

# Overweight BMI with and without Regular Exercise in Secondary School Students in Tikrit City

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## Abstract

**Background:** Currently, obesity affects almost a third of the world's population. Traditionally, anthropometric measures such as waist circumference or body mass index (BMI) were used to quantify total obesity. aim of this study to estimation the relation between Overweight BMI with and without regular exercise among secondary school students in Tikrit City. **Patients and methods:** cross-sectional descriptive epidemiological study was carried out to estimate the relation between Overweight BMI with and without regular exercise in secondary school students in Tikrit city among 153 students (80 girls and 73 boys) and study the relationships between them. **Results:** In current study, male who doing exercise 1-2 times weekly 44.83% less than non- doing as percentage 55.17% ,so 11/23(47.83%) from female do exercise 1-2 times weekly, while in male 13/29(44.83%) do exercise 1-2 times weekly.as well as 8/23(34.78%) from female do exercise 3-4 times weekly, while 9/29(30.03%) in male do exercise regularly, In male 7/29(24.14%) do exercise more than 4 times weekly, while 4/23(17.39%) from female do exercise more than 4 times weekly.and female 16/23(69.57%) do exercise for 0-30mins, while in male 15/29(51.72%) do exercise for 0-30mins. also 6/29(20.69%) in male do exercise for 30-60mins, In male 8/29(27.59%) do exercise for more than 60mins, also 16/49(32.66%) had a overweight BMI and 22/49(44.9%) had a central obesity. **Conclusion :** Most of the students have a normal BMI and a normal waist-to-height ratio and among secondary school students (34%) only have regular exercise, from them (46.15%) doing exercise 1-2 times weekly.

**Keywords:** Overweight; BMI ; regular exercise ; secondary school students ; Tikrit city

## Introduction

The obesity and overweight prevalence in both children and adolescents is considered as pandemic problem worldwide<sup>(1)</sup>. By participating in regular exercise programs, can estimated that about approximately (22.0 million) overweight and obese people worldwide may reduced BMI<sup>(1)</sup>, So According to WHO about three hundred million are defined as obese (BMI>30kg/m<sup>2</sup>) and one billion are overweight (BMI >25kg/m<sup>2</sup>)<sup>(2)</sup>.

Obesity is causing by an imbalance in the consumption of calories that derived from food comparing to the expenditures via exercise and body activity<sup>(1)</sup>. About 5% of the world's deaths caused by overweight and obesity ,so the Physical inactivity concenter as fourth leading risk factor for mortality in the world and (6%) of deaths globally<sup>(3)</sup>, as well as low in movement behavior, there are indications of a significant increase in youth with weight concerns and an increased in negative body image as adolescents progress<sup>(4)</sup>.

Exercise recipes for obese people follow the same framework for the condition; intensity; forever; and the frequency has been explained. The amount of exercise which needed to lose weight is too large to be increased<sup>(5)</sup>.

## Patients and Methods

Cross-sectional study was used to assess Overweight BMI with and without regular exercise in secondary school students in Tikrit city, collected 153 cases of both gender from secondary school students (Ibn-almotam ,Al-Khansaa and Al-Mustansrya ), during the 1<sup>st</sup> of November to the 1<sup>st</sup> of January.

## Finding

In figure-1 illustrates that male who doing exercise 1-2 times weekly 44.83% less than non- doing as percentage 55.17% .

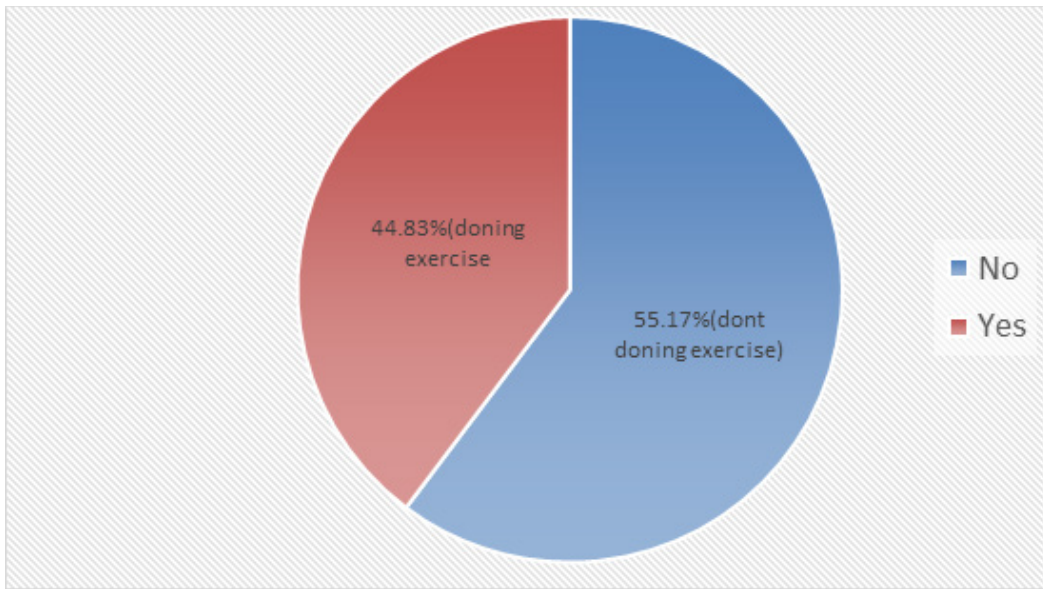


Figure (1): - Illustrates secondary school student ( male gender ) who are doing regular exercise weekly

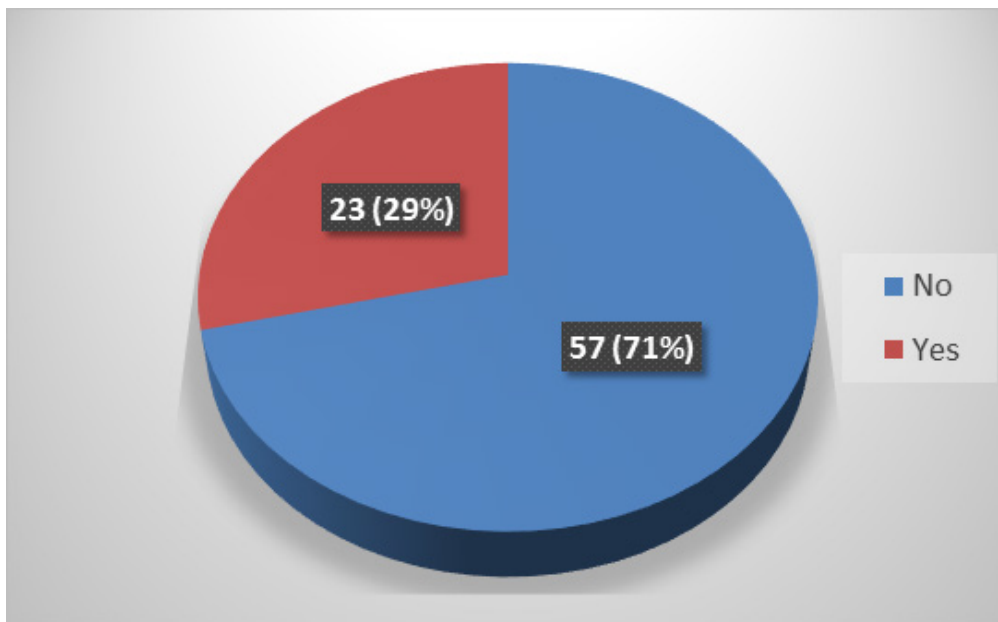


Figure (2): - Illustrates secondary school student ( female gender ) with who are doing regular exercise weekly

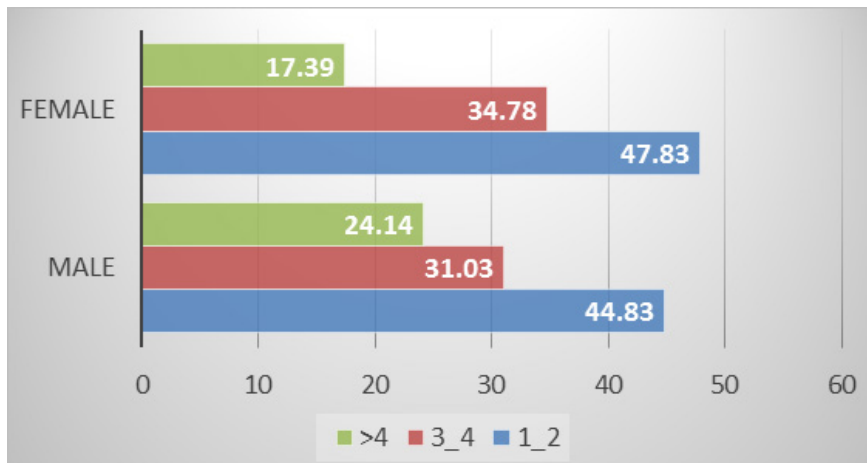


Figure (3): - Illustrates secondary school student (both gender) with their percent of how many times they do exercise weekly

This figure illustrates that 11/23(47.83%) from female do exercise 1-2 times weekly, while in male 13/29(44.83%) do exercise 1-2 times weekly.

Also 8/23(34.78%) from female do exercise 3-4 times weekly, while 9/29(30.03%) in male do exercise regularly, In male 7/29(24.14%) do exercise more than 4 times weekly, while 4/23(17.39%) from female do exercise more than 4 times weekly.

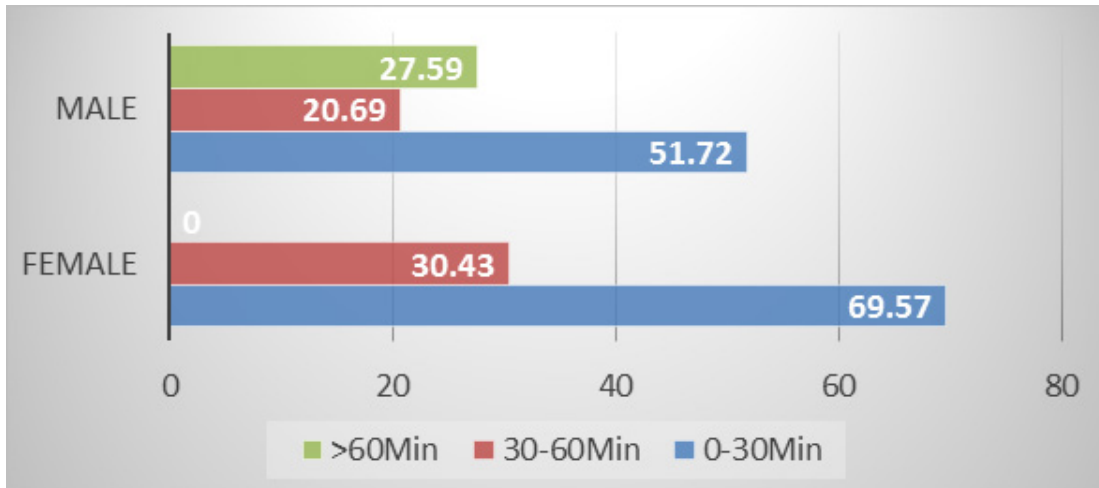


Figure (4): - Illustrates secondary school student (both gender) with their percent of duration taken to complete exercise

This figure illustrates that female 16/23(69.57%) do exercise for 0-30mins, while in male 15/29(51.72%) do exercise for 0-30mins. Also 7/23(30.43%) from female do exercise for 30-60mins, while 6/29(20.69%) in male do exercise for 30-60mins, In male 8/29(27.59%) do exercise for more than 60mins.

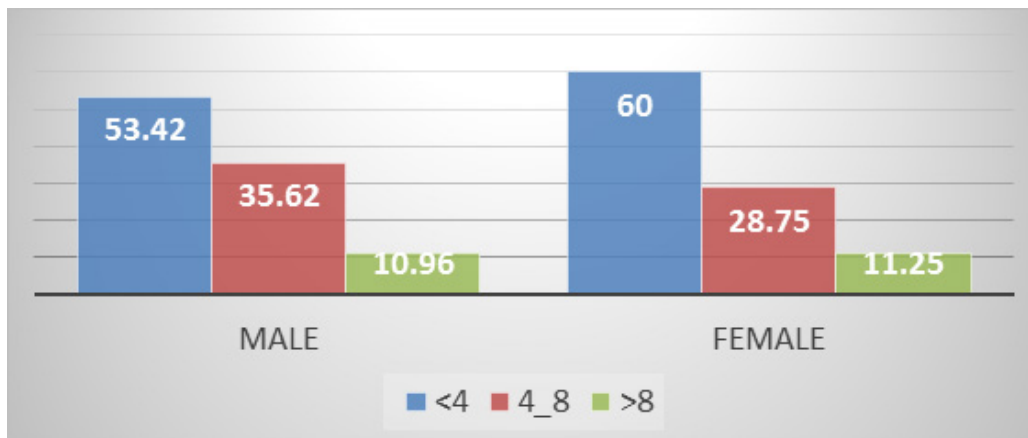


Figure (5): Illustrates secondary school student (both gender) with their percent of daily drinking glasses of water.

This figure shows that 48/80(60%) of females drinking less than 4 glasses of water, while in male 39/73(53.42%)

Table (1): - Body mass index (BMI) score of the secondary school students involved in the study with a positive family history.

BMI	Male		Female		Total Number(%)
	Number	Percents	Number	percents	
18.5>	4	17.39	1	3.85	5 (10.2%)
18.5-25	5	21.74	9	34.62	14 (28.57%)
25-30	8	34.78	8	30.77	16 (32.66%)
>30	6	20.09	8	30.77	14 (28.57%)

This table shows that 16/49(32.66%) had a overweight BMI.

**Table (2): - waist-to-height ratio of secondary school students involved in the study with a positive family history**

waist-to-height ratio	Male		Female		Total
	Number	Percents	Number	percents	
>0.5	7	30.34	6	23.08	13 (26.53%)
0.5-0.6	9	39.13	13	50	22 (44.9%)
0.6<	7	30.34	7	26.92	14 (28.57%)

This table shows that 22/49(44.9%) had a central obesity.

### Discussion

Current study showed that male who doing exercise 1-2 times weekly 44.83% less than non- doing as percentage 55.17% ,regular exercise can lead to noticeable changes in BMI for overweight and obese people <sup>(1)</sup>, Sherwood, 2001 are recommended the sport is in individual who are overweight and obese ,this type of sport is highly recommended <sup>(6)</sup>.

It has been associated with increased symptoms of depression and anxiety in college students and adolescents<sup>(7)</sup>.

As well as about (47.83%) from female do exercise 1-2 times weekly, while in male (44.83%) do exercise 1-2 times weekly, but this results disagreement with Hassan et al., who showed, only(1%)has a good level of daily physical activity , whilst 86.7% has low daily physical activity<sup>(8)</sup>.

Man students had higher physical activity than women students,the results indicate that this variable is associated with BMI among man participants, While these aren't the case with women, although it is believed that normal weight are more active than overweight or obese participants,whilst not the case with women, Although this is not the case in women, it is believed that normal weight are more active than obese participants <sup>(9)</sup>.

So Otomo explained to lose weight, exercise more effective than other interventions<sup>(10)</sup>.Proven aerobic weight loss(66.78)%, so percentage the Cholesterol as(27.67%) and fat(86.42%),therefore significant effect of low impact aerobics, weight loss, fat percentage

and levels of cholesterol in women with obesity. This study also reveal that male (40%) doing exercise more than female (29%) and this is agree with another study occurred in Al-Najaf Al-Ashraf City<sup>(8)</sup>.

### Conclusion

- Most of the students have a normal BMI (55.56%) and a normal waist-to-height ratio (67.32).
- Among secondary school students (34%) only have regular exercise, from them (46.15%) doing exercise 1-2 times weekly.

**Conflict of Interest :** None.

**Source of Funding:** Self funding.

**Ethical Clearance:** Taken from student and college.

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