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AWARENESS OF OBESITY AND ITS COMPLICATIONS AMONG DIABETIC WOMEN.

Medicine

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ABSTRACT

With the rising obesity epidemic lifestyle disorders are on the rise in India and in the West . Studies regarding the causes , prevention strategies and consequences are lacking in India despite numerous chronic diseases being linked to obesity. The prevalence of diabetes mellitus in Indian women is increasing and the morbidity and mortality of diabetes related complications in women is high when compared to males . Studies show that awareness, screening and treatment of diabetes of diabetes is lower in women than in men .Awareness about the causes of obesity can play a vital role in preventing its complications and can help in spreading awareness among other individuals.

Objectives of the study were to assess the knowledge and awareness about factors leading to obesity and its associated complications . It was a cross sectional observational study conducted among 100 diabetic women at Father Muller Medical college from December 2017 to May 2018.

RESULTS: Most of our patients were in 61-70yrs age group with a median age of 63 yrs . Most common factors that patients attributed to obesity were genetics followed by overating and intake of fast food and sweetened beverages . Around 76 % of our participants believed that women were more likely than men to be obese. 73 % of our patients believed that lifestyle modification could help in prevention of obesity . Diabetes (91%), respiratory diseases (84 %) and osteoarthritis/joint pains (76%) were the most commonly listed complications . Awareness about cancer leading to obesity was very poor as only 9 % identified cancer and its association with obesity . Surprisingly , only one out of the 100 participants was aware of body mass index and waist hip ratio which could be due to most of our participants belonging to the less educated group .

KEYWORDS

INTRODUCTION

Obesity is the key risk factor in natural history of noncommunicable diseases like diabetes mellitus , coronary artery disease , stroke and cancer . Worldwide it is the second biggest preventable cause of cancer after smoking, causing 3.4 million deaths and 4% of life lost .[1][2]. It has wide–reaching medical and social consequences and poses substantial economic burden on the society. Despite the importance of Obesity as pathogenetic factor in various diseases, literature regarding population awareness of obesity and its complications is scanty in India. Awareness campaigns and prevention strategies can offer a cost effective approach in preventing non-communicable diseases.

Review of literature

WHO report identified obesity as a major cause of disability and premature deaths in underdeveloped countries which has been attributed to dietary shifts and lifestyle changes. Obesity now considered as a "killer lifestyle" disease is an important cause of preventable death worldwide . Obesity is closely linked with type 2 diabetes mellitus .An estimated 25 million Indians have diabetes, and this is forecast to grow to 57 million by 2025 [1]

Currently an estimated 205 million men and 297 million women over the age of 20 are obese –a total of more than half an billion adults worldwide[3]

Type 2 diabetes mellitus, hypertension, dyslipidemia, stroke, cancer, metabolic syndrome,osteoarthritis, gynecological problems such as infertility and irregular cycles, gall bladder stones, obstructive sleep apnea, Nonalcoholic fatty liver disease are some of the very common complications associated with obesity . The health risks of obesity are not only physical but also psychological .It also leads to depression and anxiety.

A 2013 Study done in Britain in found that around 4 lakh deaths were linked to excess weight. In around 70 per cent the final cause of death was heart disease and in 20%, it was cancer. Overall, around 12% of heart disease deaths in Britain were due to being overweight, and 5.7% of total deaths from cancer were also directly caused by being overweight or obese[4]

Even in countries like India, which are typically known for high prevalence of under nutrition, a significant proportion of overweight and obese people now exists [5] As per the recent National family health survey (NFHS-3)survey, 12.6% women were either obese or overweight which was 25 % higher than the earlier survey . This number is higher in urban parts of India where atleast 23. 5% of women are overweight or obese.

Therefore with rising obesity trends it is worthwhile to know how far the population is aware of the causes, consequences of obesity and the remedies taken by the people to avoid obesity or to reduce weight. Since more women than men are overweight, it is essential to know their awareness of obesity[6]

AIM

1) To assess the knowledge on the awareness of factors leading to obesity and associated complications and prevention strategies amongst the Hospitalized diabetic women at Father Muller's Medical College, Mangaluru from December 2017.

METHOD OF COLLECTION OF DATA

This was a cross sectional study on the awareness of factors leading to obesity and its complications amongst the diabetic women availing the inpatient and outpatient services at Father Muller medical college.

A piloted pre-validated questionnaire was given to patients fulfilling the inclusion and exclusion criteria , to collect information regarding socioeconomic status , demographic profile and diabetic status of the patient and to also assess the knowledge about obesity, its risk factors and associated complications.

Inclusion criteria

1) Subjects 18 years or older willing to give an informed consent

Exclusion criteria

2) Patients directly involved with providing healthcare like nurses , doctors ,medical students.

SAMPLE SIZE

Awareness p= 57.5 %

$n= Z\alpha^2 p(1-p)/e^2$

P=0.575

e=9 %, allowable error

n=116

Method of collection of data , random sampling technique.

Data analysis

Data was entered in a Microsoft Excel and was analysed using SPSS 20

using frequency percentage and chi square test.

RESULTS

A total 100 diabetic women in the age group 31-90yrs were interviewed .

Most number of patients were in the age group of 61-70 yrs followed by 51-60 and 71-80 yrs. Median age was 63 yrs . 85 percent of the women were housewives.

Education	Frequency /percentage
No formal education	42
Primary	37
Higher primary	19
College	2

Age	Frequency /percentage
31-40	1
41-50	13
51-60	28
61-70	30
71-80	25
81-90	3

Duration of diabetes	Number
0-5 yrs	49
6-10yrs	27
11-15yrs	8
16-20yrs	11
>20yrs	5

In around 50 % of the participants the duration of diabetes was <5 yrs.

7 of the 100 diabetics consumed vegetarian diet . 52 patients had a first degree relative with diabetes .

All 100 were interviewed and a questionnaire was administered to them in English and local language kannada to assess their knowledge on obesity.

Factors contributing to obesity

68 % patients thought that obesity has a genetic factor . More than 3/4th (76%)of the participants said that women were at a higher risk of obesity than men and 9 patients thought that both women and men had equal risk of developing obesity and that its depends on the body type.

Factors	**Percentage (%)**
Genetic factors	68
Gender (males / females /equal)	15 +76 +9
Fast food /overating	61
Sweetened beverages	53
Low intake of fruits and vegetables	15
Skipping breakfast	19

61 % of the participants thought fast food intake was an important risk factor and 53 % believed increased intake of sweetened beverages and sweets could contribute to obesity . 81% and 85 % of the individuals respectively were unaware that skipping breakfast or poor consumption of vegetables and fruits in diet could play any role in obesity.

87 % participants were of the opinion that physical inactivity led to obesity and that obesity was detrimental to good health .

Around 56% participants were aware that drugs such as steroids and Oral contraceptive pills could lead to obesity.

Prevention strategies	Percentage(%)
Diet	27
Diet + Exercise	23
Exercise	23
Alternative medicine	10
Diet + alternative medicine	4
Diet + exercise + alternative	1
Surgical treatment	0

None of the patients believed that surgical treatment would help in weight reduction.

Surprisingly, only 1 individual was aware of the term body mass index and around 84 individuals believed that obesity could be detected based on the individuals appearance. 3 people thought lab parameters and weight may help in diagnosing obesity. 9 people were unaware how obesity was classified.

Complications

Diabetes (91%), respiratory diseases (84 %) and osteoarthritis/joint pains (76%) were the most commonly listed complications whereas cancer (9%)was the least commonly listed.

Complications	Percentage (%)
Diabetes	91
Respiratory diseases	84
Osteoarthritis , back pain	76
Dyslipidemia	52
Coronary artery disease	48
OSA	46
Gall stones	31
NAFLD	24
Reproductive problems and infertility	20
Cancer	9

DISCUSSION

Around 76 % of our participants agreed that women were more likely to be obese or overweight when compared to men . According to the All-India Institute of Medical Sciences survey 60 % of women in India's capital , New Delhi are suffering from abdominal obesity .[7] Intrestingly , a study done by Gregory CO et al found that men were more likely than women to disagree their body weight was a health risk.[8]

68 % of our respondents agreed that obesity had a genetic factor and 87% attributed physical inactivity as a major contributing factor to obesity. Around half of the study population agreed that dietary factors could contribute to obesity.

These results were similar to a South Indian study where physical activity (77.5%) and dietary modifications(53.6%) were listed as common contributing factors .[9]A Study conducted by Yerpude and Jogdand[10] an overwhelming majority (85.80%) of the subjects attributed diet for obesity. Tiwari *et al*.[11] found that a majority of the females considered over eating, childbirth and reduced activity as the possible causes of their obesity .

Whereas ,a study done among the youth in Georgia(USA) attributed obesity to slow metabolism and genetics , rather than alterable lifestyle behaviours , such as diet and physical inactivity.[12]

Around 74 % of our participants were aware that diet and exercise could help in prevention of obesity . The results were similar to another study done in South India which attributed physical activity at 80% followed by dietary modifications 71%[13]

The most commonly listed obesity related complications by our participants were diabetes (91%) , respiratory diseases (84%) and joint pains (76%) .

Around 91 % of our participants failed to identify cancer and its association with obesity. Obesity is associated with thirteen types of cancer including breast (postmenopausal), uterus , kidney and bowel. In a UK based study done to assess the awareness among adults only 25 % were aware as cancer being associated with obesity .[14]

99 % of our study population were unaware of the term body mass index . A Study done among the medical students in South India 40% study subjects knew what BMI was and 47% were aware that obesity could be diagnosed using BMI.[13]

In a study done among medical students at a tertiary care centre in South India a majority of the study subjects (80%) attributed obesity to physical inactivity followed by diet (71%) ,36.6% study subjects correctly identified breast and colon cancer as the cancers associated with obesity . Only 57.5% and 38.9% of the study subjects identified type 2 diabetes and Coronary artery disease to be associated with obesity respectively[14]

In a study conducted by Shrivastava et al[13] in , Tamil Nadu, 50% study

subjects correctly identified the cancers associated with obesity, 49% were aware of BMI and that it was associated with obesity diagnosis.

Women were aware of the complex nature of obesity in terms of causes, consequences and a range of potential solutions.

CONCLUSION

Most of our participants were aware about other consequences of obesity , however their awareness on cancer and its association with obesity was very low . Obesity is linked to a higher number of cancer related deaths which over a 90% of our study population failed to identify .

It is worrying that in our population of diabetics only 1 patient was aware of BMI and waist hip ratio. Studies abroad show that socioeconomic disparities and educational qualification play an important role in health knowledge.

Mass awareness programs regarding the associated complications and advice on lifestyle modifications can help combat obesity and its rising epidemic among Indian women.

Strengths of the study

Identifications of socio demographic groups in whom awareness was particularly poor is also another important observation. These groups need to be focused upon during future awareness campaigns in this setting.

Limitations

1) Small sample size
2) Population had higher category of less educated individuals

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