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Incidence of Chronic Illnesses among Ahithoola Noi (Obese) Patients- A Case Series Study

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***Abstract*: One of the most recent health disorders of recent years includes Athithoola Noi [1] (Obesity), i.e. the health condition characterized by the presence of a BMI above 30 and the improper or irregular deposition of weight in various parts of the body. Broadly classified [2] into either android or gynoid types, these patients are also prone to several other health problems such as Diabetes, Hypertension etc. Though Athithoola Noi is a diagnosis that is seen only in classic Siddha Texts, it is now a problem of deeper concern in the modern world. Once considered a problem only in high income countries, overweight and obesity are now dramatically on the rise in low- and middle-income countries, particularly in urban settings. According to World Health Organisation, the Worldwide Obesity incidence has nearly tripled since 1975. Also, a census stated that there were as many as 41 million obese children and 340 million adolescents who were obese in the year 2016. Even though it is a preventable disease, the problem of obesity is on the increase. After obtaining informed consent, a study was conducted among 56 adult obese patients, with age between 18 and 55, who were either of the Class I or Class II Obesity Groups, to determine the rate of occurrence and the severity of other illnesses among them. An attempt has been made through this paper to document the same.**

***Keywords*: Athithoola Noi, Obesity, BMI.**

1. Introduction

'Athithoola Noi' is a disease that is characterized by the presence of symptoms such as improper deposition of fat in the body, wheeze, knee and hip joint pains on doing excessive work, etc. This condition is now correlated to the modern term, 'Obesity'. The modern determinants of obesity are the BMI and WHR. A higher BMI or WHR indicates the presence of Obesity in the concerned individual.

A. Obesity

WHO Technical Report Series has explained obesity as "a condition of abnormal or excessive fat accumulation in adipose tissue, to the extent that health may be impaired". Usually, the excessive and disproportionate fat deposition in the abdominal areas, which is in a more serious form is considered as 'android' type of obesity, while the less serious form, where there is even distribution of body fat in the peripheral extremities is known as the 'gynoid' type of obesity.

B. BMI [3]

BMI or Body Mass Index is calculated as the ratio between the weight of the person in Kgs, to the square of the height measured in metres. The resultant value is compared with the following classification criteria:
Classification BMI, kg/m2

- Underweight _18.5
- Normal range 18.5–24.9
- Overweight _25.0–29.9 Increased
- Class I obesity 30.0–34.9 High
- Class II obesity 35.0–39.9 Very high
- Class III obesity _40.0 Extremely high

C. ICD-10 diagnosis code and obesity

Also known as the ICD -10 CM (International Classification of Diseases- Clinical Medicine) is a modification of ICD-10 that deals with the diagnostic criteria for the diseases and their further classification. ICD-10-CM E66.9 is the characterization that relates to obesity, unspecified and is listed by WHO under the range- Endocrine, Nutritional and Metabolic diseases.

D. WHR:

WHR or Waist Hip Ratio is defined as the ratio between the Waist Circumference and the Hip Circumference. The scaling varies as follows:

WHO Scaling: Men >0.90;Women >0.85

2. Objective of the Study

This study was conducted among 56 adult obese patients, with age between 18 and 55, who were either of the Class I or Class II Obesity Groups, to determine the rate of occurrence and the severity of other illnesses among them. An attempt has been made through this paper to document the same.

3. Methodology

As mentioned in the introduction, the Athithoola Noi (Obese) patients were selected on the basis of their BMI or Waist Hip Ratio. Basically, people who were having their BMI above 30

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and with WHR more than 0.9 for men and 0.85 were taken as the study population. These people were then explained the process of the trial and after obtaining informed consent, were accepted as the trial group. A separate questionnaire was maintained for each and every participant and their detailed (both personal and those required for the study) were recorded and care was taken to maintain the confidentiality of the same.

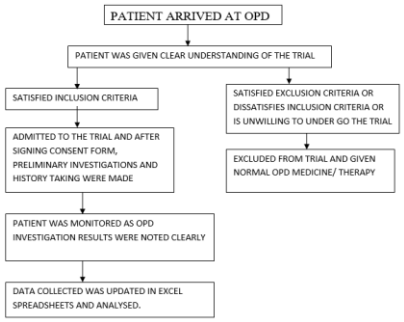

Fig. 1. Flowchart

A. Observations made from the study

The study was made in order to determine the incidence of other illnesses among pre diagnosed obese patients. The observations made are

B. Sex wise classification of patients

The sex wise classification of patients helps the researcher to understand if the onset of the disease is more in men or in women. The sex wise classification of the patients is presented in Table No.1.

Table 1
Sex wise classification of patients

Sex	Number of patients	Percentage
Male	23	41.07
Female	33	58.93
Total	56	100

Table 1 explains that Athithoolanoi affects women (58.93%) more than men. This could be because, women are more pliable to weight gain during pregnancy and the fat deposition in their body is more uneven when compared to men. It could also be inferred that women get fat deposited over their breasts, hips, waist and flanks easily, which is a common cause for the occurance of gynoid type of obesity.

C. Duration of illness

The duration of any illness is normally directly proportional to the severity and complications occurring due to the disease. This is true in Athithoolanoi also. The duration of illness of the selected patients is presented in Table 2.

Table 2
Duration of illness (Source: Primary Data)

Duration of illness	Number of patients	Percentage
<6 months	7	12.50
6 months- 1 year	6	10.71
2 years	5	8.93
3 years	6	10.71
4 years	2	3.57
5 years	1	1.79
6 years	5	8.93
7 years	3	5.36
8 years	12	21.43
10 years	8	14.29
15 years	1	1.79
Total	56	100.00

Under usual conditions, a patient visits the doctor and gets treated as soon as the symptoms appear. However, in the case of Athithoolanoi, patients do not get treated as long as the complications such as knee pain, low backache, etc appear. This is because, Athithoolanoi by itself does not cause any hindrance in a person's life. Only a few patients, who were in their twenties, were willing to get treated to this disease within a span of 6 months since its onset. It was even more shocking to note that even patients who had overweight and obesity complaints for a span of 8-15 years did not bother to get treated for the same till recently.

D. Other illnesses and their incidence

This is the core and most important part of this paper, that explains if the Athithoola Noi patients were suffering from other illnesses or not. Table No. 3 expresses the same.

Table 3
Other illnesses (Source: Primary Data)

Other illness	Number of patients	Percentage
Present	35	62.50
Absent	21	37.50
Total	56	100.00

Among the 56 Athithoolanoi patients selected for the study, as many as 35 had other illnesses, such as Diabetes, Hypertension, and Renal Calculi etc. These diseases could also have been the stimulants for the incidence of Athithoolanoi on the patients. The patients who have not yet been under the influence of any other disease should also be considered as the high risk groups as they could, at any time be diagnosed with the same. Other diseases with which the Athithoolanoi patients of this study were suffering is depicted in Table 4.

Table 4
Illnesses occuring to *athithoola noi* patients (Source: Primary Data)

Past illness/treatments	Number of patients	%
Diabetes	23	57.50
Hypertension	17	42.50
Hypothyroidism	4	10.00
C-section	2	5.00
Pcos	3	7.50
Hernia	1	2.50
Hemorroids	1	2.50
Epilepsy	1	2.50
Jaundice	1	2.50
Renal calculi	2	5.00

From Table 4, it is clear that the incidence of Diabetes Mellitus and Hypertension were high among the Athithoola Noi patients. Of the 33 patients who had pre diagnosed Diabetes and Hypertension, 13 had both. Thus, it is clear that the problem of obesity makes them prone to so many diseases. The individual number of patients suffering from each disease is further elaborated using a simple chart.

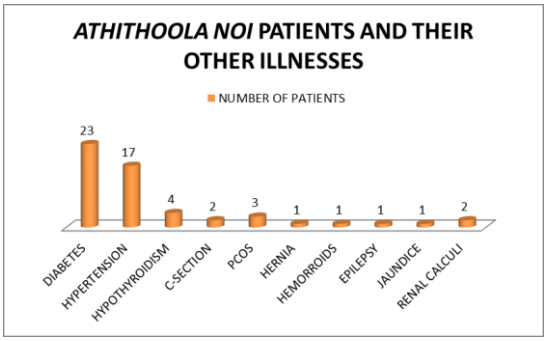

Fig. 2. Athithoola NOI patients and their other illness

4. Conclusion

The discussions made with the Athithoola Noi patients and the figures noted in this paper, give a clear view that even when diseases such as Diabetes Mellitus, Hypertension etc. are considered as the world's killer diseases, Athithoolam or Obesity alone acts as a stimulant factor in increasing the incidence of these diseases, than when compared to the patients with a normal body built.

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