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A Study to Assess the Effectiveness of Structured Teaching Program on Knowledge regarding Prevention and Control of Hyperlipidaemia among the Cardiac Patients in SVMCH & RC Puducherry

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Abstract: ***A quantitative research approach using a pre - experimental pre - test and post - test design was adopted to assess the effectiveness of a structured teaching program on knowledge regarding the prevention and control of hyperlipidemia among cardiac patients. This study was conducted at SVMCH&RC, Puducherry, with a sample size of 50 cardiac patients aged 40 - 60 years, selected through a convenience sampling technique. Demographic data were collected, and a structured questionnaire was administered to evaluate participants' knowledge levels before and after the intervention. In the pre - test, 24 (48%) of the participants had below - average knowledge, while 23 (46%) demonstrated average knowledge. Following the structured teaching program, post - test results showed that only 5 (10%) had below - average knowledge, while 26 (52%) attained average knowledge. The pre - test mean knowledge score was 6.7 ± 1.51, whereas the post - test mean score increased to 14.96 ± 1.93. The calculated paired t - test value (t = 32.56) was statistically significant at p < 0.005, indicating a substantial improvement in knowledge levels. The findings demonstrate that the structured teaching program was effective in enhancing knowledge regarding the prevention and control of hyperlipidemia among cardiac patients. The significant improvement in post - test scores highlights the importance of educational interventions in promoting cardiovascular health.***

Keywords: Structured Teaching Program, Knowledge, prevention and control of hyperlipidaemia, cardiac patients, Puducherry

1. Introduction

Hyperlipidemia is a common biochemical abnormality with significant implications for healthcare. The emerging field of lipid research is expected to play a crucial role in shaping future medical advancements. Hyperlipidemia is often referred to as a "silent disease" due to its asymptomatic nature. Elevated cholesterol levels are strongly associated with the development of atherosclerosis, a major contributor to cardiovascular diseases (CVD), cerebrovascular diseases, diabetes, and fatty liver disease[1].

Given the widespread impact of hyperlipidemia, conducting health surveys to assess its prevalence and consequences is essential. Coronary heart disease remains the leading cause of morbidity and mortality among older adults, with hyperlipidemia being a primary risk factor[2]. Elevated serum cholesterol levels, particularly total cholesterol and low - density lipoprotein (LDL) cholesterol, have been clearly linked to an increased risk of coronary heart disease in middle - aged adults[3].

Furthermore, survey findings indicate a lack of awareness about hyperlipidemia within the general population. Addressing this gap through education and preventive healthcare measures is crucial in mitigating the risks associated with this condition[4].

2. Materials & Methods

Design: A pre - experimental group research design was adapted for the present study.

Sample Size: A sample of 50 prevention and control of hyperlipidaemia among the cardiac patients.

Sampling Technique: Convenient sampling technique was used to select the sample.

Data collection Procedure: The researcher obtained written permission from SVMCH & RC, Puducherry, before conducting the study. Confidentiality was assured to all participants to ensure their cooperation throughout the data collection process. Each participant was informed about the purpose of the study, and written consent was obtained from them, adhering to ethical research guidelines[5].

The main study was conducted over a period of four weeks. A total of 50 cardiac patients were selected using a convenient sampling method. After obtaining written consent, the participants were comfortably seated in a waiting hall. A structured questionnaire was administered to assess their pre - test knowledge regarding the prevention and control of hyperlipidaemia. The assessment lasted for 45 minutes[6].

On the following day, a structured teaching program was

conducted for the same participants. After seven days, a post - test was administered to evaluate their knowledge using the same structured questionnaire. Previous studies have shown that educational interventions significantly improve awareness and self - management of hyperlipidaemia among cardiac patients[7]. Throughout the data collection process, all participants cooperated well, reinforcing the feasibility of educational strategies in improving health literacy on cardiovascular risk factors[8].

3. Results

The table presents the frequency and percentage distribution of demographic variables among the study participants. Regarding age, the majority of cardiac patients, 17 (34%), were in the age group of 46–50 years, followed by 14 (28%) in the 40–45 years group, 11 (22%) in the 56–60 years group, and 8 (16%) in the 51–55 years group. In terms of gender, most cardiac patients were female, comprising 32 (64%), while male patients accounted for 18 (36%).

With respect to religion, 25 (50%) of the participants were Hindu, 14 (28%) were Muslim, 10 (20%) were Christian, and 1 (2%) belonged to other religious groups. Regarding educational qualifications, 16 (32%) of the cardiac patients had completed higher secondary education, 11 (22%) were graduates, 10 (20%) had completed post - graduation, and 13 (26%) were illiterate.

Regarding occupation, the majority of the participants, 19 (38%), were private employees, followed by 13 (26%) who were daily wage earners, 10 (20%) who were unemployed, and 8 (16%) who were government employees. In terms of monthly family income, 15 (30%) of the participants earned above ₹15, 000, 13 (26%) earned between ₹10, 001–15, 000, 13 (26%) earned below ₹5, 000, and 9 (18%) had an income between ₹5, 001–10, 000.

In terms of residence, the majority of participants, 14 (28%), lived in semi - urban and semi - rural areas, 13 (26%) lived in rural areas, and 9 (18%) resided in urban areas. Regarding dietary habits, 3 (6%) of the patients followed a vegetarian diet, while 47 (94%) consumed a non - vegetarian diet.

Regarding the previous history of high cholesterol, 29 (58%) of the patients had a history of high cholesterol, whereas 21 (42%) did not. Among those with high cholesterol, 16 (32%) managed it through diet control, 13 (26%) through exercise, 14 (28%) through medication, and 7 (14%) through other means[9].

4. Effectiveness of Structured Teaching Program

In the pre - test assessment of knowledge regarding the prevention and control of hyperlipidaemia among cardiac patients, 24 (48%) had below - average knowledge, and 23 (46%) had average knowledge. However, in the post - test, following the intervention, only 5 (10%) had below - average knowledge, while 26 (52%) demonstrated average knowledge (Figure 1).

The comparison of pre - test and post - test scores revealed that the pre - test mean score was 6.70 with a standard deviation (SD) of 1.515, whereas the post - test mean score was 14.96 with an SD of 1.937. The calculated ‘t’ value was 32.56, which was greater than the tabulated value at $p < 0.05$, indicating statistical significance. Therefore, the research hypothesis (H_1) was accepted, confirming that the structured teaching program was effective in enhancing knowledge regarding the prevention and control of hyperlipidaemia among cardiac patients.

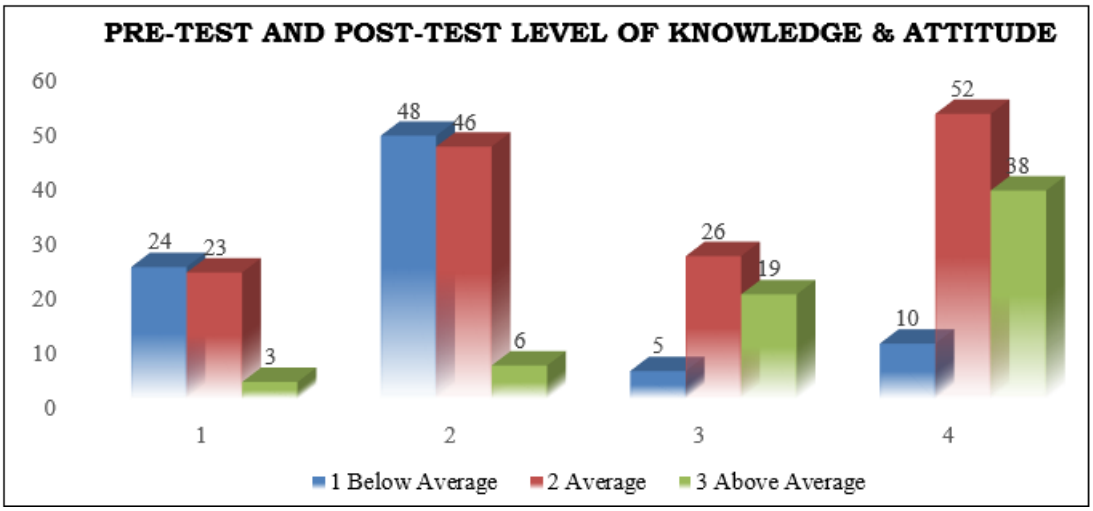

Figure 1: Percentage distribution of pre - test and post - test level of knowledge regarding prevention and control of hyperlipidemia with cardiac patients

Table 1: Comparison of pre - test and post test scores of effectiveness of structure teaching programme on knowledge regarding prevention and control of hyperlipidemia

Variables	Mean	S. D	Paired 't' test & Value
Pre - test	6.70	1.515	t= 32.56
Post - test	14.96	1.937	p=0.05*, S***

***p<0.005, S – Significant

5. Discussion

A pre - experimental research design was used to select the sample. A total of 60 mothers with under - five children were selected using a convenience sampling technique. The primary aim of the study was to assess the effectiveness of an Information, Education, and Communication (IEC) package on improving knowledge among mothers regarding child safety measures.

The first objective was to assess the knowledge regarding prevention and control of hyperlipidemia among the cardiac patients The study aimed to assess the level of knowledge regarding the prevention and control of hyperlipidemia among cardiac patients. In the pre - test, the majority of cardiac patients, 24 (48%), had below - average knowledge. After the intervention, the post - test results indicated that the majority of cardiac patients, 26 (52%), had average knowledge.

The second objective was to estimate the effectiveness of structured teaching program on knowledge regarding prevention and control of hyperlipidemia among the cardiac patients. To evaluate the effectiveness of the structured teaching program, pre - test and post - test scores were compared. The pre - test mean score was 6.70 with a standard deviation (SD) of 1.515, whereas the post - test mean score increased to 14.96 with an SD of 1.937. The calculated 't' value was 32.56, which was greater than the tabulated value at $\mathbf{p < 0.05}$. Hence, the research hypothesis (H_1) was accepted, confirming that the structured teaching program was effective in improving knowledge regarding the prevention and control of hyperlipidemia among cardiac patients.

The third objective was to find out the association between the knowledge regarding prevention and control of hyperlipidemia among the cardiac patients with the selected demographic variables. The study also aimed to determine the association between knowledge regarding the prevention and control of hyperlipidemia among cardiac patients and selected demographic variables. A significant association was found between knowledge and age ($\mathbf{p < 0.05}$). However, no significant association was observed between knowledge and other demographic variables.

6. Conclusion

Based on the study findings, it was concluded that the structured teaching program was highly effective in improving knowledge regarding the prevention and control of hyperlipidemia among cardiac patients. The results demonstrated a significant increase in post - test knowledge scores, confirming the effectiveness of the intervention. Therefore, the research hypothesis (H_1) was accepted.

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