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Assess the effectiveness of the self-instructional module (SIM) on the knowledge of coronary artery disease (CAD) and its prevention among the employees of selected banks at Gwalior

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Abstract

The WHO expert committee on prevention of Coronary Artery Disease identified a number of lifestyles and environmental factors as the underlying causes of a CAD. These risk factors may be conceptualized as modifiable and no modifiable. A sedentary lifestyle is associated with a greater risk of the development of early CHD. The risk for cardiovascular diseases increases among bank employees with a sedentary lifestyle. Therefore **Aim** of the study was to determine the level of knowledge on CAD and its prevention among bank employees before & after administration of SIM. **Material and methods** of study were as the Descriptive evaluative approach was used and the study was carried out in six selected banks in Gwalior. The research design was pre-experimental one group pre-test post-test design. The sample comprised of 50 bank employees from the selected banks. The banks were selected by convenience sampling technique whereas employees were selected by purposive sampling technique. The data collection was done from 01/10/16 to 23/10/16. Data were collected by administering a structured knowledge questionnaire before and after the administration of SIM. The data were analyzed using descriptive and inferential statistics. The study **Results** showed that bank employees, 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'$t'_{(49)}$ =23.35. Hence the findings of this study support the need for conducting health camps and awareness programme on CAD and its prevention to the bank employees. **Conclusion:** The findings of this study shows that the SIM was effective in terms of gaining knowledge on CAD and its prevention among bank employees (t_{49}=23.35, P < 0.05).

Key words: Self-instructional module, coronary artery disease

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1. Introduction

Coronary artery disease should now be considered an important public health problem due to epidemiological transition characterized by changing lifestyles and a problem related to the interplay of factors with regards to their existence, causality, and attributes. The epidemiological factors like aging and changing lifestyles, which culminate in an epidemic of non–communicable disease, is rapidly occurring in the developing countries. [1] A consistent association between sedentary lifestyle and CAD has been demonstrated in different epidemiological studies a sedentary lifestyle. The nature of their jobs was mainly writing, typing, ledger keeping, cash payment-receipt and mental activities which are usually classified as sedentary activities [2].

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Public awareness programme is the best instrument in the prevention of occurrence of CAD by helping people to take care of their own health. Although community education is the best instrument to impart knowledge providing information is not the only solution. The education must include strategies for motivation also [3] This insight leads the investigator to assess the knowledge of bank employees and to prepare and evaluate the effectiveness of SIM on CAD and its prevention. This SIM can be useful and informative to the bank employees on CAD and its prevention, which helps them to internalize their risk status, thereby motivated to bring about the desired modification in their lifestyle

Objectives

Objectives of the study were to:

1. Determine the level of knowledge on CAD and its prevention among bank employees before administration of SIM.
2. Evaluate the effectiveness of SIM in terms of gain in knowledge score among the bank employees.
3. Find out the association between the knowledge score on CAD and its prevention of bank employees with selected demographic variables.

2. Methodology

The study adopted descriptive and evaluative approach with Pre-experimental one group pre-test post-test research design.
Knowledge was tested using structured knowledge questionnaire. After the pre-test, the group received the treatment (SIM). Seven days were given for the bank employees to read and understand the SIM. Post-test was conducted on the 7^{th} day.
The setting of the study was six selected banks at Gwalior, were selected through using convenience sampling technique. Formal permission was obtained from the concerned authorities for conducting the study.
In the study, the sample consisted of 50 bank employees working in selected banks who met the inclusion criteria. While purposive sampling technique was adopted to select the subjects.

Tool

The tool consisted of baseline proforma, and structured knowledge questionnaire on CAD and its prevention, Opinionnaire on SIM.
The tool developed for the study consists of closed-ended questionnaire on knowledge of CAD and its prevention, having two-part, **Part I: Demographic proforma** It consisted of 13 items relating to demographic data of the subjects such as age, gender, educational qualification, monthly income, exposure to mass media, frequency of exercise performed, leisure time activities, type of exercises performed, personal habits, attitude towards work, periodic medical check-up, family history of CAD, and dietary habits. **Part II: Structured knowledge questionnaire on CAD and its prevention.** The investigator prepared the structured knowledge questionnaire consisting of 32 items from the areas of anatomy and physiology of heart(3), meaning of CAD(1), knowledge of CAD(2), risk factors (12), signs and symptoms(2), diagnostic measures(2), management (1) and prevention (9). Each correct answer was given a score of one. The wrong answer carried '0' marks. The total score was 32.

Reliability of the tool

The reliability of the tool was established by administering the tool to 10 bank employees who met the inclusion criteria in a selected bank at Gwalior on 16-10-2016, split half technique. Karl Pearson's correlation coefficient formula, spearman brown prophecy formulae was used to find out the reliability. The reliability was 0.885, which was statistically significant, hence the tool was found to be reliable

Preparation of the draft of SIM

The suggestions received through validation were accepted and a final draft was prepared The final draft of the SIM was included the eight areas 1.Table of contents 2.Introduction 3.General objectives of the SIM 4.Guidelines for using SIM 5.Content 6.Specific objectives 7.Exercise 8.Answer key 9.Glossary 10.References. The content was divided into 5 units. Each unit has a separate content outline, objectives, content and learning activity. The final draft was prepared in the form of a booklet which the bank employees could use easily.

Pilot study

The pilot study was conducted in a selected bank at Gwalior from 19-10-2016 to 26-10-2016. The study was conducted on 10 bank employees after obtaining the permission from the concerned authority. Data analysis was done using descriptive and inferential statistics. The findings of the study revealed that the mean post-test knowledge score (18.7%) were higher than pre-test knowledge score (11.7%). There was a significant difference between the mean post-test knowledge score and mean pre-test knowledge score (mean effectiveness=7) suggesting that the SIM was effective in increasing the knowledge of bank employees on CAD and its prevention.
The tool and SIM were found to be feasible, practicable and acceptable. No modifications were made in the tool and SIM after the pilot study. The investigator then proceeded to the main study.

Data collection procedure

The investigator obtained written permission from the concerned authorities of the selected banks prior to the collection of data. The data collection period extended from 01-10-2016 to 23-10-2016.

3. Result

Majority of the respondents (48%) were in the age group of 36-45 years and only 6% were above the age of 55. Most of the respondents were males (58%). Majority of the subjects were graduates (64%) and 36% were postgraduates. Only 16% of the subjects were receiving monthly income above Rs. 20,000 while the majority (54%) were earning between Rs. 10,000 and 20,000.Thirty-two percent of the subjects received information regarding CAD from journals and mass media. Majority (56%) had no family history of a CAD. Only 10% were exercising regularly 2-3 days per week, 8% were exercising daily, and 16% were exercising occasionally. 10% were performing indoor exercises, 14% were jogging, and 30% used to perform brisk walking. Only 5 out of 45 subjects had undergone periodic medical check-up. Among the respondents, only 20% were vegetarians consuming fried foods, while 6% were vegetarians not consuming fried foods, and 48% were non-vegetarians consuming fried foods.
Data collected prior to the administration of SIM reflected that most of the Bank employees, 34 (68%) lacked knowledge on CAD and its prevention. Only 16 (32%) of Bank employees had a score between 40-60.

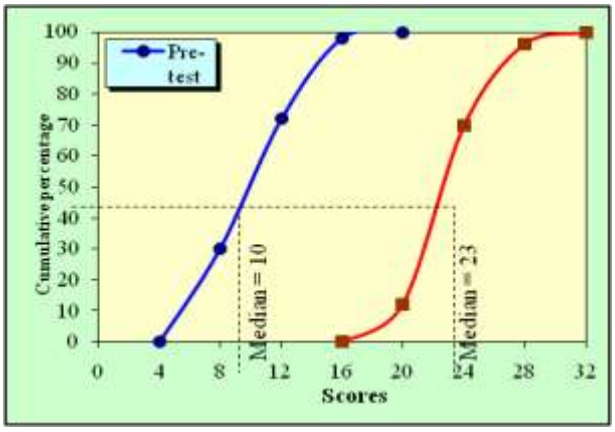

Figure No 1: Less than ogives of pre-test and post-test knowledge scores of bank employees on CAD and its prevention.

The ogive plotted shows that the post-test knowledge scores were consistently higher than the pre-test score. The gain in knowledge is shown by comparing the pre-test and post-test score at the 50th percentile. The post-test-median (23) and pre-test median (10) indicate the gain in knowledge of bank employees on CAD and its prevention after reading the SIM.

4. Discussion

- Majority of the respondents (48%) were in the age group of 36-45 years and only 6% were above the age of 55. Similar findings were noted in a prospective cohort study conducted in London to determine the association between adverse psychosocial characteristics of work and risk of CHD among 10,308 civil servants where the majority of the subjects were in the age group of 35-55 years[4]
- Only 10% were exercising regularly 2-3 days per week, 8% were exercising daily, and 16% were exercising occasionally. The finding of the study is consistent with the study conducted to determine the effectiveness of planned awareness programme on prevention of CAD among college teachers and teacher trainees of selected colleges of Udupi district, which revealed that majority (50%) of the subjects, were not engaged in any form of exercise. [5]
- Forty-six percent were not engaged in any form of exercise. A cross-sectional study was conducted to determine the prevalence of the risk factors for cardiovascular diseases among 1911 employees of a research center at Petrobras. The study findings revealed that majority of the subjects (67.3%) were not engaged in any form of exercise [6]
- The majority (88%) had a good attitude towards work, while 6% each had a bad and satisfactory attitude towards work. A prospective cohort study was conducted in London to determine the association between adverse psychosocial characteristics at work and risk of CHD among 10308 civil servants aged 35-55 years. The results revealed that men and women with lower job control had a higher risk in the work environment associated with an increased risk of developing CHD in future. [7]
- Only 5 out of 45 subjects had undergone periodic medical check-up. The finding of the study is consistent with the study conducted perception and practice of periodic medical check-up by traders in south-east Nigeria, which revealed that high level of awareness of periodic medical checkup, but a very low level of practice among this group. Effort should be made by health agencies to educate traders on various types of medical check-up, their indications and benefits, as well as its practice, encouraged. [8]
- Data collected prior to the administration of SIM reflected that most of the Bank employees, 34 (68%) lacked knowledge on CAD and its prevention. Only 16 (32%) of Bank employees had a score between 40-60. A survey was conducted in Punjab among the general population to know the awareness of heart diseases. The findings revealed that majority of the subjects (54%) had poor knowledge about CAD and 28% had no knowledge regarding CAD. [9]
- The difference between the mean post-test and the mean pre-test scores was found to be statistically

significant ('t'$_{49}$ = 23.35) at 0.05 level of significance, which shows that the SIM was effective in increasing the knowledge score of Bank employees. The finding of the study is consistent with the study Effectiveness of SIM on knowledge of primary school teachers regarding learning disorder among children in selected school at karad city. [10]

Conclusion

It is concluded from the present study, that most of the bank employees (68%) knowledge score was poor (less than 40%) before administering the SIM. After administering the SIM, it facilitated them to learn which is evident in the post-test knowledge score where majority 48 (95%) gained very good scores (above 60%).

Recommendations

The study can be repeated on a larger scale sample to validate and generalize the findings. A study can be conducted to assess the risk status for CAD among bank employees using actual risk assessment tools (ECG, blood test, blood pressure readings, etc.).A comparative study also can be conducted to assess the risk status for CAD among bank employees in rural and urban areas. A similar study can be conducted using PTP. While a follow-up study may be taken to determine the long-term effectiveness of the SIM.

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