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RESEARCH ARTICLE

A DESCRIPTIVE CORRELATIONAL STUDY TO ASSESS THE LEVEL OF KNOWLEDGE AND PREVALENCE OF RISK FACTORS FOR OBESITY RELATED MORBIDITY AMONG ADOLESCENT GIRLS

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Abstract

Background of the Study: Adolescent Girls are high risk for weight gain, characterized by significant changes in body composition, insulin sensitivity, eating, lifestyle and behavioural adjustments and are prone to get obesity related morbidity like diabetes mellitus and heart diseases.

Objectives: To determine the relationship between knowledge and prevalence of risk factors for obesity related morbidity and with their selected demographic variables.

Methods & Materials: Descriptive correlational design, quantitative survey approach & non probability convenience sampling were used for this study. The pre obese and obese participants were selected through Body Mass Index calculation. The self-administered questionnaire for knowledge on obesity and observation checklist for obesity related morbidity were used as tools for data collection.

Results: In this study total out of 126 female adolescent girls 82 (65.07%) were pre-obese and 44 (34.92%) were obese. Majority of the adolescent girls 70 (55.5%) had moderate knowledge on obesity and only 16 (12.6%) adolescent girls had adequate knowledge, rest of 40 (31.7%) had inadequate knowledge on obesity. Polycystic ovarian disorder, thyroid problems, diabetes, anaemia, menarche, duration of menstrual period, stress management techniques, area of residence had significant association with prevalence of risk factors for obesity related morbidity at $p < 0.001$ level. Among 126 samples most of the adolescent girls 78 (61.9%) had high risk and 48 (38.09%) had moderate risk level for developing obesity related morbidity. There is a negative correlation between Knowledge score level on obesity and Prevalence of risk factors for obesity related morbidity (r value = -0.759).

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Introduction:-

Adolescent and childhood obesity are one of the major health problem for both developed and developing countries of all socio-economic groups, irrespective of age, sex or ethnicity. Understanding the links between female adolescent development, weight gain, subsequent maternal obesity, and adverse pregnancy outcomes is critical if we

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are to improve the health of future generations. One-third of all deaths globally, already stem from health problems linked to excess weight. A dramatic increase in the prevalence of adolescent obesity has occurred in most parts of the world and it has also been demonstrated in Indian school-aged adolescent girls.

Obesity among adolescent period is an issue of serious medical and social concern. In developing countries like India, it is a phenomenon seen in higher socioeconomic strata due to the adoption of a western lifestyle. Consumption of high calorie food, lack of physical activity are major risk factors for childhood obesity apart from other genetic, prenatal factors and socio-cultural practices. Obese children and adolescents are at increased risk of medical and psychological complications. Insulin resistance is commonly present especially in those with central obesity and manifests as dyslipidemia, type II diabetes mellitus, impaired glucose tolerance, hypertension, polycystic ovarian syndrome. (Ebbeling et al., 2012)

Need for the Study:

The prevalence of childhood obesity is increasing rapidly globally. It is believed that childhood obesity can lead to adulthood obesity. Children and adolescents who are obese are at greater risk for bone and joint problems, sleep apnea, social and psychological ill-health such as stigmatization and low self-esteem. It is also associated with several risk factors for later cardiovascular disease and other chronic diseases including hyperlipidaemia, hyperinsulinemia, hypertension, and early atherosclerosis. (Haleem et al., 2014)

World Global Report Geneva: World Health Organisation; 2005. Obesity is increasingly prevalent nutritional disorders not only in adults but also among children and adolescents. Numerous health risk factors have been associated with adolescent overweight and obesity including hypertension, cardiovascular diseases, respiratory diseases, diabetes, dyslipidaemia, arthritis, etc.

Adolescence is a fascinating period of life that marks the transition from being a dependent child to becoming an independently functioning adult. The changes that occur in adolescent are • Biological development (body size and shape) • Cognitive development • Self-concept and self-esteem • Sexuality • Relationship with family, peers and society. Thus, adolescence is marked as a period of growth spurt and maturation, the extent of physical growth is not determined by genetic, hereditary factors alone but also on availability of adequate nutrition, micronutrients in the diet and access to health services. In recent years, the incidence of adolescent pregnancy and childbirth is increasing due to the early onset of puberty, the declining age of menarche and early sexual activity in developed and in many developing countries. Educational levels strongly influence adolescent child bearing. Adolescent's poor information about reproduction, sexual activity and access to contraceptive services contribute to adolescent pregnancy.

Statement of the problem:

A descriptive correlational study to assess the level of knowledge and prevalence of risk factors for obesity related morbidity among adolescent girls in selected areas in Namakkal district.

Objectives of the study:-

1. To assess the knowledge regarding obesity among adolescent girls.
2. To assess the prevalence of risk factors for obesity related morbidity among adolescent girls.
3. To determine the correlation between knowledge on obesity and prevalence of risk factors for obesity related morbidity with their selected demographic variables among adolescent girls.
4. To find association between knowledge on obesity and selected demographic variables among adolescent girls.
5. To find association between prevalence of risk factors for obesity related morbidity and selected demographic variables among adolescent girls.

Hypotheses

H₁:

There is significant correlation between knowledge on obesity and prevalence of risk factors for obesity related morbidity with their selected demographic variables

H₂:

There is significant association between knowledge on obesity and selected demographic variables

H₃:

There is significant association between prevalence of risk factors for obesity related morbidity with their selected demographic variables

Operational definition:**Assess:**

In this study it refers to the statistical measurement of knowledge and factors influencing

Obesity among adolescent girls as observed from score basis on structured knowledge questionnaire.

Knowledge:

In present study knowledge refers to the correct responses of adolescent to the knowledge regarding obesity in the structured knowledge questionnaire.

Obesity:

Obesity is defined as abnormal or excessive fat accumulation that presents a risk to health. A crude population measure of obesity is the body mass index (BMI), a person's weight (in kilograms) divided by the square of his or her height (in metres). A person with a BMI of 30 or more is generally considered obese.

Adolescent girls:

In this study it is a transitional stage of physical and physiological development that generally occurs during the period from puberty to legal adulthood age group between 12-19 years.

Obesity related morbidity:

Obesity related morbidity is defined as the diseases such as hypertension, diabetes mellitus and hyperlipidemia which are measured in this study by means of checking blood pressure level, blood sugar level and blood cholesterol level.

Assumption:

1. The adolescent girls may have some knowledge about obesity.
2. Prevalence of obesity related morbidity might be due to the risk factors such as high blood pressure level, high cholesterol level and high blood sugar level.

Research Methodology:-**Research approach:**

Quantitative survey approach

Research design:

Descriptive correlation design

Study setting:

Selected rural and urban areas in Namakkal District.

Target population:

Pre obese and obese adolescent girls of selected rural and urban areas in Namakkal District.

Sampling and sampling techniques:

Non probability convenience sampling technique.

Sample selection criteria.**Inclusion criteria:**

1. The adolescent girls with the age group of 12 -19 years of age.
2. The adolescent girls who are pre-obese and obese adolescent girls
3. Those who are willing to participate in the study.
4. Those who are available at time of conducting the study.

Exclusion criteria:

1. The adolescent girls who are in treatment for obesity
2. Those who had awareness programme regarding obesity.

Selection and development of tool:

Self-administered structured knowledge questionnaire was used to assess the level of knowledge on obesity among adolescent girls and observation checklist was used to assess the prevalence of risk factors for obesity related morbidity among adolescent girls.

Description of the instrument:

The instrument consists of three segments

Section I-Socio Demographic Variables:

It includes age, course of study, weight, height, BMI, religion, area of residence, birth order, types of family, food habit preference, vegetarian, non-vegetarian, accommodation, previous experience of the hostel in school days, family history, associated disease, menstrual history, sedentary life style, time spent for exercise and sports, income, occupation of father, occupation of mother and awareness about obesity.

Section II-Knowledge regarding obesity among adolescent girls:

Self-administered structured knowledge questionnaire was used to assess the level of knowledge on obesity among adolescent girls.

Section III- Prevalence of risk factors for obesity related morbidity among adolescent girls:

Observation checklist was used to assess the risk factors such as high blood pressure level, high cholesterol level and high blood sugar level (Prevalence of risk factors for obesity related morbidity among adolescent girl).

Blood pressure apparatus (Sphygmomanometer) was used for assessing the level of BP, Blood sample was taken for assessing blood cholesterol and blood sugar level.

Reliability of the tool:

Reliability was computed and calculated using Karl Pearson's coefficient of correlation and spearman's Brown Prophecy formula. The reliability of the tool was 0.791. Hence, the tool was highly reliable to proceed for the main study.

Data analysis:

The data were analysed in term of objectives of study using descriptive statistics and inferential statistics. The plan for data analysis is followed as

1. The frequency and percentage analysis for socio demographic variables and level of knowledge on obesity.
2. Range, mean, mean score, standard deviation and mean score percentage for knowledge level on obesity and the prevalence of risk factors for obesity related morbidity among adolescent girls.
3. Chi-square test was used to find out the association between knowledge score and demographic variables.
4. Karl Pearson Correlation 'r' test was used to find out the correlation between the knowledge score on obesity and the prevalence of risk factors for obesity related morbidity among adolescent girls.

Results:-

1. In this study total out of 126 female adolescent girls 82 (65.07%) were pre-obese and 44 (34.92%) were obese according to their BMI (Body Mass Index) scores.
2. Majority of the adolescent girls 70 (55.5%) had moderate knowledge on obesity and only 16 (12.6%) adolescent girls had adequate knowledge, rest of 40 (31.7%) had inadequate knowledge on obesity.
3. Outdoor sports, associated diseases like PCOD (Polycystic ovarian disorder), thyroid problems, diabetes and anaemia, polluted environment, area of residence, birth order, types of family, attaining age of menarche duration of menstrual period, stress management techniques are having significant association with prevalence of risk factors for obesity related morbidity at $p < 0.001$ level.
4. Among 126 samples most of the adolescent girls 78 (61.9%) had high risk and 48 (38.09%) had moderate risk level for developing obesity related morbidity.

5. There is a negative correlation between Knowledge score level on obesity and Prevalence of risk factors for obesity related morbidity(r value= - 0.759) and those who are having inadequate knowledge are having high risk for morbidity due to obesity.

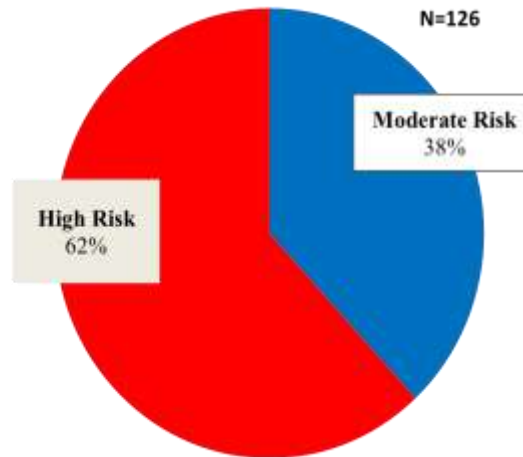


Figure 1:- Shows the prevalence of risk factors for obesity related morbidity among adolescent girls.

Out of 126 adolescent girls 38% were at moderate risk for obesity related morbidity and 62% were at high risk for developing morbidity due to obesity.

Figure: 2 shows level of knowledge score on obesity among adolescent girls

N=126

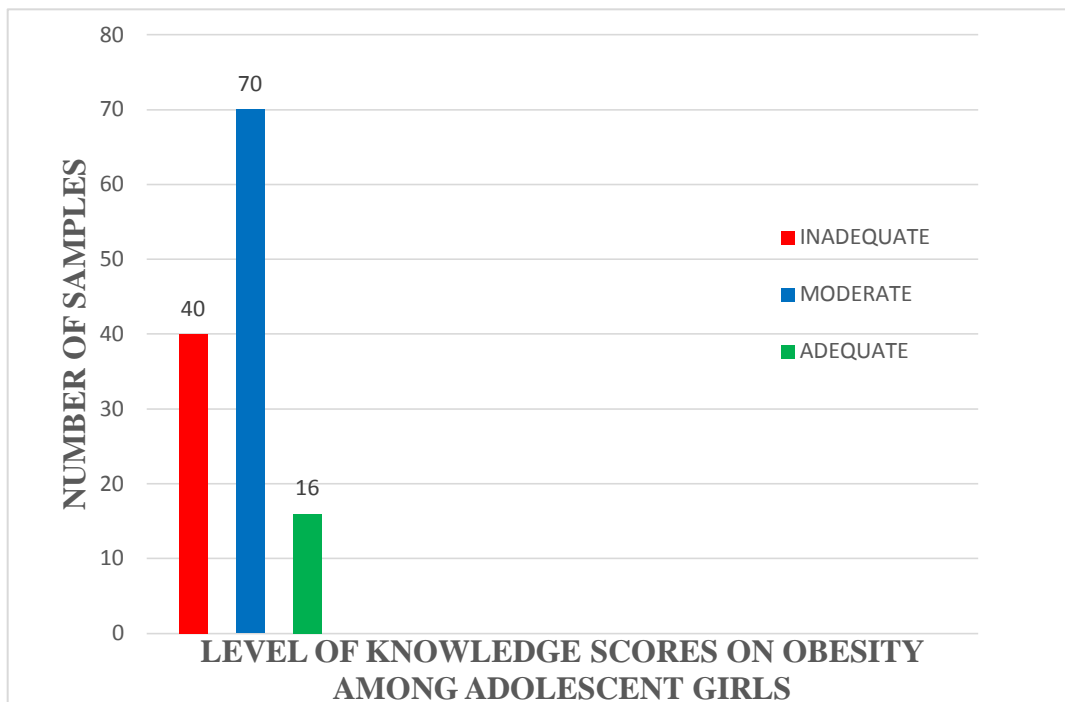


Table 1:- shows the correlation between knowledge level on obesity and prevalence of risk factors for obesity related morbidity among adolescent girls.

X values are knowledge score level of adolescent girls regarding obesity

Y values are prevalence of risk factors for obesity related morbidity

N=126

Mean value of knowledge score on obesity \bar{X}	Mean value of prevalence of risk factors for obesity related morbidity \bar{Y}	'r' value	Remarks
15.545	5.364	-0.759	Negative Correlation

Hence it is concluded that there is a negative correlation between knowledge score level on obesity and prevalence of risk factors for obesity related morbidity and those who are having inadequate knowledge are having high risk for morbidity due to obesity.

Discussion:-

The findings have shown that there is a significant negative correlation between level of knowledge and prevalence of risk factors for obesity related morbidity as Karl Pearson correlation co-efficient value 'r' value is -0.759. Hence that the research hypothesis stated earlier is retained, that is H1: There is significant correlation between the level of knowledge on obesity and prevalence of risk factors for obesity related morbidity.

In this study type of family, birth order and area of residence are having significant association with level of knowledge on obesity hence the alternative hypothesis H2: There is significant association between knowledge on obesity and selected demographic variables, was retained

In this study Outdoor sports, associated diseases like PCOD, thyroid problems, diabetes and anaemia ,polluted environment, area of residence, birth order, types of family, attaining age of menarche ,duration of menstrual period ,stress management techniques are having significant association with prevalence of risk factors for obesity related morbidity at $p < 0.001$ level, hence the alternative hypothesis H3 : There is significant association between prevalence of risk factors for obesity related morbidity and the selected demographic variables, was retained.

Conclusion:-

Changes in body composition, physical fitness, decreased insulin sensitivity, changes in diet, sedentary lifestyle, sport participation decline, risk for depression and body esteem issues among adolescent girls result in adolescent obesity. The obesity among adolescent girls warrant the attention of health care personnel to prevent the onset and continuation of obesity throughout the lifespan by means of creating mass community awareness among children and their parents and inculcating the adequate knowledge in their school curriculum regarding the causes and prevention of obesity. So that we can prevent the subsequent maternal obesity and adverse pregnancy outcomes for the future generations.

Conflict Of Interest:

There is no conflict of interest in our study.

References:-

1. Alberga, A.S.; Sigal, R.J.; Goldfield, G.; Prud'homme, D.; Kenny, G.P. Overweight and obese teenagers: Why is adolescence a critical period? *Pediatr. Obes.* 2012, 7, 261–273.
2. Ebbeling CB, Pawlak DB, Ludwig DS *Lancet*, Childhood obesity: public-health crisis, common sense cure. *Indian Journal of Paediatrics*, 21 Dec 2012, 80(4):309-317 DOI: 10.1007/s12098-012-0931-5 PMID: 23255079.
3. Haleem, A.1; Al-Rabaty, A.2 Prevalence Of Overweight And Obesity Among School Age Children In Iraq *Paediatric Critical Care Medicine*: May 2014 - Volume 15 - Issue 4_suppl - p 40 doi: 10.1097/01.pcc.0000448885.02374.33
4. Hills, A.P.; Byrne, N.M. An overview of physical growth and maturation. *Med. Sport Sci.* 2010, 55, 1–13.
5. Neumark-Sztainer, D.; Story, M.; Perry, C.; Casey, M.A. Factors influencing food choices of adolescents: Findings from focus-group discussions with adolescents. *J. Amer. Diet. Assn.* 1999, 99, 929–937.