

Leveraging a Static Nutrition Website to Enhance Awareness and Management of Cardiovascular Diseases

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ABSTRACT

Cardiovascular disease is a condition in which it is deals with irregular performance of the heart due to single or several reasons. It is epidemic in India and also one of the major cause of the death of the people. The experiment was carried out to assess the nutritional status of the selected subjects with cardiovascular disease and creation of static website for its management. Area and subjects were selected by the investigator. Nutritional status, Socio economic status, REAP, frequency consumption of common foods, of the selected subjects were assessed and observed. A static nutritional website was created by gathering material from various sources to overcome the problem of the subjects. The website was launched and The questionnaire which comprised of 30 questions was framed to assess the nutritional knowledge attitude and practice (KAP) of the selected subjects. Nutrition education was given by using oral posters, catalogues and the created static nutritional website. Before and after valuation KAP of the subjects were done by using questionnaire to assess the progress of the subjects. The mean score 13 ± 2.15 obtained in pre test was increased to 21 ± 3.04 after imparting nutrition education. The gain in nutritional knowledge scores was 8 ± 0.63 and the quantum of improvement was 1.50 times..

Keywords: *nutritional assessment of subjects, static nutritional website, nutrition education, impact assessment.*

I. INTRODUCTION

Lifestyles of populations across the world have changed dramatically in the 20th century. These changes collectively termed as epidemiological transition have been brought about by a number of developments in science and technology that now affect every facet of human existence. Most human societies have moved from agrarian diets and active lives to fast foods and sedentary habits, these changes have fuelled the epidemic of obesity, diabetes, dyslipidaemia hypertension, and cardiovascular diseases (Albrink, 2011). Cardiovascular disease is a major public health issue. Rates of cardiovascular diseases are rapidly rising in India and other developing countries. Similar to the global trends, cardiovascular diseases are the leading cause of death in India, although prevalence rates vary widely across the country (Mendis, 2011). The Internet can be a powerful support for cardiovascular disease nutrition and self-management care. It is prudent for health care professionals to learn how to maximize its use with their patient population. The mass media can be regarded as powerful sources of information because they have the capability to penetrate every segment of the society. They have the ability to disseminate messages about issues, ideals and products. Furthermore, the mass media have the capacity to create awareness and knowledge about issues of national interest (Mith, 2014). The use of websites can be a thoughtful, planned component of the health care intervention. Although many people have ready access to the Internet in their home or place of employment, some people may not have access, may have limited computer skills, or may not be able to use their work computer for personal tasks. To facilitate the use of the websites presented in this article and other recommendations, it may be helpful to provide information's available to people for improving their health status and management of lifestyle changes. Some common helpful resources are the local public library, community centers, community colleges, and technical schools. Also, friends and family who own computers may be willing to help patients and public to gain Internet access (Internet World Statistics, 2012). This paper deals with giving awareness to the non nutrition students about cardiovascular disease by using created static nutrition website and assessment of impact of nutrition education.

II. METHODOLOGY

A Total of one hundred and six subjects comprising of eighty eight men and eighteen women with cardiovascular disease from three different private hospitals were selected by the investigator. Nutritional status, Socio economic status, Rapid Eating Assessment of Patients, frequency consumption of common foods of the selected subjects were assessed and observed. A static nutritional website was created by gathering material from various sources to overcome the problems of the subjects and normal individuals. The website was launched with the help of a

programmer. The questionnaire which comprised of 30 questions was framed to assess the nutritional knowledge attitude and practice (KAP) of the selected subjects. Nutrition education was given by using oral posters, catalogues and the created static nutritional website. Before and after impact of KAP of the subjects were evaluated by using questionnaire to assess the progress of the subjects.

III. RESULTS AND DISCUSSION

Table I Type Of Cardiovascular Disease Of Subjects (Multiple Responses)

S.NO	CARDIOVASCULAR DISEASE	NO	PERCENTAGE	t VALUE
1	Coronary heart disease	53	50	0.83*
2	Rheumatic heart disease	22	21	
3	Peripheral arterial disease	9	8	
4	Congenital heart disease	7	7	
5	Cerebro vascular disease	3	3	
6	Hypertensive heart disease	9	8	
7	Cardiomyopathy	3	3	

*Significant at 1% level

Table I reveals the details regarding the mean food intake of the selected subjects. The mean food intake was surplus with reference to cereals and millets (+12.6), Pulses (+12.1), Fats and oils (+ 13) for the adults. All the other food items were found to be deficit when compared to RDA

Table II Mean Value Of Food Intake Of The Subjects

S. NO	FOOD GROUPS	SUGGESTED ALLOWANCE ICMR*(g)	ACTUAL INTAKE BY SUBJECTS (ADULTS)	% EXCESS/ DEFICIT
1	Cereals and Millets	300	378	+ 12.6
2	Pulses	60	73	+ 12.1
3	Green Leafy Vegetables	100	81	-19
4	Roots and Tubers	100	78	-22
5	Other Vegetables	100	79	-21
6	Fruits	100	38	-62
7	Milk and Milk Products	300	210	-30
8	Fats and Oils	20	26	+13
9	Sugar and jaggery	20	13	-35

*ICMR, 2005

Table II reveals the details regarding the mean food intake of the selected subjects. The mean food intake was surplus with reference to cereals and millets (+12.6), Pulses (+12.1), Fats and oils (+ 13) for the adults. All the other food items were found to be deficit when compared to RDA.

The mean value of the scores obtained by before and after education of the subject is described in the Table III

Table III reveals the scores obtained by the subjects before and after education.

Table III Mean value of the scores obtained by the students

S.No	Tests	Scores
1	Pre – test	09 ± 0.71
2	Post – test	19 ± 2.88
3	Gain in scores	10 ± 0.82
4	Quantum of Improvement	1.80 times

The above table reveals the effectiveness of nutrition education among the respondents which was measured in terms of gain in scores. The mean score 13 ± 2.15 obtained in present test was increased to 21 ± 3.04 after imparting nutrition education. The gain in nutrition knowledge scores was 8 ± 0.63 and the quantum of improvement was 1.50 times. The findings of the present study was also similar with the findings of Bains et al (2009) who observed high significance gain in nutrition knowledge of adults after imparting nutrition education.

IV. CONCLUSION

From the present study, it may be concluded that proper education about the disease and healthy diet and lifestyle pattern among people makes better improvement in prevention and management of the cardiovascular disease.

REFERENCES

1. Albrink MJ, Man EB, Serum triglycerides in coronary artery disease, *ArchIntern Med* 2011; 103:4 8.
2. Mendis, R. F. Kushner, F. K. Thorp, J. Edwards, R. L. Weinsier, and C. M. Brooks, "Implementing nutrition into the medical curriculum: a user's guide," *The American Journal of Clinical Nutrition*, 2011, vol. 52, no. 2, pp. 401–403
3. Mith.G.S, *Nutrition in Medicine*, "A comprehensive online medical nutrition curriculum for training current and future healthcare professional," 2014
4. Internet World Statistics. (2012). Internet usage and population statistics for North America. Retrieved from <http://www.internetworldstats.com/stats14.html>. Bains, Kiran, inderjith sing, Manpreet kaur, *Nutrition Knowledge among adults* (2000); *Indian journal of nutrition*; Vol 48;
5. Michael Richman, *Cholesterol and Cardiovascular disease*, avi publications, 2011, Pp: 32 -33.
6. Cohn, E. A. Finkelstein, J. G. Trogon, J. W. Cohen, and W. Dietz, "Annual medical spending attributable to obesity: payer- and service-specific estimates," *Health Affairs*, 2010, vol. 28, no. 5, pp