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Lifestyle Interventions Reduce Coronary Artery Disease Among the High Risk Group

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Abstract

A pre-experimental evaluatory approach was used for this study. The study was carried out in the selected community of Greater Noida, U.P. India. The research design was pre-experimental, one group pre-test post-test design. The sample comprised of 40 high risk subjects. The data was analyzed using descriptive and inferential statistics. Paired 't' test was used to find the effectiveness of self-instructional module (SIM) and chi-square was used to find the association of pre-test knowledge score w. The results of this study showed that participants in general lacked knowledge on coronary artery disease (CAD) and especially on prevention aspect. The mean knowledge score was 10.56. There was a marked gain in mean knowledge score after administration of SIM (23.54). The difference in mean knowledge score was statistically significant at 0.05 level of significance (t_{49}=23.35). There was no significant association between pre-test knowledge score and selected demographic variables such as age (χ^2_1=0.260), gender (χ^2_1=1.212), educational qualification (χ^2_1=0.0035), frequency of exercise performed per week (χ^2_4=7.860), type of exercise performed (χ^2_4=3.100), personal habits (χ^2_3=5.007), and dietary habits (χ^2_3=2.237) at 0.05 level of significance. The findings of this study support the need for conducting health camps and awareness programme on CAD and its prevention in the selected community. The study proved that the subjects had poor knowledge on CAD and its prevention before the administration of SIM. Their knowledge improved to a remarkable extent after the utilization of SIM. The findings of this study shows that the SIM was effective in terms of gaining knowledge on CAD and its prevention among the high risk subjects (t_{49}=23.35, P<0.05).

Keywords: *Coronary artery disease, high risk subjects, effectiveness, self-instructional module, evaluatory approach.*

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INTRODUCTION

Over the past two centuries, the industrial and technological revolutions and their associated economic and social transformations have resulted in dramatic shifts in the diseases responsible for illness and death. Cardiovascular disorder has emerged as the dominant chronic disease in many parts of the world[1]. Improper diet, lack of exercise, excessive stress, smoking, high cholesterol, triglycerides, high blood pressure, diabetes and overweight/obesity are the major causes of heart problems. In some cases, heart problems could be hereditary[2]. Sedentary lifestyle is associated with a greater risk of the development of early coronary heart disease (CHD). Physical inactivity is an independent risk factor for CHD and roughly doubles the risk[3–6]. The risk for cardiovascular diseases increases with sedentary lifestyle. The aim of this study is to evaluate the effectiveness of self-instructional module (SIM) on the

knowledge of coronary artery disease (CAD) and its prevention among the high risk group people residing in the selected community of Greater Noida, U.P. India.

PROBLEM STATEMENT

A study to assess the effectiveness of SIM on the prevention of CAD among high risk individual living in selected community of Greater Noida, U.P. India.

OBJECTIVES OF THE STUDY

1. To assess the pre-test level of knowledge regarding prevention of CAD among high risk group living in the selected community of Greater Noida, U.P., India.
2. To assess the effectiveness of information booklets regarding prevention of CAD among high risk group living in the selected community of Greater Noida, U.P. India.
3. To assess the post-test knowledge regarding the prevention of CAD among high risk group living in the selected community of Greater Noida, U.P., India.
4. To assess the association between post-test knowledge of patient with selected demographic variables.

HYPOTHESIS

H1: The mean post-test knowledge score of group on prevention of CAD will be significantly more than mean pre-test knowledge score of the same group. H2: There will be significant association between the post-test knowledge and selected sociodemographic variables of patient with any disease regarding prevention of CAD.

CONCEPTUAL FRAMEWORK

A conceptual framework is a theoretical approach to the study of problems that are scientifically based and emphasizes the selection, arrangement and classification of its concepts. A conceptual framework states functional relationship between events and is not limited to statistical relationships. This study is intended to evaluate the effectiveness of SIM in terms of improving the knowledge of bank employees on CAD and its prevention. The conceptual framework of the present study is based on general systems theory with input, process, output and feedback. This theory was introduced by Ludwig Von Bertalanffy in 1968. According to the systems theory, a system is a group of elements that interact with one another in order to achieve the goal. An individual is a system, because he/she receives input from the environment. The input when processed provides an output. This system is cyclical in nature and continues to be so, as long as the input process, output and feedback keep interacting. If there are changes in any of the parts, there will be change in all the parts. Feedback from within the system or from the environment provides information, which helps the system to determine whether it is meeting its goals[4–7].

In the present study, these concepts can be explained as follows:

Input

Input refers to the information, energy or matter which enters the system.

The high risk people of selected community are a system and have inputs within the system itself and acquired from the environment. This input includes individual's background like age, gender, educational qualification, exposure to different types of mass media, interest of the learner and SIM on CAD and its prevention which may influence the knowledge of the high risk group.

Process

It refers to the action needed to accomplish the desired task. To achieve the desired output, i.e., to evaluate the effectiveness of SIM on CAD and its prevention, the following process is adopted:

1. Assessment of knowledge of the high risk group with the help of knowledge questionnaire.
2. Preparation and validation of SIM on CAD and its prevention.
3. Administering the SIM.
4. Assessing post-test knowledge using the same questionnaire.

Output

Output refers to the end result or product of the system.

In the present study, evaluation of the effectiveness of SIM on CAD and its prevention is the output that may also be regarded as the product of the process. This is achieved through a comparison between pre- and post-test knowledge scores of the subjects.

METHODS

A pre-experimental evaluatory approach was used for this study. The study was carried out in the selected community of Greater Noida, U.P., India. The research design was pre-experimental, one group pre-test post-test design. The sample comprised of 40 high risk subjects. The community area was selected by convenience sampling technique and high risk subjects were selected by purposive sampling technique. The data collection was done from 01/02/14 to 23/02/14. Formal written permission was obtained from the authorities to conduct the study and an informed consent was obtained from the subjects prior to the data collection process. Data were collected by administering a structured knowledge questionnaire before and after the administration of SIM. Post-test was conducted on 7th day using the same structured knowledge questionnaire. The data was analyzed using descriptive and inferential statistics. Paired 't' test was used to find the effectiveness of SIM and chi-square was used to find the association of pre-test knowledge score with selected demographic variables.

Study group	Pre-test	Intervention	Post-test
	Administration of structured knowledge questionnaire	Administration of information booklet	Administration of structured knowledge questionnaire
High risk group	**O_1**	**X**	**O_2**

RESULTS

The results of this study showed that participants in general lacked knowledge on CAD and especially on prevention aspect. The mean knowledge score was 10.56. There was a marked gain in mean knowledge score after administration of SIM (23.54). The difference in mean knowledge score was statistically significant at 0.05 level of significance (t_{49} =23.35).

There was no significant association between pre-test knowledge score and selected demographic variables such as age (χ^2_1=0.260), gender (χ^2_1=1.212), educational qualification (χ^2_1=0.0035), frequency of exercise performed per week (χ^2_4=7.860), type of exercise performed (χ^2_4=3.100), personal habits (χ^2_3=5.007), and dietary habits (χ^2_3=2.237) at 0.05 level of significance (Figure 1).

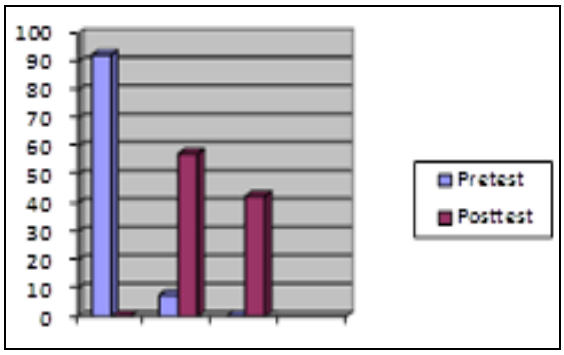

Fig. 1: *Percentage Distributions of Respondents on Pre- and Post-test Knowledge Level.*

INTERPRETATION AND CONCLUSION

The findings of this study support the need for conducting health camps and awareness programme on CAD and its prevention in the selected community. The study proved that the subjects had poor knowledge on CAD and its prevention before the administration of SIM. Their knowledge improved to a remarkable extent after the utilization of SIM. The findings of this study shows that the SIM was effective in terms of gaining knowledge on CAD and its prevention among the high risk subjects (t_{49}=23.35, P<0.05).

RECOMMENTATION

Based on the finding of the study, the investigator proposes the following recommendations for future research:

1. The study can be replicated on larger samples in different settings to have a wider applicability by generalization.
2. A similar study can be carried out with other experimental research design to find out the effectiveness of structured teaching programme regarding prevention of CAD in terms of knowledge among the high risk subjects.
3. Similar study can be conducted by using different teaching strategies like informational booklet or structure teaching programme.
4. A study can be conducted to evaluate the effectiveness of self-instructional guide (SIG) in the form of pictorial booklet for illiterate group.

SUMMARY

This chapter deals with the summary of study undertaken, conclusion drawn from the findings, implication of the study in various areas of nursing, limitations of the study and recommendations for the future research.

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