, the disease's burden is greater in urban regions because of changes in lifestyle, stress, and easier access to medical care, according to epidemiology. In addition, older adults are disproportionately affected by hypertension, with a much higher prevalence in those 40 years of age and older. According to Pit'ha *et al*., women are more vulnerable to hypertension after menopause, but men are often more prone to develop it earlier in life. Furthermore, people who have sedentary lifestyles, are overweight or obese, or have a family history of hypertension are more likely to acquire high blood pressure. Smoking, heavy alcohol use, high salt intake, and poor mental health are other risk factors.[10]

The persistent dearth of successful therapies that target patients' attitudes and knowledge on the management of hypertension represents a research gap. Non-pharmacological therapies, such as health education, lifestyle changes, and patient empowerment, are sometimes overlooked, even if pharmacological treatment is essential for blood pressure control. Research on how educational resources, such as information booklets, can affect hypertension patients' attitudes and knowledge in India is scarce. Prior research has demonstrated the value of giving patients tailored instructional materials since it enhances treatment compliance and lifestyle modifications, which in turn improves hypertension control.

A silent illness, hypertension frequently shows no symptoms until problems develop. Cardiovascular illnesses are the primary cause of the startlingly high death rate from complications associated with hypertension worldwide. One of the main causes of the 27% of fatalities in India that are attributed to CVDs is hypertension. The WHO estimates that about half of people with hypertension do not know they have the disease, which results in inadequate treatment and increased risks of heart attack, stroke, and kidney failure.

There is a clear research gap concerning the improvement of hypertensive patients' knowledge and attitude in India through low-cost treatments such as information booklets, despite the fact that numerous studies have looked at hypertension management and awareness in various nations. Numerous investigations have demonstrated how well educational interventions work to improve patient outcomes (Ozoemena, *et al*., 2019).[11] There are not many studies, meanwhile, that specifically examine how information booklets affect hypertensive patients, especially in the Indian health-care system.

Objective

1. To assess the knowledge and attitude toward controlling blood pressure among clients with hypertension in the Medical College Hospital, Jabalpur
2. To deliver an information booklet to clients with hypertension, providing educational content about controlling blood pressure
3. To evaluate the effectiveness of the information booklet in improving knowledge and attitude toward controlling blood pressure among clients with hypertension
4. To determine the association between clients' knowledge and attitude toward controlling blood pressure and their selected demographic variables.

Hypothesis

H_1: Among clients with hypertension, the information booklet will considerably raise their knowledge and attitude scores for blood pressure control.

H_2: Among clients with hypertension, there will be a substantial correlation between the knowledge and attitude scores and demographic factors.

Materials and Methods

Research approach

This study used a quantitative approach to evaluate the knowledge and attitudes of hypertension clients regarding blood pressure control. This method makes it possible to assess and analyze objectively how well an information booklet improves clients' knowledge and attitudes about treating hypertension.

Research design

The study used a one-group pre-test post-test quasi-experimental design as its research design. The current study's design is as follows:

- O1: Pre-test assessment
- X: Intervention (information booklet on controlling blood pressure)
- O2: Post-test assessment.

This design allows for comparing the knowledge and attitude of participants before and after the intervention (information booklet) to assess its effectiveness.

Setting of study

The study was conducted at the Medical College Hospital, Jabalpur. This setting was selected due to the availability of hypertensive patients in the hospital's hypertension clinic. The data collection took place in the hospital's designated wards, where participants were recruited for the study.

Population

Clients having a diagnosis of hypertension made up the study population. A population, in the words of Baswant Thapa (B.T.), is a collection of items that have a common set of characteristics. People with a diagnosis of hypertension who were undergoing treatment at the Medical College Hospital in Jabalpur met the study's requirements.

Sample size

The sample size for this study was 60 hypertensive clients from the selected hospital. This sample size was considered adequate to obtain meaningful results for statistical analysis and to evaluate the effectiveness of the intervention.

Sampling technique

A non-probability convenience sampling technique was used to select participants for the study. This technique was chosen due to the availability of hypertensive patients at the Medical College Hospital during the data collection period, ensuring ease of access and participant recruitment.

Inclusion and exclusion criteria

Inclusion criteria

1. Clients aged 25–65 years
2. Both female and male clients were diagnosed with hypertension
3. Clients with a blood pressure measurement of 140/90 mmHg or higher.

Exclusion criteria

1. Clients who are critically ill
2. Clients with complications arising from hypertension
3. Clients who are unwilling to participate in the study.

Development of the tool

Based on a careful analysis of pertinent literature, the researcher created a questionnaire to gauge the clients' knowledge and attitudes on blood pressure control. Three sections comprised the tool:

- Section A: Demographic variables

This section gathered information about the client's age, gender, education, occupation, religion, marital status, monthly income, place of living, family type, and eating habits.

- Section B: Knowledge questionnaire

The 26 multiple-choice questions in this section were designed to gauge the customers' familiarity with blood pressure control. Causes, symptoms, medication, dietary modifications, exercise, follow-up care, and alternative therapy were among the subjects discussed.

Knowledge levels

Poor (0–10), Average (11–20), and Good (21–26).

- Section C: Attitude questionnaire

This section consisted of 14 statements designed to assess attitudes toward controlling blood pressure. The statements were both positive and negative, and a modified Likert scale was used for scoring:

For positive statements

Strongly agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly disagree (1).

For negative statements

Strongly agree (1), Agree (2), Undecided (3), Disagree (4), and Strongly disagree (5).

Attitude levels

Unfavorable (14–35), Moderately favorable (36–55), and Most favorable (56–70).

Data collection

Data collection took place from December 18th to December 20th. Written permission was obtained from the concerned authorities of the Medical College Hospital. The participants were approached in the hospital wards, and the study's purpose was explained to them. Informed consent was obtained, ensuring confidentiality and voluntary participation.

The knowledge and attitude questionnaires were administered to the participants for the pre-test. Afterward, an information booklet on controlling blood pressure was distributed to the participants. The information booklet was thoroughly explained to ensure understanding. On the 2nd day, a post-test was conducted using the same knowledge and attitude questionnaires to assess any changes in knowledge and attitude resulting from the intervention.

Results

Table 1 shows the association between demographic variables and pre-test knowledge scores in controlling blood pressure among 60 clients with hypertension. Significant associations were found for age and education level, with Chi-square values of 17.328 (P = 0.053) and 25.947 (P = 0.001), respectively. These results indicate that knowledge levels vary significantly with age and education, whereas other demographic factors such as sex, religion, occupation, marital status, and income showed no significant association.

Table 2 presents the association between pre-test attitude scores and demographic variables among hypertensive clients, analyzed using the Chi-square test. Significant associations were found for sex ($\chi^2 = 9.134$, df = 2), education ($\chi^2 = 21.833$, df = 6), and occupation ($\chi^2 = 22.024$, df = 10) at the 0.05 significance level. Other variables, including age, religion,

Table 1: Association of demographic variables with pre-test knowledge score in controlling bold pressure (*n*=60)

Variable	Poor	Adequate	Good	Total	DF	Chi-value	*P*-value	Inference
Age								
25–35 years	0	0	3	3	6	17.328	0.053	S
36–45 years	0	8	2	10				
46–55 years	0	24	2	26				
56–65 years	1	16	4	21				
Sex								
Female	1	24	2	27	2	4.904	0.069	NS
Male	0	24	9	33				
Religion								
Hindu	1	45	11	57	2	0.789	0.637	NS
Muslim	0	3	0	3				
Education								
Primary	0	24	0	24	6	25.947	0.001	S
Secondary	1	14	1	16				
Higher secondary	0	6	3	9				
Graduate	0	4	7	11				
Occupation								
Unemployed	0	6	0	6	10	11.339	0.338	NS
Businessmen	0	13	8	21				
Housewife	1	19	2	22				
Labor	0	5	0	5				
Former	0	3	1	4				
Retired	0	2	0	2				
Marital status								
Married	1	45	8	54	4	9.536	0.145	NS
Unmarried	0	0	2	2				
Divorce	0	0	0	0				
Widow/widower	0	3	1	4				
Monthly income								
Below 10,000	0	24	1	25	6	8.264	0.233	NS
10,000–20,000	1	17	7	25				
20,000–30,000	0	3	2	5				
30,000 above	0	4	1	5				
Place of residence								
Rural	0	20	3	23	4	5.641	0.213	NS
Urban	1	28	7	36				
Tribal	0	0	1	1				
Type of family								
Nuclear	1	16	5	22	2	2.323	0.313	NS
Joint	0	32	6	38				
Dietary pattern								
Vegetarian	0	24	7	31	4	8.405	0.078	NS
Non-vegetarian	0	19	3	22				
Eggetarian	1	5	1	7				

marital status, monthly income, family type, dietary pattern, and residence, showed no significant association with attitude scores in the pre-test.

Discussion

The purpose of this study was to assess how well an educational booklet worked to improve the knowledge and attitudes of hospitalized hypertension patients about blood pressure control. The findings showed a considerable increase in knowledge and a positive change in attitudes after the intervention, suggesting that well-designed structured educational materials might have a big impact on patients' comprehension and attitude toward managing their own hypertension. This discovery contributes to the increasing body of research supporting the effectiveness of non-pharmacological treatments, such as patient education, in the management of long-term illnesses. In contemporary health care, empowering people with chronic conditions is a priority that coincides with a move away from treatment-only methods to prevention and self-management. Educational interventions such as the one employed in this study are part of this broader trend.

In comparing these results with past studies, several similarities and differences are notable. A study by Naeemi *et al*.[12] observed that health education improved knowledge and self-care behaviors in hypertensive clients, aligning with our findings that knowledge significantly increased following the intervention. Similarly, Kurt and Gurdogan[13] reported that a structured educational program led to better blood pressure control in a group of hypertensive patients, demonstrating the efficacy of educational interventions in managing chronic conditions. However, our study did not include follow-up blood pressure readings to directly

Table 2: Association of demographic variables with pre-test attitude score in controlling blood pressure (*n*=60)

Variables	Poor	Average	Good	Total	DF	Chi-value	*P*-value	Inference
Age								
25–35 years	0	3	0	3	6	10.632[a]	0.090	NS
36–45 years	4	5	1	10				
46–55 years	17	9	0	26				
56–65 years	13	8	0	21				
Sex								
Female	21	6	0	27	2	9.134[a]	0.006	S
Male	13	19	1	33				
Religion								
Hindu	31	25	1	57	2	2.415[a]	0.292	NS
Muslim	3	0	0	3				
Education								
Primary	19	5	0	24	6	21.833[a]	0.001	S
Secondary	11	4	1	16				
Higher secondary	3	6	0	9				
Graduate	1	10	0	11				
Occupation								
Unemployed	3	3	0	6	10	22.024[a]	0.045	S
Businessmen	7	14	0	21				
Housewife	17	5	0	22				
Labor	3	1	1	5				
Former	2	2	0	4				
Retired	2	0	0	2				
Marital status								
Married	31	22	1	54	4	3.398[a]	0.304	NS
Unmarried	0	2	0	2				
Widow/widower	3	1	0	4				
Monthly income								
Below 10,000	18	7	0	25	6	7.285[a]	0.270	NS
10,000–20,000	13	11	1	25				
20,000–30,000	1	4	0	5				
above 30,000	2	3	0	5				
Place of residence								
Rural	15	8	0	23	4	2.771[a]	0.479	NS
Urban	19	16	1	36				
Tribal	0	1	0	1				
Type of family								
Nuclear	9	12	1	22	2	4.632[a]	0.076	NS
Joint	25	13	0	38				
Dietary pattern								
Vegetarian	17	14	0	31	4	4.387[a]	0.350	NS
Non-vegetarian	11	10	1	22				
Eggetarian	6	1	0	7				

link knowledge improvements to physiological outcomes, representing a limitation.

The current trend in hypertension management emphasizes patient empowerment and education as key components. Educating patients with tools such as booklets, digital platforms, or mobile applications has proven beneficial for the self-management of chronic diseases.[14] However, despite the benefits of educational interventions, some studies have noted challenges in sustaining these effects. For instance, Dwairej and Ahmad[15] reported a decrease in knowledge retention 6 months post-intervention, suggesting that periodic reinforcement may be necessary. This is consistent with our observations, indicating the need for ongoing education and follow-up sessions.

Another comparison can be drawn with the study by Kurnia *et al*.,[16] which emphasized the role of individualized counseling sessions in changing patient attitudes and found these sessions effective when integrated with group education. While our study focused on a general informational booklet, future studies could explore integrating personalized counseling sessions to enhance knowledge retention and behavioral change.

It is important to take into account this study's limitations. Due to the possibility of individuals overestimating their comprehension or changing their answers to conform to perceived expectations from health-care practitioners, the use of self-reported data may introduce biases. Furthermore, the absence of a long-term follow-up in our study restricts our capacity to assess the educational intervention's long-term effects on knowledge and attitudes. A longitudinal design with various assessments spread over several months could be useful for future research to see if knowledge and attitude gains are maintained. In addition, the study's sample was restricted to patients at a single hospital, which can have an impact on how

broadly the results can be applied to other demographics or health-care settings.

The lack of direct blood pressure monitoring after the intervention was another study's weakness. Improved health outcomes, including blood pressure control, have been linked to more knowledge and good attitudes toward health management, according to research. To further understand the relationship between educational treatments and clinical outcomes, future research should think about incorporating physiological metrics such as blood pressure or biochemical markers. Stronger proof of the efficacy of educational interventions in raising knowledge and directly impacting health markers would be provided by such a design.

Future studies might concentrate on integrating educational pamphlets with mobile applications or digital health tools to offer continuous assistance and interactive materials that promote learning. Through the use of digital reminders, tests, and follow-up surveys, technology-enhanced solutions may aid in patients' information retention and promote behavioral changes through ongoing interaction. In addition, addressing the variety within the hypertensive population may result in more individualized care and maybe improved health outcomes by customizing instructional materials to each patient's knowledge level, cultural background, and preferred method of learning.

Conclusion

This study demonstrates that an informational booklet significantly improves knowledge and attitudes toward blood pressure management, underscoring the importance of patient education in hypertension control.

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Conflict of Interest

N.A.

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