AN OBSERVATIONAL STUDY OF BODY MASS INDEX (BMI) IN PARTICIPANTS ATTENDING PREOPERATIVE PREPROCEDURAL ASSESSMENT CLINIC (PPAC) IN CHENGALPATTU GOVERNMENT MEDICAL COLLEGE.

General Surgery

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ABSTRACT

The body mass index (BMI) [1] or Quetelet index is a value derived from the mass (weight) and height of an individual. The BMI is defined as the body mass divided by the square of the body height, and is universally expressed in units of kg/m2, resulting from mass in kilograms and height in metres. The BMI is an attempt to quantify the amount of tissue mass (muscle, fat, and bone) in an individual, and then categorize that person as *underweight, normal weight, overweight, or obese* based on that value. [2]

METHODS AND MATERIALS:

Design: A hospital based prospective observational study.

An observational study of BMI status in 109 participants attending Preoperative Preprocedural Assessment Clinic(PPAC) was done in government chengalpattu medical college, chengalpattu.

The aim of the study is to assess the BMI in participants attending PPAC in government chengalpattu medical college, chengalpattu.The participants had come for undergoing various elective surgeries.

RESULTS : The data collected were analysed and following results were observed:Overall only 37.6 % of participants had normal BMI, rest had abnormal BMI. The average BMI of female participants(25.9) was better than that of male participants(21.7)

CONCLUSION : Female participants had a statistically significant better BMI than Male participants because the participants included more number of term pregnant mothers. (p value=0.008) .

INTRODUCTION

The body mass index (BMI) or Quetelet index is a value derived from the mass (weight) and height of an individual. The BMI is defined as the body mass divided by the square of the body height, and is universally expressed in units of kg/m^2, resulting from mass in kilograms and height in metres. The BMI is an attempt to quantify the amount of tissue mass (muscle, fat, and bone) in an individual, and then categorize that person as *underweight*, *normal weight*, *overweight*, or *obese* based on that value. *[3]* The WHO regards a BMI of less than 18.5 as underweight and may indicate malnutrition, an eating disorder, or other health problems, while a BMI equal to or greater than 25 is considered overweight and above 30 is considered obese. *[4]*.

CATEGORIES OF BMI :
TABLE – 1

CATEGORY	BMI (KG/M^2)
Underweight	<18.5
Normal Weight	18.5-25
Over Weight	25-30
Obese	>30

BMI is used differently for children*[5]*. It is calculated in the same way as for adults, but then compared to typical values for other children of the same age. Instead of comparison against fixed thresholds for underweight and overweight, the BMI is compared against the percentile for children of the same sex and age. *[6]*

A BMI that is less than the 5th percentile is considered underweight and above the 95th percentile is considered obese. Children with a BMI between the 85th and 95th percentile are considered to be overweight.

Anaesthetic implications of an abnormal BMI are many and it is essential BMI is made as near normal as possible before taking up for elective surgeries*[7]* .Also the surgical implications of an abnormal BMI are many and should be taken into consideration while planning a surgery.

Aim of the Study

The aim of the study is to assess the BMI status in participants attending PPAC in government chengalpattu medical college, chengalpattu.The participants had come for undergoing various elective surgeries .The list of elective surgeries included urology, gynaecology,obstetrics,general surgery pediatrics etc.

Design: A hospital based prospective observational study.

MATERIALS AND METHODS

109 participants attending the preoperative preprocedural assessment clinic (PPAC) were selected according to the convenience and various parameters like height, weight, age etc were measured and other relevant information collected *[8]* .The collected data were documented and subjected to statistical analysis.

Inclusion Criteria

All willing ambulant participants attending PPAC were included in the study.

Exclusion Criteria

Patients not willing for study,patients undergoing emergency surgeries,infants were excluded from the study.

Statistical Analysis

For continuous data, the descriptive statistics n, Mean, SD, Median, IQR, Minimum and Maximum was presented. For categorical data, the number of patients and percentage was presented. Based on the normality of data, the parametric t test was applied to the data. All tests were two-sided at $\alpha=0.05$ level of significance. All analyses were done using Statistical Package for Social Services (SPSS) software Version 21.0 (Armonk, NY: IBM Corp).

RESULTS
SEX * BMI CATEGORIES

Table-2

Crosstab							
			BMI CAT				Total
			UNDERWEIGHT	NORMAL	OVERWEIGHT	OBESE	
Sex	MALE	Count	15	18	8	5	46
		% within sex	32.6%	39.1%	17.4%	10.9%	100.0%
	FEMALE	Count	6	23	18	16	63
		% within sex	9.5%	36.5%	28.6%	25.4%	100.0%
Total		Count	21	41	26	21	109
		% within sex	19.3%	37.6%	23.9%	19.3%	100.0%

Table-3			
BMI MALE Vs FEMALE			
Sex	Mean	N	Std. Deviation
Male	21.7194	46	6.22142
Female	25.9229	63	6.43978
Total	24.1489	109	6.65467

Table-4
Chi-Square Tests

Table-4 Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.708ᵃ	3	.008
a. 0 cells (.0%) have expected count less than 5. The minimm expected count is 8.86.			

DISCUSSION

Overall only 37.6 % of participants had normal BMI, rest had abnormal BMI. *[9]* The average BMI of female participants (25.9) was better than male participants (21.7).

CONCLUSIONS

Female participants had a statistically significant better BMI than Male participants because the participants included more number of term pregnant mothers. (p value=0.008) .This being a simple observational study of BMI status, more detailed studies with appropriate sample size must be carried out to validate the findings of this study. *[10]*

ACKNOWLEDGEMENTS

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