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Study to Assess the Knowledge Regarding Lifestyle Modification among Clients with Metabolic Syndrome

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Abstract

Background

Metabolic syndrome is most significantly developed in the management of cardiovascular diseases. Prior to the development of concept of metabolic syndrome, medical professionals often treated diabetes, hypertension and dyslipidemia as separate diseases and did not relay considering the impact of the treatment of one of the these conditions on the other co-existing conditions[1]. Lifestyle modification plays a very important role in the management of metabolic syndrome. Hence the present study objective was to assess the knowledge regarding lifestyle modification among clients with metabolic syndrome.

Methodology

The conceptual framework adopted was Health Promotion Model by Pender. A non-experimental descriptive design was used, 200 clients with metabolic syndrome were selected using non-probability purposive sampling technique. Data was collected using structured knowledge questionnaire. The content validity index of the tool was 0.80 and reliability with karl pearson correlation coefficient was 0.82.

Results

The mean score of knowledge on lifestyle modification on metabolic syndrome was 48.77 with a standard deviation of 10.3, 156 clients had inadequate knowledge on lifestyle modification on metabolic syndrome.

Conclusion

The study showed 156 clients had poor knowledge, 40 had moderate knowledge and four had adequate knowledge on lifestyle modification on metabolic syndrome, this signified the need to bring awareness of lifestyle modification of clients on metabolic syndrome and it was achieved by developing the information booklet which focused on metabolic syndrome and its lifestyle modification.

Keywords: Modification among, Clients, Metabolic Syndrome

Introduction

India is on the verge of an epidemic of coronary artery diseases. The dramatic advancement in scientific technology has modernized and lead to the development of modern diseases of civilization like diabetes, coronary artery disease[1].

Metabolic syndrome is a combination of medical disorder that increases the risk of developing cardiovascular disease and type II diabetes. It is characterized by obesity, atherosclerosis, insulin resistance hyperinsulinemia, hyperlipidemia, essential hypertension, diabetic mellitus and coronary artery disease[2].

The National Cholesterol Education Program, Adult treatment panel III (NCEP, ATP III) guidelines recommended five clinical criteria to be diagnosed as metabolic syndrome. It is identified on the basis of the presence of three or more components in the NCEP, ATP III criteria[3]:

1. Central obesity- waist circumference over 102 cm in men and over 88 cm in women.
2. Elevated triglycerides $\geq$ 150 mg/dl
3. Reduced HDL cholesterol, male < 40 mg/dl, female < 50 mg/dl
4. Elevated blood pressure $\geq$ 130/85 mm of Hg or use of antihy.

Metabolic syndrome affects 12% of children, 20% of adults and 50% of older adults. Metabolic syndrome affects a large number of people; the prevalence increases with age[4]. Metabolic syndrome is becoming more common due to a rise in obesity rates among adults.

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In the future, metabolic syndrome may overtake smoking as the leading risk factor for heart diseases[5]. Metabolic syndrome is a precursor of diabetes and common pathogenic mechanism for the development of coronary artery diseases[5]. People with metabolic syndrome have a 30% to 40% probability of developing diabetes, coronary artery diseases within 20years, depending on the present of number of components of metabolic syndrome[3].

It is possible to prevent or delay metabolic syndrome, mainly by lifestyle changes. A healthy lifestyle is a lifelong commitment. Successfully controlling of metabolic syndrome requires long term effort and team work of health care professionals[5].

The Chennai urban rural epidemiology study reported that physical inactivity is associated with the components of metabolic syndrome and coronary artery disease in the urban south Indian population. Lifestyle changes focus on increasing physical activity could help to prevent the exploding epidemic of metabolic syndrome and coronary artery disease in India. This kind of disproportionate epidemic among the young Indians cause tremendous number of work days lost at a time when India is experiencing a dizzying economic boom and needs a healthy populace to sustain this boom. Hence the early identification of risk individuals and appropriate intervention in the form of weight reduction, changes in dietary habits and increased physical activity could greatly help to prevent, or at least delay the onset of cardiovascular disease and thus reduce the burden due to non communicable disease in India[6].

Lifestyle modification includes therapeutic lifestyle change focusing on regular physical activity, optimum diet and weight maintenance in the prevention and treatment of metabolic syndrome[7].

Lifestyle intervention is vital to halt the progression of metabolic syndrome. Such action will reduce morbidity and mortality in adulthood[8]. Most individuals with metabolic syndrome are unaware of their condition and their knowledge regarding lifestyle modification must be assessed[9]. The more the people comprehend their disease and how to manage it, the more likely they will be able to control it well and prevent its devastating complications[10].

Objective of the study
- To assess the level of knowledge regarding lifestyle modification among clients with metabolic syndrome.
- To find the association between the level of knowledge regarding lifestyle modification on metabolic syndrome and selected demographic variable.
- To develop the information booklet on metabolic syndrome and its lifestyle modification.

Methodology
A non-experimental descriptive design was used for 200 client with metabolic syndrome selected with non probability purposive sampling technique. A structured knowledge questionnaire was designed which included 10 items demographic variables such as age, gender, education status, religion, monthly income, residence, work pattern, dietary pattern, family history of disease and family relation and 30 items objective type questionnaire on metabolic syndrome and its lifestyle modification. The designed tool was valid and reliable.

Results
Description of Demographic Variables
- The study found that 45% of clients were in the age group of 51-60 years and 24% of clients were more than 60 years. This revealed that major portion of client were at old age group which is most venerable age for developing metabolic syndrome.
- 68% of clients were males and 32% of clients were females.
- Most of the client's 70% were residing in the urban area and remaining were dwelling in rural area.
- The study found that 41% of clients were living in nuclear type of family, 34% of clients were living in joint family and 25% of clients were third generation family.
- The study revealed that major portion of clients were having no formal education and only 15% of them were graduated.
- 48% clients were belonging to Hindu religion, 25% and 27% were belonging to Muslim and Christian religion respectively.
- 54% were earning more than 10,000 rupees per month.
- Majority 45% of clients were doing moderate work; this implies that these clients had less physical activity and were at high risk to develop metabolic syndrome.
- 33% of the clients have complaint that they had family history of metabolic syndrome.

Overall Knowledge Score of Client on Metabolic Syndrome and Its Lifestyle Modification
The mean knowledge score of clients with metabolic syndrome on lifestyle modification was 48.77 with a standard deviation of 10.3. The study showed 156 (78.00%) clients had poor knowledge, 40 (20.00%) had moderate knowledge and four (02.00%) had adequate knowledge on metabolic syndrome and its lifestyle modification.

Sl. No	Knowledge Score	Category	Cliens Number	Percentage
1	Inadequate	Less Than 50%	156	78.00
2	Moderate	51-75%	40	20.00
3	Adequate	More Than 75%	04	02.00
Total			200	100.00

Association between Knowledge Score Regarding On Metabolic Syndrome and Its Lifestyle Modification and Demographic Variables
The study found the significant association between family history of metabolic syndrome and knowledge score on metabolic syndrome and its lifestyle modification ($\chi^2 = 5.54\ at\ df = 1; p \leq 0.05$)

The study had not found association between age, gender, religion, educational status, monthly income, area of residence, work pattern, dietary pattern and knowledge score on metabolic syndrome and its lifestyle modification.

Develop Information Booklet on Metabolic Syndrome and Its Lifestyle Modification
The study showed that majority of the clients with metabolic syndrome had inadequate knowledge on metabolic syndrome and its lifestyle modification; an Information booklet was developed on the basis of finding of the study. This designed information booklet was readily available and enabled the

clients with metabolic syndrome to enhance their knowledge on metabolic syndrome and its lifestyle modification.

Conclusion

Metabolic syndrome is a precursor of diabetes and it is common pathogenic mechanism for the development of coronary artery disease. Knowledge of metabolic syndrome helps to modifying the lifestyle and to adopt health life pattern which prevent the risk of developing metabolic syndrome. The study focused on assessing the knowledge level of clients with metabolic syndrome on metabolic syndrome and its lifestyle modification and found inadequate knowledge about metabolic syndrome and its lifestyle modification among clients with metabolic syndrome hence the researcher developed an informational booklet to enhance the knowledge of clients on metabolic syndrome and its lifestyle modification which was effective.

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