

Nutrition education as an integral component of management of modifiable risk factors of Coronary Heart Disease (CHD)

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ABSTRACT

The study was carried out on a random sample of 810 (268 male and 542 female) of age group 25-65 years. The pre-exposure knowledge level of respondents regarding general nutrition, hypertension, obesity, diabetes, diet and other risk factors of Coronary Heart Disease (CHD) were assessed by administering a three point knowledge scale. Nutrition education was imparted to the respondents with the help of various teaching aids and methods. Impact of nutrition education was assessed after an interval of 7 days of nutrition education (post-exposure knowledge). The difference between mean pre-exposure knowledge scores and mean post-exposure knowledge scores were found to be significant in all the aspects. Thus, the respondents gain significant knowledge regarding CHD after nutrition education.

Key words : Coronary Heart Disease (CHD), Risk factors, Nutrition education, Pre and post-exposure knowledge.

Coronary heart disease (CHD) is the major cause of sudden death among the adults throughout the globe. CHD is considered an important public health problem not only in the developed countries but also in developing countries like India with changing life style. Though the prevalence of CHD is increasing steadily all over, CHD among Indian is peculiar in the sense that it is more prevalent, more severe and appears at younger age also (Mitrabasu *et al.*, 2002). World Health Organization (Anonymous, 1997) predicted that by the year 2020 up to three quarters of death in developing countries would result from non-communicable disease and that CHD will top the list of killers. Lack of knowledge of the simplest facts of nutrition is at the root of a high proportion of causes of CHD. To prevent the increasing problem of CHD in India, it is undoubtedly ideal to make public aware of the alarming state of the disease by improving knowledge levels. Nutrition education is therefore needed to motivate and create public awareness to preserve healthy traditional life styles and adopt healthy dietary and lifestyle choices to reduce most of the modifiable risk factors of CHD. Present community based study was carried out in Jorhat district of Assam in order to assess the impact of nutrition education on risk factors of CHD.

METHODOLOGY

The population belonging to various socio-cultural organization *i.e.* clubs, societies and *Samities* of Jorhat district of Assam (India) were selected for the study. A representative sample of 810 respondents (268 male and 542 female) of age group 25-65 years were selected for

the purpose.

After reviewing literature on different modifiable risk factors of CHD, important messages were selected for the study. The contents were disseminated through different visual aids. The contents, aids and methods used in the nutrition education programme are presented in Table 1. The visual aids were prepared keeping in mind the content of the messages to be conveyed to the target population.

Construction of data collecting instruments:

Two research tools were constructed for the study. A questionnaire was prepared to study the socio-economic characteristics of the respondents such as age, gender, educational qualification, occupation, religion, type of work engaged, food habit and also presence of specific disease like hypertension, diabetes and CHD.

Secondly a three point knowledge scale was adopted as followed by Saho (1997) for the study which consisted of statements that mainly dealt with knowledge of the respondents regarding general nutrition, hypertension, obesity, diabetes and statements related to diet and other risk factors of CHD like smoking, alcohol consumption, sedentary life style and stress. Prior to data collection, the knowledge scale was pre-tested on 10 number of sample in order to judge the clarity and reliability of the instrument. The pre-tested data were coded according to the order of statement of the knowledge scale.

Nutrition education:

The prepared knowledge scale was administered on the selected socio-cultural groups to assess the existing

Contents	Aid used	Methods used
1. Heart and Coronary Heart Disease – An introduction	Chart, folder	Lecture
2. Risk factors of CHD	Poster	Lecture
a) Non-modifiable risk factors	Folder	Lecture
b) Modifiable risk factors	Poster, chart	Lecture
3. Management of risk factors of CHD		
a) Control of diabetes by modifying diet and lifestyle	Chart, leaflet	Lecture
b) Control of obesity and hypertension through modification of diet and changing lifestyle	Chart, folder	Lecture
4. Foods to be avoided and included for healthy heart	Chart, poster	Live demonstration
5. Some useful advices for healthy heart and good health	Chart, leaflet	Discussion
6. Food as medicine for heart, high blood pressure and diabetes	Chart	Discussion
7. Some food facts	Chart	Discussion

knowledge of the respondents on the risk factors of coronary heart disease prior to nutrition education. Nutrition education was imparted through suitable audio and visual aids. Audio aid public address equipment (loud speaker) was used depending upon the infrastructure facilities of the organizations. Visual aids like, chart, poster, leaflet, folders were used to combine with lecture and discussion method. Live demonstration was also used for better understanding of the respondents regarding food to be included and avoided for healthy heart. The leaflets and folders purposively prepared for CHD and management of its risk factors were distributed to the respondents.

The knowledge scale adopted was again administered at an interval of one week after imparting nutrition education to assess the post-exposure knowledge. Impact of nutrition education in terms of gain in knowledge by the respondents was tested using 'Z' test.

RESULTS AND DISCUSSION

To observe the impact of nutrition education on the respondents, knowledge scores on all the aspects under risk factors and overall knowledge of the respondents were subjected to mean score analysis, pre-exposure and post-exposure to nutrition education. The mean score

values of pre-exposure and post-exposure were tested with 'Z' test and the results are presented in the Table 2.

Table 2 reveals that the mean pre-exposure knowledge scores of the respondents were low. Hence, nutrition education was imparted to enrich knowledge levels of the respondents. The results reveal that the difference between mean pre-exposure knowledge scores and mean post-exposure knowledge scores were found to be significant in case of all the aspects. There was an increase in the knowledge scores of the respondents in all the given aspects which included general nutrition, hypertension, obesity, diabetes, diet and other risk factors and overall knowledge, which indicated a significant gain in knowledge by the respondents at post-exposure. The result is in accordance with Venkataramanamma and Khader (2002) that nutritional education programme has a positive impact on the nutrition knowledge levels of the fisher women who had low (33%) to average (50%) gain in knowledge. Similar study done by Mehta *et al.* (1989) revealed that diet counseling definitely improved the knowledge of the diabetic patient and Abraham and Jagannath (1989) stated that considerable changes can be achieved through diet counseling programme in obese cardiovascular patient. The result is also in accordance with Puri *et al.* (1984) that nutrition education helps to initiate a change in the positive direction.

Sr. No.	Aspects	Maximum possible scores	Mean pre-exposure knowledge	Mean post-exposure knowledge	'Z' values
1.	General nutrition	10	5.28	8.71	29.98**
2.	Hypertension	6	3.40	5.24	23.22**
3.	Obesity	6	3.06	5.10	27.24**
4.	Diabetes	8	3.91	6.87	26.76**
5.	Diet and other risk factors of CHD	26	14.59	22.06	28.15**
6.	Overall knowledge	56	30.26	48.0	53.33**

** indicate significance of value at P=0.05

The results of present study indicated the impact of nutrition education on the risk factors of CHD among adult population of Jorhat, which was positive and efficient in terms of gain in knowledge.

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