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A Pilot Analysis- Effectiveness Of Health Education On Attitude On Blood Pressure Control Among Isheamic Heart Disease

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ABSTRACT

One of the primary causes of cardiac disease is elevated blood pressure, and controlling hypertension effectively is essential to avoiding both ischemic heart diseases. Maintaining blood pressure at or below 140/90 mmHg is recommended for primary prevention; 130/85 mmHg was previously recommended for secondary prevention. Not only does hypertension operate as a standalone risk factor for ischemic heart disease (IHD), but it also increases the likelihood of adverse events when it coexists with the other major IHD risk factors listed above. The purpose of the study is to evaluate the awareness of blood pressure regulation among individuals with ischemic heart disease (IHD). The project's pre-experimental study design was approved. The study's sample consisted of patients with primary hypertension and ischemic heart disease (IHD). The results of this study show how beneficial lifestyle modification education is for controlling blood pressure in individuals with ischemic heart disease (IHD) who have primary hypertension in selected hospitals.

Keywords: *Ischemic heart disease (IHD), Hypertension, Health Information, Attitude, Blood pressure, sample.*

1. INTRODUCTION

Hypertension (high blood pressure) is one of the leading risk factors for cardiovascular diseases, including ischemic heart disease (IHD), which is a significant cause of morbidity and mortality worldwide. The management of hypertension is crucial in reducing the incidence of IHD and preventing its complications. Hypertension not only acts as an independent risk factor but also exacerbates the likelihood of adverse cardiovascular events when combined with other risk factors, such as high cholesterol levels, smoking, diabetes, and a sedentary lifestyle (1). Therefore, effective management of blood pressure plays a key role in reducing the burden of ischemic heart disease (2).

The American College of Cardiology (ACC) and the American Heart Association (AHA) recommend maintaining blood pressure below 140/90 mmHg for the general population to prevent cardiovascular diseases, with a more stringent target of 130/85 mmHg for individuals with a history of cardiovascular disease, including IHD (3). Secondary prevention in individuals with IHD, where controlling blood pressure to even lower levels is advocated, is crucial in reducing the risk of recurrent cardiovascular events and improving overall health outcomes (4).

Despite the importance of controlling blood pressure in the prevention and management of IHD, studies have indicated that there is often a lack of awareness among individuals with hypertension, particularly those with IHD, regarding the impact of elevated blood pressure on their heart health (5). This lack of awareness is a significant barrier to effective blood pressure management, as patients may not fully engage in lifestyle modifications or adhere to prescribed medications (6).

The role of lifestyle modification in managing hypertension has been well-documented. Evidence suggests that interventions, such as dietary changes, increased physical activity, weight management, smoking cessation, and stress reduction, can significantly lower blood pressure and improve cardiovascular outcomes (7). Educational programs that promote these lifestyle changes have been shown to improve patients' knowledge and adherence to hypertension management strategies, thereby reducing the risk of IHD and its complications (8).

This study aims to evaluate the awareness of blood pressure regulation among individuals with ischemic heart disease (IHD) and primary hypertension (9). The goal is to assess how lifestyle modification education can contribute to better blood pressure control in patients with IHD and hypertension. A pre-experimental study design was chosen to investigate the

effectiveness of educational interventions in increasing awareness and improving blood pressure management in this high-risk population (10).

Aim of this study

The aim of this study was to assess the Attitude regarding Blood Pressure control among Ischemic Heart Disease (IHD) patients in Sree Balaji Medical College and Hospital, Chennai.

Objectives of the study

- To assess the existing Attitude score on Blood Pressure Control among Ischemic Heart Disease (IHD) patients.
- To assess the Attitude score after the influence of the health education.

Null Hypothesis

There is no significant difference between before and after Attitude score on blood pressure control among Ischemic Heart Disease (IHD) patients at $p<0.05$ level.

Research Approach

Quantitative evaluative research method was measured as an appropriate research method for this study.

Research Design

One group pre-test and post-test design was adopted in this study.

Variables:

Independent Variable

In this study, the independent variables refer to the Education strategies which include health education on life style modification on blood pressure control.

Dependent Variable

In the present study Attitude was the dependent variables.

Sample

A sample is a portion of the target population that will be studied by researchers. The segment of the population chosen to take part in the research project is the sample. Patients with ischemic heart disease (IHD) who met the inclusion and exclusion criteria made up the samples for the current investigation.

Criteria for selecting sample:

The samples for this study was selected on the following criteria

Inclusion Criteria:

It includes the characters that each sample must possess

1. Ischemic Heart Disease (IHD) patients with primary hypertension age between 30 and above years
2. The patients who are previously diagnosed as Ischemic Heart Disease (IHD)

Exclusion Criteria

1. Ischemic Heart Disease (IHD) patients with Secondary hypertension are excluded.
2. The Ischemic Heart Disease (IHD) patients who are critically ill and mentally ill
3. Ischemic Heart Disease (IHD) patients with other chronic illness
4. Ischemic Heart Disease (IHD) patients who are not willing for the study

Ethical Considerations

After receiving approval from the institution's research and ethical council, the intended study was carried out. The institution's leader granted permission. The Dean of Sree Balaji Medical College and Hospital gave his full approval. Before beginning the data collection, each subject was given the opportunity to give their informed consent and was assured that their identity would be preserved.

Research Tool and Technique

- Tool I- Demographic Data
- Tool II- Attitude scale (LIKERT) Regarding Blood Pressure control among Ischemic Heart Disease (IHD) patients

Table 1: Demographic Variables

Demographic variables		Number of Ischemic Heart Disease (IHD) patients	%
Age	30-40 years	7	20%
	41-50years	14	40%
	51-60 years	8	22.86%
	61 and above	6	17.14%
Sex	Male	14	40%
	Female	21	60.00%
Educational status	Illiterate	5	14.2%
	Primary education	8	22.86%
	Secondary education	7	20%
	Higher secondary education	8	22.86%
	Degree and above	7	20%
Occupational status	Government employee	8	22.86%
	Private employee	12	34.29%
	Self employed	8	22.86%
	Daily wages	3	8.57%
	Unemployed	4	11.4%
Marital status	Married	32	91.43%
	Single	3	8.57%
	Divorced/separated	0	0.00%
	Widow/widower	0	14.29%
Socio economic status	Below Rs.5000	7	20%
	Rs.5000 – Rs10000	8	22.86%
	Rs.10000 – Rs15000	8	22.86%
	Above Rs.15000	12	34.29%
Religion	Hindu	28	80.00%
	Christian	2	14.29%
	Muslim	5	5.71%
Duration of Illness	1-5 years	16	45.71%
	6-10 years	11	31.43%
	10-15 years	7	20%
	> 15 years	1	2.86%

The above table shows the Demographic Variables of Ischemic Heart Disease (IHD) patients those who were participated in the study on.

Table 2: Frequency and Percentage distribution of Attitude towards lifestyle modifications on blood Pressure control among patients with Ischemic Heart Disease (IHD) in pretest.

N=35

S. No	Level of attitude	No	Percentage (%)
1.	Unfavuorable attitude	12	34.28%
2.	Moderate attitude	23	65.72%
3.	Favourable attitude	0	0.00%
	Total	**35**	**100.0%**

Table 2 shows the Pretest level of attitude score among towards lifestyle modifications on blood Pressure control among Ischemic Heart Disease patients. In general 34.28% of them are having unfavuorable attitude score, 65.72 % of them having neutral attitude score and none of them are having favuorable attitude score.

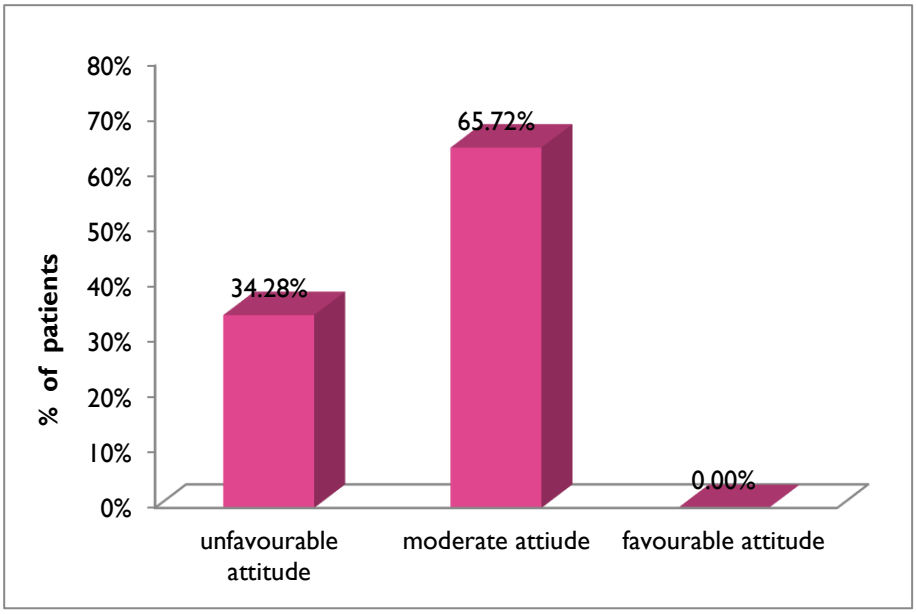

Figure 1: Pretest level of attitude score towards lifestyle modifications on blood pressure control among patients with Ischemic Heart Disease.

Table3: Frequency and Percentage distribution of attitude regarding lifestyle modifications on Blood Pressure Control for patients among Ischemic Heart Disease in posttest.

N=35

S.No	Level of attitude	No	Percentage (%)
1.	Unfavourable attitude	0	0.00%

2.	Moderate attitude	8	22.85%
3.	Favourable attitude	27	77.14%
	Total	**35**	**100.0%**

Table 3 shows the posttest level of attitude score towards lifestyle modifications on blood Pressure control among Ischemic Heart Disease patients. In general none of them are having Unfavourable attitude score, 22.85% of them having Moderate attitude score and 77.14% of them are having favourable attitude score.

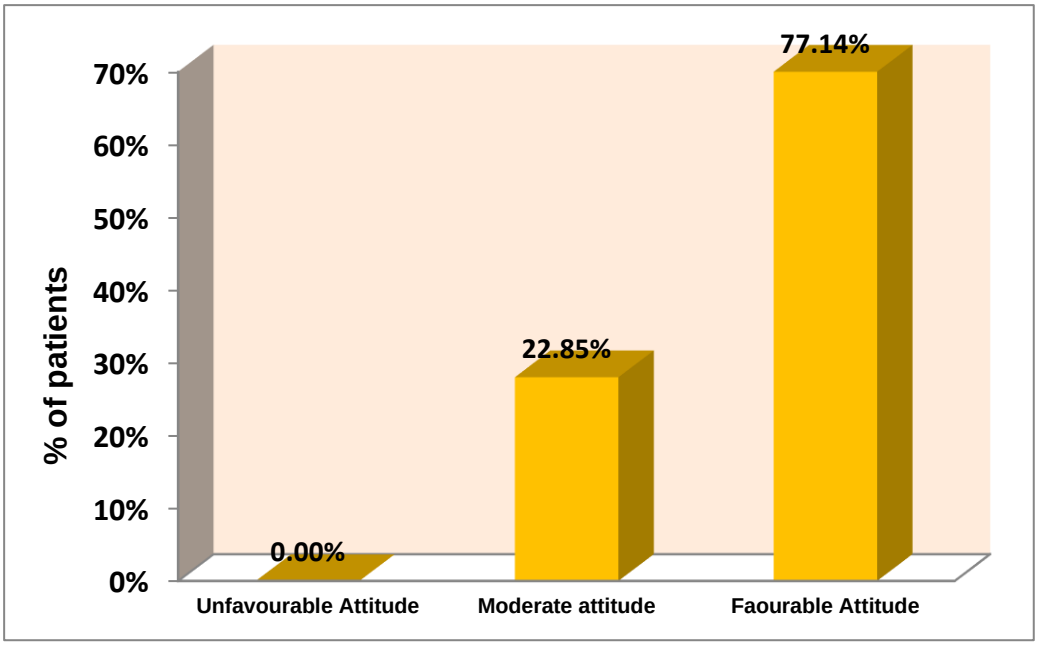

Figure 2: Posttest level of attitude score towards lifestyle modifications on blood pressure control among patients with Ischemic Heart Disease.

Table 4 Comparison of Pre-test and Post-test level of attitude Score

Level of score	**Pre test**		**Post test**		**Extended McNemar's test**
	N	%	n	%	
Unfavourable attitude	12	34.28%	0	0.00%	**$\chi 2$=29.73 P=0.001***(S)**
Moderate attitude	23	65.72%	27	77.14%	
Favourable attitude	0	0.00%	8	22.86%	
Total	35	100.00%	35	100.00%	

***Very high significant at p<0.001

The above Table shows the comparison of pre-test and post-test level of Attitude score among Ischemic Heart Disease (IHD) patients

Table 5: Comparison of pre-test and post-test mean attitude score

No. of Patients	pre-test		post-test		Mean Difference	Student's paired t-test
	Mean	SD	Mean	SD		
35	6.14	1.82	11.00	1.69	4.86	**t=10.85** **P=0.001 *** **DF= 34 , Significant**

The above Table shows the overall comparison Attitude score before and after the administration of health education

2. RESULTS

The analysis of the pre-test and post-test attitude scores regarding lifestyle modifications for blood pressure control among Ischemic Heart Disease (IHD) patients reveals significant shifts in the participants' views and awareness following an educational intervention.

In the pre-test phase, the results showed a concerning trend regarding the participants' attitudes toward lifestyle modifications. The majority, specifically 65.72%, exhibited a neutral attitude, indicating that while they may have some understanding of the importance of blood pressure control, they had not yet fully embraced or committed to making lifestyle changes. This neutral stance suggests that the patients were not entirely resistant to the idea of lifestyle modifications, but they lacked sufficient motivation or awareness to take action. Moreover, 34.28% of the participants demonstrated an unfavourable attitude. This group of patients was either unaware or not fully convinced about the role that lifestyle changes could play in managing their blood pressure. An unfavourable attitude in this context could mean that patients were not motivated to change their behaviour, possibly due to misconceptions about hypertension or a lack of knowledge about its impact on their health. Notably, none of the patients in the pre-test had a favourable attitude towards lifestyle modifications, which indicates a significant gap in understanding or commitment to managing their condition through behaviour changes.

Following the educational intervention, the post-test results showed dramatic improvements in the patients' attitudes. Notably, there were no participants with unfavourable attitudes in the post-test, which marks a complete shift away from any resistance to making lifestyle changes. This suggests that the educational intervention was highly effective in addressing misconceptions, reducing barriers to change, and increasing participants' understanding of the importance of lifestyle modifications for controlling blood pressure. The absence of unfavourable attitudes highlights the success of the intervention in positively influencing patient perceptions.

However, while the elimination of unfavourable attitudes was a significant achievement, the post-test results revealed that 22.85% of the participants displayed a moderate attitude toward lifestyle modifications. A moderate attitude suggests that these patients understood the importance of making lifestyle changes but were not yet fully committed or ready to take the necessary steps. This may indicate that while education increased their awareness, additional support and encouragement may be required to move these individuals toward more active and sustained behaviour change. The remaining 77.14% of participants demonstrated a favourable attitude toward lifestyle modifications, a striking increase compared to the pre-test phase, where none of the participants showed a favourable attitude. This positive shift reflects not only an improvement in knowledge but also a significant boost in motivation and confidence in making lifestyle changes to control blood pressure. A favourable attitude is a strong indicator of the potential for long-term behaviour change, as patients who are motivated and confident are more likely to adhere to health-promoting behaviours, such as dietary changes, increased physical activity, weight management, and stress reduction.

Overall, the results of the study suggest that the educational intervention was successful in altering the attitudes of IHD patients toward blood pressure control through lifestyle modifications. The significant increase in favourable attitudes, coupled with the complete elimination of unfavourable attitudes, demonstrates the positive impact of the intervention in addressing patients' knowledge gaps and resistance to lifestyle changes. The moderate attitude scores in a minority of patients indicate that while a large proportion of patients showed readiness for behaviour change, some individuals may need additional reinforcement and personalized support to fully embrace and maintain the necessary lifestyle modifications. These findings underline the importance of continued education and follow-up in improving long-term outcomes for patients with IHD and hypertension.

3. SUMMARY

In the present study the pre-test phase, the results indicated that the majority of participants (65.72%) had a neutral attitude toward lifestyle changes, with 34.28% showing an unfavourable attitude. None of the participants had a favourable attitude, suggesting a lack of awareness or commitment to making necessary lifestyle modifications.

Following the educational intervention, the post-test results revealed a significant shift in attitudes. No participants displayed an unfavourable attitude, and 77.14% showed a favourable attitude toward lifestyle modifications. This indicates a major improvement in the participants' understanding and motivation to adopt healthier habits to control their blood pressure. Additionally, 22.85% of participants had a moderate attitude, indicating that while they recognized the importance of lifestyle changes, they were not yet fully committed. Overall, the educational intervention was effective in improving the attitudes of IHD patients, moving them from neutral or unfavourable to more favourable views toward blood pressure management through lifestyle changes. These results highlight the importance of patient education in promoting long-term behaviour changes and improving cardiovascular health outcomes. However, further support may be necessary for some patients to fully transition to consistent lifestyle modifications.

4. CONCLUSION

This pilot study aimed to assess the effectiveness of health education in improving the attitude of Ischemic Heart Disease (IHD) patients towards blood pressure control, with a specific focus on comparing attitude scores before and after the educational intervention. The study involved a sample of 35 IHD patients who were informed about the objectives of the study, and a strong rapport was built with each participant before administering attitude scales. The results from this pilot study indicated a significant positive impact of the educational intervention on the attitudes of IHD patients toward blood pressure control. On average, participants showed a **34.10% increase in their attitude scores** in the post-test compared to the pre-test. This substantial improvement in attitude scores suggests that the health education provided to the participants successfully enhanced their awareness, knowledge, and willingness to adopt lifestyle modifications aimed at controlling blood pressure. The increase in positive attitudes toward blood pressure management is an important step, as attitudes are often closely associated with the adoption of health-promoting behaviours.

The study's findings support the idea that health education plays a crucial role in improving the understanding and motivation of patients with IHD to manage their blood pressure effectively. The significant increase in favourable attitudes post-intervention aligns with previous research that has shown that educational programs can help patients better understand the importance of managing risk factors like hypertension in preventing further cardiovascular complications. Given that hypertension is a leading contributor to cardiovascular disease-related deaths globally, improving patient attitudes toward blood pressure control is a vital component of primary and secondary prevention efforts. Additionally, this pilot study highlights the potential for wider application of health education programs in hospital settings, where they can be integrated into routine care for patients with cardiovascular conditions. The 34.10% increase in attitude scores further suggests that such educational interventions can be a relatively simple, low-cost strategy to improve patients' outlook on their health and encourage proactive participation in lifestyle changes, such as modifying diet, increasing physical activity, and adhering to medication regimens.

However, it is important to acknowledge that this study is a pilot with a small sample size, and the findings may not be fully generalizable to all IHD patients or healthcare settings. The sample size and study design limit the ability to draw broad conclusions about the long-term effects of the intervention on behavior change or clinical outcomes. Future research with larger, more diverse populations and longer follow-up periods will be necessary to confirm the sustained impact of health education on improving both attitudes and actual health outcomes in IHD patients.

In conclusion, this pilot study demonstrates that health education has a significant and positive effect on the attitudes of Ischemic Heart Disease patients toward blood pressure control. The 34.10% improvement in attitude scores after the intervention reflects the potential for educational programs to enhance patient engagement and improve adherence to hypertension management strategies. By fostering a positive attitude towards blood pressure control, these programs can contribute to reducing the overall burden of cardiovascular diseases and improving patient outcomes. Further studies are needed to explore the long-term effects of such interventions and their impact on patient behaviour and health outcomes.

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