A CASE STUDY ON BMI AND OBESITY ON AGE GROUP BETWEEN 18 YEARS TO 22 YEARS

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ABSTRACT

Obesity is one of the major disorder that is shown by majority of the population all over the world. There are many adverse effects with obesity. Heart stroke, diabetes, hypertension, constipation etc... Can be caused due to obesity generally this is caused by many factors i.e., genetically (hereditary), lifestyle etc. We conducted a survey among the large student community in Bharat institute of higher education and research in Chennai during January 2020 to February 2020. We concluded that majority of the people are suffering from obesity due to life style changes.

Keywords: Obesity, BMI, Lifestyle change, Urbanization.

Introduction:

The adolescent obesity has become common in Worldwide. It has dramatically multiplied in the course of the time in the recent four decades. The study published in the Lancet in broke down weight and height, is about 130 million individuals, including 31.5 million youngsters matured 5-19 years old. The quantity of large kids and young people rose from 11 million in 1975 to 124 million in 2016 – a ten times increase. An extra 216 million youngsters were overweight. To all the more, it is likely comprehend these patterns right now investigate a scope of datasets that gather data on youth weight. We break down the information in general, over the age circulation, across birth partners, and for subgroups of interest. We discover relentless increments in accomplice level of population is predominant through roughly age 10, with levels unaltered from there on, proposing a requirement for extra intercessions at early ages. We found that the spreading of obesity has wandered by race and sex lately, particularly among youngsters entering kindergarten. Together, these discoveries can advise a future research writing that plans to target corpulence mediations where they will be generally effective.

Fig.1 OVERALL BMI OF MEN & WOMEN
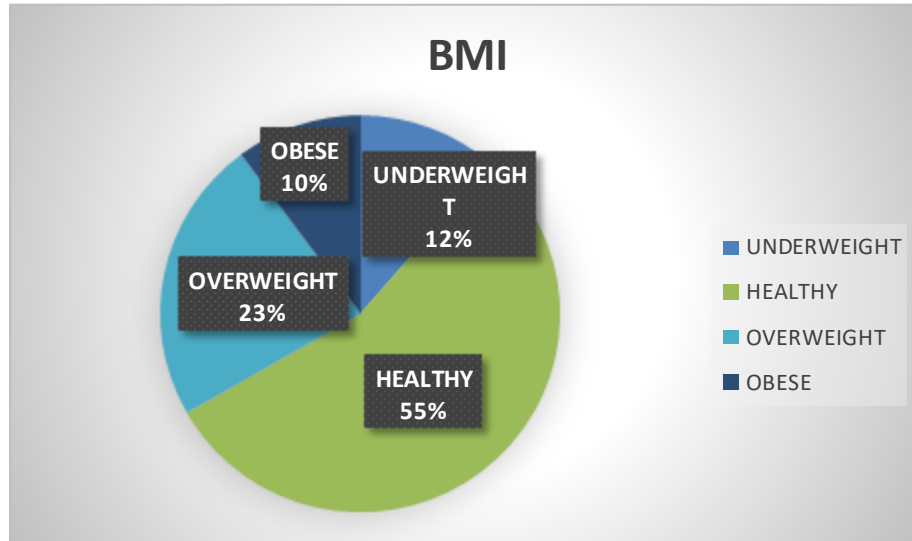
The figure 1 describes about the ratios of BMI in both male and female. It states that the persons with obese, occupies nearly 10 percentile with minimum occupancy where as the underweight settled at second position after that with nearly 15 percentile. The overweight category population shared of 25 percentile respectively the healthy persons with maximum occupancy of 55 percentile.

Methods:

BMI is increasing in many Nations. It commonly shows that urbanization is one of the most major drivers of the overall rise in BMI, since diet and way of life in urban areas lead to obese. There are only few studies that have investigated how BMI is changing after some time. Information on how BMI in population is changing are expected to design intercessions that address underweight and overweight.

Fig.2 FREQUENCY OF WEIGHT IN MALE
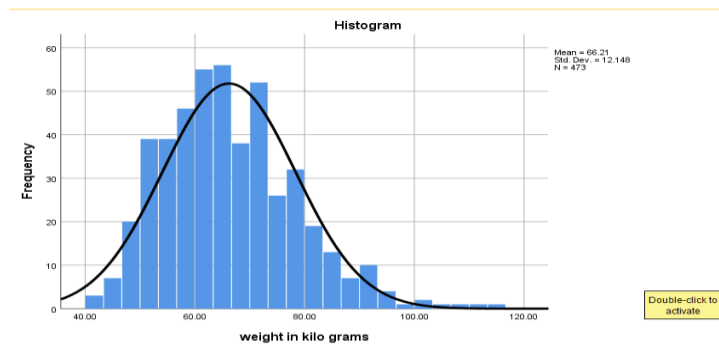
The figure 2 describes about the frequencies of weight in male. It shows that the persons with weight ranges from 65 kilograms to 75 kilograms strikes the highest point, When it comes to least the weight of male is about 100 to 120 kilograms. The histogram shown in fig States the gradual increment of weight in men, the foremost recorded weight is 40 kilograms and concluded with 120 kilograms which is inferior compared to others.

The amount of people with weight's 45 to 55 kilograms and respectively 70 kilograms are identical and the graph steadily falls to lower frequencies from the peak of 75 kilograms to 120 kilograms. This exemplifies that men has saturation point at 70 to 80 kilograms.

The survey was based on student community in our University Bharath Institute of Higher Education And Research, Chennai, India. In this process of study we analyzed about 600+ students from different backgrounds. There are mostly students from age group 19 to 22 with diverse variety of culture and lifestyle. We have put together both male and female in the survey for our analysis. Due the urban development and fast moving lifestyle there was no concentration on diet and food habits and weight control. In our study we have understood out 600+ samples of both male and female of different range of facts like the people with underweight among girls was more and in man the percentage of obese was more in number.

This illustrates that men with obesity is less, when compared to overweight, respectively half of the population in men have an healthy condition and people with underweight is lesser in contrast to overweight.

Table.1

samples	Underweight	Healthy	Overweight	Obese	Total
Male	8.24% (39 total)	55.39% (262 total)	25.36% (120 total)	11% (52 total)	474
Female	20.85% (34 total)	55.21% (90 total)	16.56% (27 total)	7.9% (13 total)	163
Total	73	352	147	65	637

About the 50% of samples in both male and female were healthy. When it was compared between the overweight men and women the men overcome women with 25%.
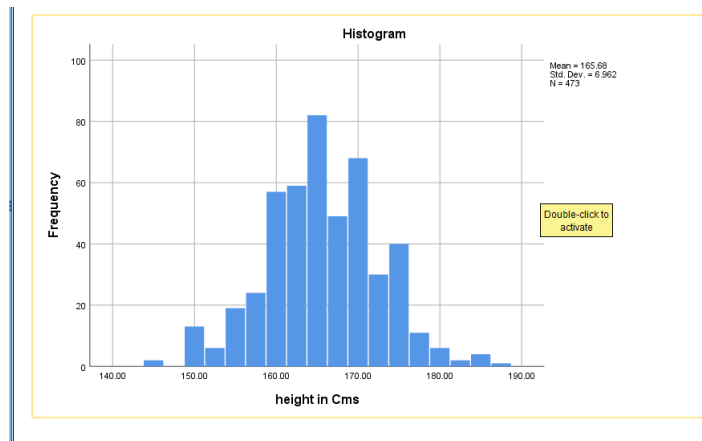
Fig.3 FREQUENCY OF HEIGHT IN MALE

Figure. 3 describes the frequencies of men with height differences shows that in male the maximum or most repeated height is in the range of 155 to 170 cms. The minimum height in the male was about 185 to 190 cm. The histogram shown above provides information of heights of men in the sample data in that men with shortest height is very little in number at 145 cms in contrast with it men with tallness is somewhat more at 185 cms, respectively more men have an average height of 165 to 170 cms.
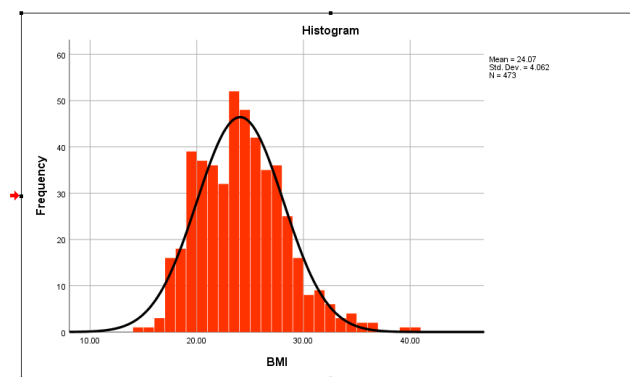
Fig.4 FREQUENCY OF BMI IN MALE

Figure 4 describes the frequency ratios of Body mass index of male by this bar graph we can state that mostly the male are in healthy position that's from 19 to 25 BMI and some of the male are overweight and obese. But the underweight category in male was lower in number. As we discussed above about the BMI's of men the graph says nearly 9% of male samples with BMI less than 20, the graph gradually inclines and reaches a point at which the graph declined from point towards the category of overweight and Obesity which covers 40 % of the samples through this we can say that men are mostly likely to get more health issues due obesity & overweight.
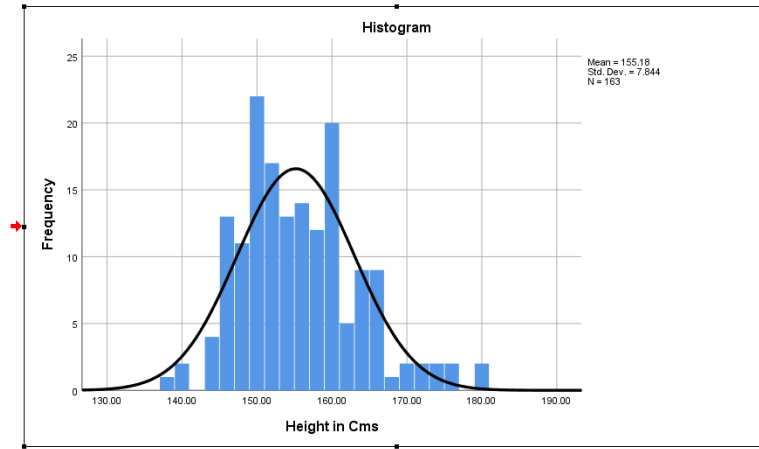
Fig.5 FREQUENCY OF HEIGHT IN FEMALE

Figure 5 describes the frequency distribution of female height in this graphical representation. We can conclude that female with height 150 cm's was mostly occurred. The female at height of 170 to 180 was in equal number.
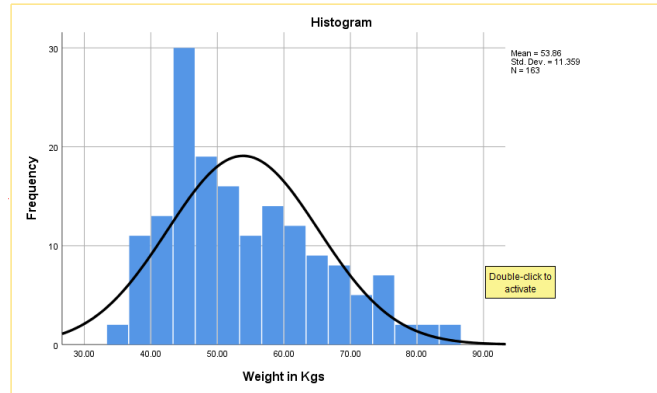
Fig. 6 FREQUENCY OF WEIGHT IN FEMALE

Figure 6 describes the frequency distribution of female weight where it states the most of the female are having the weight ranges from 43 to 50 kilograms and the graph shows a gradual transition in the weights of female. This figure explains that female population are not having high weights the least weight noted was 35 kilograms and highest value 85 kilograms but most samples shared weight in between 45 and 50. Then from the amount of female was reduced steadily till the last.
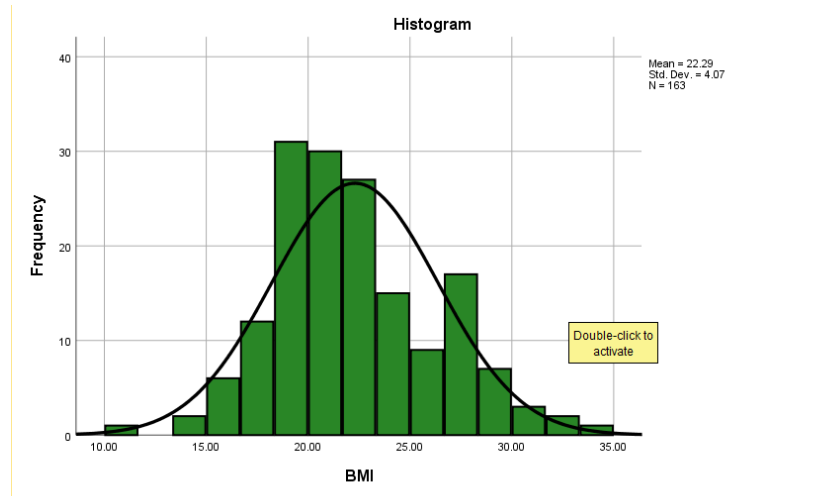
Fig.7 FREQUENCY OF BMI IN FEMALE

Figure 7 describes the frequency distribution of female body mass index, which was listed from 10 to 35 & classified into three categories like underweight, healthy, overweight and obese. The histogram clearly mentions the values of women with three different categories discussed above where as women with BMI under 19 falls under category of underweight & above that till 25 BMI it's healthy respectively above 25 and 30 it was overweight and obese . By this graph we can understand that mostly the female falls under underweight category. The healthy state of female was slightly nearer to the underweight population in the graph. In contrast to this the female with overweight are slightly higher in accordance to obese female.

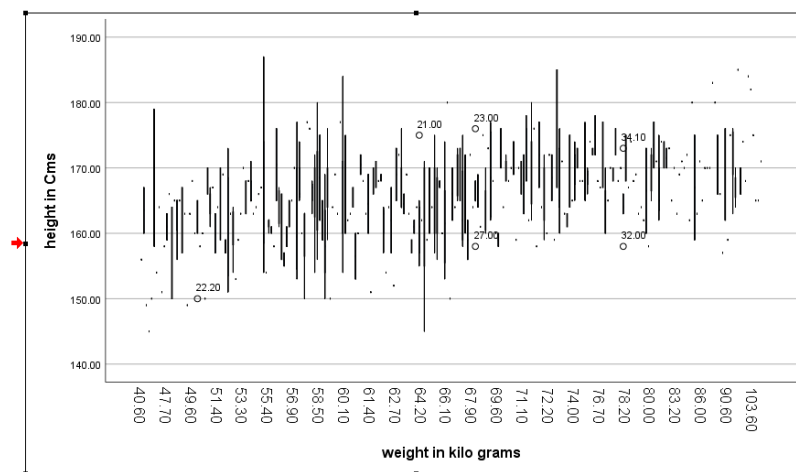## Fig.8 HEIGHT TO WEIGHT COMPARISON IN MALE

Fig 8 illustrates about the comparison of weight and height of male samples in the data set. The graph clearly shows that distribution of height and weight off mail samples in the data that news so they analysis. The graph shows many outliers which doesn't fit into any category of height and weight so they were indicated as dots in the graph.

For instance when we see the graph at 55, 60 and 64 kilograms we can observe a straight line passes from 150 till 180 cms to 190 cms by that we can say more men falls under this category. When we come to outliers we can take them as samples with extreme height for extreme weight or extreme short for extremely underweight. The remaining height to weight distribution is on an average when compared to other data in the samples.

Fig.9 HEIGHT TO WEIGHT COMPARISON IN FEMALE

Figure 9 explains about the height to weight comparison of female samples in the data. Through this graph we can identify that female with under the weight 50 kilograms. At 158 cms of height we can observe more amount of samples are distributed. There are more number of females with weight's lesser than 65 kilograms only few of them were more than 65 kilograms in weight

The height of most females was less then 160 cms, the females with underweight category are high in number compared to overweight and obese. There are only few outliers when compared to the male height and weight distribution graph the females having less number of outliers
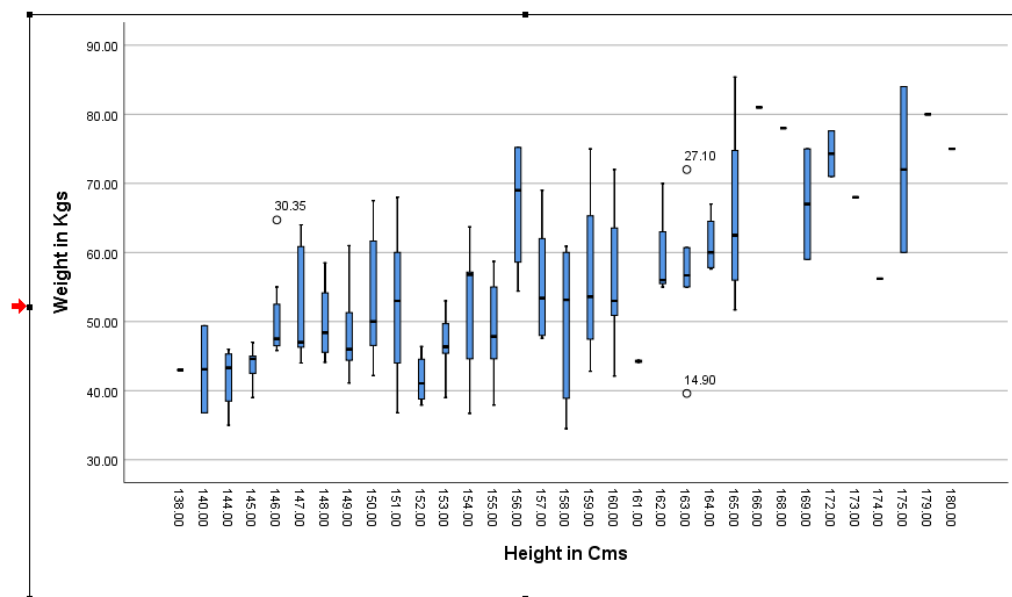
Result:

We have studied each sample and observed that men and women have different statics in their BMI categories. From that we explain them underweight is least in men about 10 percentile

when compared to women they leads with 21 percentile. In the condition of obese it becomes vice-versa among men and women men leads with 11 percentile and female with 8 percentile. In the data we analyzed overweight becomes the highest with 25 percentile male and 16 percentile of female, the healthy samples between men and female are edge to edge about 55 percentile.

CONCLUSION:

Obesity is one of major disorder that makes uncomfortable health for the people. We need to prevent this rather than control it. Based upon our study among student community in Bharath Institute of Higher Education And Research, Chennai Tamil Nadu, we came to a conclusion that the male students are having high probability of being overweight and obese when equate with female students. Thus the female students with high possibility, which leads them to underweight. Both men and women are like match to each others in healthy position. Due to the lifestyle changes occurring in the fast paced world everyone are facing issues with weight loss or weight gain which make them revolve around the fitness center's and gyms. Because of highly competitive and compact design of now a day's work and their activities there is no time from healthy. Lifestyle, junk food and fast food made this world's favorite but it leads to the most harmful and chronic conditions like diabetes and ulcers. The females mainly focused on beauty and give less importance to health so most of them are in underweight category. When it comes to males they are not participating in daily physical activity like games and sports which leads them to overweight and obese. Everyone should aware about this as this is the major problem facing all over the world. So We also planning to organize awareness programs and also start campaigns for the welfare of society.

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 **Statistical data discussed in paper was obtained from "WHO ORGANIZATION WEBSITE"

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