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A Study to Assess the Effect of Disseminating Information Using a Developed Storybook on Knowledge Regarding Coronary Artery Disease (CAD) by School Student in Selected Schools of Mumbai

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RESEARCH ABSTRACT

Background: Early awareness and preventive measures will help to reduce the incidence of CAD and myocardial infarction among the young adults which is in a rising trend. Objective: The aim of the study was to assess the effect of disseminating information using a developed storybook on knowledge regarding (CAD) by school student in selected schools of Mumbai. Methods: A descriptive two group pre test post design was conducted in selected schools in Mumbai, India. 410 students answered a self reported questionnaire. Observation of information dissemination of 210 students was also done. Descriptive and Inferential statistics were used to analyze the data. Results: It was observed that the scores in the post test of the group I students had improved markedly in all the areas of CAD after reading the book. It was seen that there was a significant improvement in the knowledge scores in post test of the group II students after dissemination of information by group I students. Thus the knowledge score of group I was significantly higher than the knowledge score of group II which shows that group I knowledge was enhanced due to the use of storybook hence proving the effectiveness of storybook. Conclusion: The storybook was helpful in creating awareness among the students regarding CAD and its preventive measures and is a effective method in spreading of information among the students

Keywords: Effect, Dissemination, Information, Storybook, Knowledge, Coronary Artery Disease, School student

OBJECTIVES OF THE STUDY

1. To develop and validate the storybook.
2. To assess the level of knowledge among the students in group I of selected school in Mumbai in relation to CAD before and after reading the storybook.
3. To observe the information dissemination provided by the group I students to group II students regarding CAD.
4. To assess the level of knowledge among the students in group II of selected school in Mumbai in relation to CAD before and after the information dissemination by group I students.
5. To compare the knowledge scores of students in group I and group II.

INTRODUCTION

As per the World Health Organization, Coronary Vascular Disease (CVDs) are the number one cause of death globally: more people die annually from CVDs than from any other cause. An estimated 17.5 million people died from CVDs in 2012, representing 31 percent of all global deaths. Of these deaths, an estimated 7.4 million were due to coronary heart disease and 6.7 million were due to stroke. Over three quarters of CVDs deaths take place in low- and middle-income countries. Out of the 16 million deaths under the age of 70 due to non-communicable diseases, 82 percent are in low and middle income countries and 37 percent are caused by CVDs, World Health Organization, (2016). Ismail J, et.al (2004) conducted a study on the risk factors for CAD in young South Asian adults. A case control study was designed to determine the risk factors for premature myocardial infarction. Around 193 consecutive patients aged 15-45 years admitted to coronary care units of the National institute of cardiovascular disease were taken for the study. The results

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revealed that the mean age of the samples was 39 years. The other risk factors identified were smokers, samples using hydrogenated oil like ghee in cooking, raised fasting blood sugar, raised serum cholesterol, low income group and parental consanguinity. The study concluded that the above mentioned risk factors were associated with premature acute myocardial infarction in South Asian adults.

NEED OF THE STUDY

As per AHA statistical update, American Heart Association, (2015) i.e. heart disease and stroke statistics – 2015 update, A report from American Heart Association The most up-to-date data on national prevalence of ideal, intermediate, and poor levels of each of the seven cardiovascular health metrics are shown for adolescents and teens 12 to 19 years of age and for adults ≥20 years of age. Sr. Linet (2005) did, "A study on preparing teachers for disseminating information regarding coronary artery disease and its prevention to selected groups of community." The study was quasi experimental with multi group pre test post test design in which 50 school teachers and 200 members of community groups were selected as samples for the study using non probability convenient sampling method. The tools used for the study included planned teaching and questionnaire. The findings of the study indicated that the mean score of knowledge for teachers increased from 69.5 to 78 for students from 17.48 to 30.13, for parents from 14.68 to 28.73 for women from 15.63 to 28.68 and for club members from 16.65 to 28.85. The study findings suggested that there was a significant difference in the knowledge of selected groups of community on CAD and its prevention. Teachers were found to be effective in disseminating information. Thus the primary prevention for the disease should start from the early stage. Hence the investigator planned to create awareness among the students so that early precautions can be taken and the disease can be prevented. The investigator also felt that the students would face difficulty in understanding the pathology of a disease condition if taught in traditional lecture method. Also it will be difficult to gain their attention and make them realize the severity of the condition. Hence the investigator decided to develop a storybook on the disease condition so that it will be easy for the students to understand and awareness can be created among them about CAD.

RESEARCH APPROACH

The research approach used in this study is descriptive in nature.

RESEARCH DESIGN

Two groups pretest and post test design is chosen for the study.

POPULATION

In this study the population was the students studying in school.

SAMPLE

In this study the samples consisted of students of age group of 13 – 15 years of age who fulfilled the inclusion criteria from the selected school in Mumbai.

SAMPLE SIZE

In this study there were two groups. The sample size in group I was 200 students and group II consisted of 210 students.

CRITERION FOR SAMPLE SELECTION

Inclusion criteria for group I

1. Students of age group 13 – 15 years.
2. Students who are willing to participate in the study.

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Inclusion criteria for group II

1. Students of age group 13 – 15 years.
2. Students who are willing to participate in the study.
3. Students who did not participate in group I.

Exclusion criteria

1. Students not willing to participate in the study.
2. Students cannot be a part of both groups i.e. group I students cannot be a part of group II and group II students cannot participate in group I.

SAMPLING TECHNIQUE

In this study purposive sampling technique is used.

TOOL

The following tools were developed for this study.

1. Structured questionnaire
2. Storybook
3. Observation checklist

TECHNIQUE

The techniques used in this study were

1. Self reporting
2. Observation

VALIDATION OF THE TOOL

The content validity of the tool was done by 13 experts from various fields of cardiac medicine, surgery and nursing, English expert and statistician. Necessary modifications were done after obtaining their suggestions and then the tool was finalized after discussion with the guide.

RELIABILITY OF THE TOOL

In this study, reliability of the structured questionnaire was done by using the Cronbach's alpha method of internal consistency. The reliability of the tool was 0.67 which is acceptable.

Reliability of the observation checklist was assessed by using the Spearman's rho formula and the reliability of the observation checklist obtained was 0.97 which is acceptable.

PILOT STUDY

The pilot study was conducted on 41 students from 8th August, 2016 to 20th August, 2016. Informed consent was taken from both the students and the parents. Pretest and post test was given to the students of group I and group II respectively with the gap of seven days. To group I students the storybook was distributed and the investigator read out the book to them. Information regarding CAD was disseminated by group I to group II with the help of a storybook, but the group II students were not given the storybook. Observation was done by the investigator of group I students using observation checklist. Two master trainers were selected from group I to disseminate the information to group II students. Later analysis of the data was done. The study design was found to be practical, feasible and convenient.

DATA GATHERING PROCESS

Data was collected over a period of one month from 30th August 2016 to 30th September, 2016. The investigator explained to the parents and the students of standard VIII and IX the purpose of the study and informed consent was taken. First pretest was given to the students of group I, followed by which the storybook was distributed to them and the investigator read out the storybook to them. On the seventh day post test was conducted. Fifteen master trainers based on the post test score and academic performance were

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selected to disseminate the information to the students of group II. Pretest was conducted of group II followed by dissemination of information by group I to group II in which the group I student read the storybook and group II students were not given the storybook. Observation was done by the investigator of group I students disseminating the information of CAD using observation checklist. The post test was conducted on the seventh day for group II members.

SIGNIFICANT FINDINGS OF THE STUDY

A. Demographic profile of group I students

Age: Out of the total students 112 students (56%) were 14 years old, 78 students (39%) belonged to the age group of 13 years and the remaining 10 students (5%) were 15 years old.

Gender: In this study, 95 students (47.5%) were male and the rest 105 students (52.5%) were female.

Education: Among the total students, who participated in the study, 120 students (60%) belonged to VIII standard and the remaining 80 students (40%) were from IX standard.

B. Demographic profile of group II students

Age: Among the total students 112 students (53.33%) were 13 years old, 75 students (35.71%) belonged to the age group of 14 years and the remaining 23 students (10.96%) were 15 years old.

Gender: In this study, 120 students (57.14%) were male and the rest 90 students (42.86%) were female.

Education: Out of the total students who participated 126 students (60%) belonged to VIII standard and the remaining 84 students (40%) were from IX standard.

C. Knowledge score of students of group I before and after reading the book.

It was observed that the scores in the post test of the group I students had improved markedly in all the areas of CAD after reading the book. The overall knowledge score improved from 65.53 percent to 97.63 percent.

D. Knowledge score of students of group II before and after reading dissemination of information by group I.

It was seen that there was a significant improvement in the knowledge scores in post test of the group II students after dissemination of information by group I students. The overall knowledge score improved from 47.24 percent to 84.95 percent.

E. Comparison of knowledge score of students of group I and group II

On comparing the knowledge scores of the post test of group I and group II it was seen that group I scored 97.63 percent and group II scored 84.95 percent. Thus the knowledge score of group I was significantly higher than the knowledge score of group II which shows that group I knowledge was enhanced due to the use of storybook hence proving the effectiveness of storybook.

F. Relationship between mean post test knowledge scores of group I with group II with regard to prevention of CAD.

The calculated value of t for the post test of group I and group II is 462.98 and 487.68 respectively which is more than the tabulated value at 0.01 level of significance. Thus the hypothesis there will be a significant difference in the post test knowledge scores of group I and group II is accepted. Thus the difference in the knowledge scores proves the effectiveness of a storybook in dissemination of information to students.

CONCLUSION

The study findings show that there is a significant difference in the knowledge scores of students of group I and group II in their pretest and post test. The storybook and dissemination of information has brought about a significant difference in the knowledge of the students regarding Coronary Artery Disease. Thus the storybook was helpful in creating awareness among the students regarding CAD and its preventive measures and is a effective method in spreading of information among the students.

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