



THE RELATIONSHIP OF BODY MASS INDEX TO DYSLIPIDEMIA- A SURVEY

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ARTICLE INFO

Article History:

Received 11th January, 2017

Received in revised form 19th February, 2017

Accepted 22nd March, 2017

Published online 28th April, 2017

Key words:

Body Mass Index, Dyslipidemia

ABSTRACT

Aim: To find the relationship body mass index (BMI) to Dyslipidemia

Objective: To explore the relationship of Body mass index and the prevalence of Dyslipidemia and to improve the early evaluation and management of risk factors associated with it.

Background: Overweight and obesity have become global epidemics and it has been suggested that they can lead to impaired kidney function. An increase in body fat is often associated with an increased risk of the metabolic diseases such as chronic kidney disease, diabetes mellitus, hypertension and dyslipidemia. Body mass index is the primary focus of any obesity treatment. The relationship between the body weight and metabolic diseases helps in a better understanding of the pathophysiological process.

Reason: To help improve evaluation and management of risk factors associated with Dyslipidemia.

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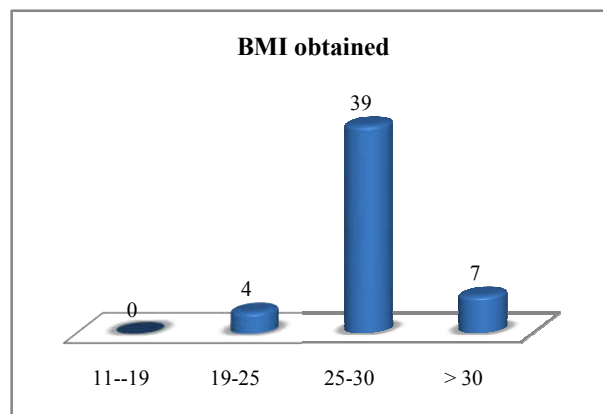
INTRODUCTION

Obesity and overweight are widespread and a growing problem in the world with significant medical, psychosocial and economic consequences [1]. Many reports indicate that the prevalence of obesity among children and adolescents has been increasing in recent years [2,3]. Defining the relationship between a person's body weight and a metabolic disease is important and helps toward a better understanding of the underlying pathophysiological processes leading to excessive fat-related metabolic disease. The Body mass index (BMI; in kg/m²) is widely used for the classification of overweight (if BMI is more than 25) and obesity (if BMI is more than 30) in men and women (8 and WHO, 1997). BMI correlates reasonably well with laboratory-based measures of adiposity for population studies [4] and is extremely practical in most clinical settings. Cardiovascular diseases are associated with risk factors such as obesity and dyslipidemia, which, if present during infancy, could continue throughout adult life [5-7]. High HDL levels are usually advised in individuals. Whereas high LDL levels are not advised especially when the HDL levels are low along with an increase in the serum cholesterol and triglycerides. In this research, the main aim is to establish the relationship between body mass index and dyslipidemia so that an early detection of any underlying metabolic disease can be identified and treated as obesity and dyslipidemia can lead to many complications like atherosclerosis, cardiovascular diseases or even other systemic diseases.

MATERIALS AND METHODS

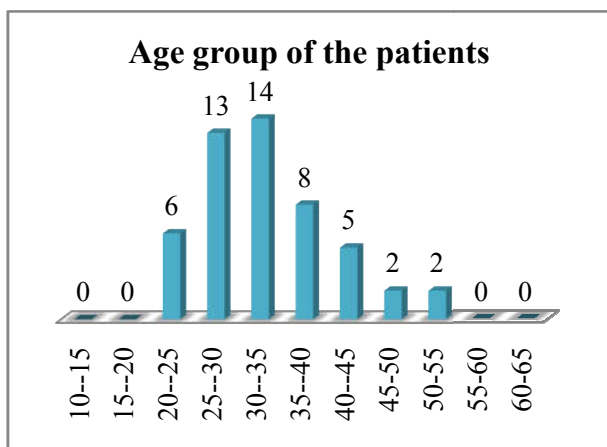
About 50 patients were selected and their height and weight were obtained. Based on this information obtained from the patient their body mass index was calculated and the results were statistically analysed. BMI was calculated in kg/m² (weight in kgs by height in metre squares). Acceptable total cholesterol level among children and adolescents is <170 mg/dL; borderline 170-199 mg/dL; and high >200 mg/dL. Acceptable LDL cholesterol value is <110 mg/dL; borderline 110-129 mg/dL; and high >130 mg/dL. HDL cholesterol value should be >40 mg/dL ideally; the higher the better. Based on the BMI obtained they were categorised as underweight, correct BMI, over weight, obese and if BMI is more than 40 they are categorised as morbidly obese.

RESULTS

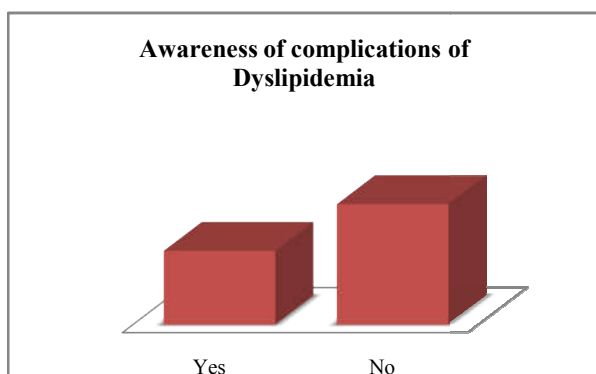


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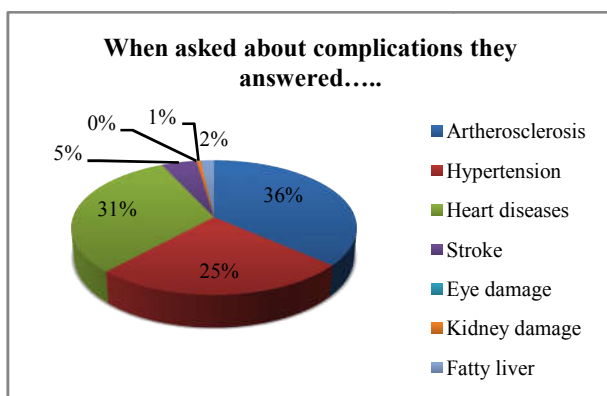
They BMI values obtained showed that 39 among the 50 patients had a higher BMI (over weight- 25-30) and 7 of them even had a BMI higher than overweight being obese.



The age group of the patient were also obtained and graphs were plotted. It was found that most of the patients were in the age group of 25-45 years of age. From this we can see that the young population is also affected by overweight and obesity. It is important to educated to them about the various ill effects of obesity and dyslipidemia.



This graph shows that not all of the patients were aware of the complications that Dyslipidemia can lead to. It is important to educate them about the various problems that could arise.



When asked about the complications that could arise 36% answered artherosclerosis, 31% answered heart or cardiovascular diseases, 25% answered hypertension, 5%, 1%, 2% answered that dyslipidemia can lead to stroke, eyedamage and kidney damage respectively. They were not aware that dyslipidemia when associated with a metabolic or systemic disease can lead a fatty liver, retinal damage etc

DISCUSSION

Obesity is associated with cluster of metabolic complications, increasing the risk hypertension, insulin resistance/type 2 diabetes, coronary heart disease, dyslipidemia, all aggregate independently with BMI, WHR and WC and improve with weight loss [9]. Dyslipidemia, a group of biochemical disorders is frequently encountered in obese individuals. Out of the 50 patients who were taken 39 of them had a higher BMI than the ideal and were mostly in the age group of 25-35 years of age this finding coincides with other studies that were performed [13]. So it is important that they are taught about the complications as they did not have much knowledge about the other complications of dyslipidemia like retinal damage, kidney damage, diabetes or fatty liver and they only knew common complications like cardiovascular disease, hypertension and artherosclerosis.

It has been suggested that BMI should be routinely assessed in primary care clinics for both adults and children in order to facilitate early identification, evaluation and treatment of obesity and its related disorders. All of the components of the dyslipidemia, including higher triglycerides, decreased HDL levels, and increased LDL particles, have been shown to be atherogenic (10). It is a critical risk factor to intercept in both the primary and secondary prevention of acute cardiovascular events (11). Dyslipidemia is very common in type 2 diabetes and the reported prevalence of dyslipidaemia varied from 25 to 60% [12].

CONCLUSION

Dyslipidaemia is directly related with BMI, showing that with the increase in the BMI the trend of dyslipidaemia rises in both females and males. The prevalence of dyslipidaemia is both age and gender dependent. The age group which is mostly affected is between 25 to 35 years of age. Awareness programs have to be conducted about the complications of dyslipidemia. It is more common in overweight and obese individuals which comprise both males and females.

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How to cite this article:

Jennifer Suhasini S and Merwin K Soman (2017) ' The Relationship Of Body Mass Index To Dyslipidemia- A Survey', *International Journal of Current Advanced Research*, 06(04), pp. 3233-3235.
DOI: <http://dx.doi.org/10.24327/ijcar.2017.3235.0233>
