

EPIDEMIOLOGICAL FACTORS ASSOCIATED WITH THE OCCURRENCE OF OBESITY IN HAIL TOWN - SAUDI ARABIA - 2017

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Abstract: This was a descriptive cross-sectional study to determine the prevalence of obesity in Hail town. No probability sampling techniques (convenient sampling) was adopted to collect data from King Khalid Hospital to determine the prevalence rate and other factors associated with the occurrence of the problem, 200 samples were covered during the time of data collection (one week).

The study shows that the prevalence rate was 33.9 % at Hail town according to review of record. Eaten fast food for target group from three to four times in the week about 30% and 60% of target group prefer fast food than homemade food. 70% of the target group is not practicing any type of physical training, 75% of them don't have enough time to do exercise, and 55% of target group thought that eating healthy food is being instead of practicing physical training.

The study finally recommended Exercise, the basic rule of weight loss is "Calories in "Calories out" In order to effectively lose weight, you need to burn more calories than you consume. Therefore, exercise—and portion control when eating—are essential components in combating obesity.

- Health education about obesity at school and neighborhood.
 - Drink plenty of water
 - limit intake of foods containing saturated fat, added salt, added sugars
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1. INTRODUCTION

The prevalence of obesity, over the past 3 decades, has increased in many countries around the world. It is defined by a 30 or higher body mass index (BMI) [1]. The problem of obesity extends globally as estimated by the WHO. In 2008, worldwide 1.5 billion adults were overweight, where nearly 300 million women and over 200 million men were obese. However, across different nations, the prevalence of obesity varies, ranging from below 5% in Japan, China, Indonesia, India, and certain African countries to over 75% in Nauru and Samoa. In addition, childhood obesity is also on the rise globally, and an epidemic in some countries. Worldwide, 22 million children approximately, under age 5, are estimated to be overweight.

Obesity prevalence has also increased dramatically among children aged 6-17 years, which is extending into the developing world from the developed nations. The rising trend, as indicated by international data, is not confined to the developed world, and it is predicted that by 2030, a majority of adult population of the world would be either obese or overweight.

In the rise of obesity and overweight, the interaction of a number of factors is contributing, which include metabolic, genetic, environmental, and behavioral influences. According to Mahmoud and Arulkumaran, the rapid growth in the rate of obesity is directly contributed by environmental and behavioral factors, rather than the biological factors. Moreover, racial or ethnic differences, consumption pattern, and lifestyle also influence the rate of obesity. For instance, as compared to rural areas, people in urban areas have higher obesity rate, possibly due to consumption of high-fat diets and more sedentary lifestyles. For daily living, the amount of energy spent has also reduced over the years, which also promotes obesity. Obesity is also often associated with high socio-economic status; as populations in the developed world are mostly affected by obesity.

Over the past few decades, Saudi Arabia has become increasingly westernized, and now it has one of the highest obesity and overweight prevalence rates [3]. Obesity in the county is a major cause of concern, where 7 out of 10 people are experiencing the problem [4]. Previous studies related to prevalence of obesity in the Kingdom of Saudi Arabia (KSA) indicate an increasing trend in obesity and overweight, which are major sources of a number of other diseases, including hypertension, diabetes, obstructive sleep apnea, hyperlipidemia, and osteoarthritis.

2. METHODS AND MATERIALS

Study design:

This was a descriptive cross-sectional study to determine the prevalence of obesity in Hail town.

Study area:

Ha'il is largely agricultural, with significant grain, date, and fruit production. A large percentage of the kingdom's wheat production comes from Ha'il Province, where the area to the northeast, 60 to 100 km (37 to 62 miles) away, consists of irrigated gardens. Historically Ha'il derived its wealth from being on the camel caravan route of the Hajj. Ha'il is well known by the generosity of its people in Saudi Arabia and the Arab world as it is the place where Hatim al-Tai lived. It is also the homeland of the Al Rashid family, historical rivals to the Al-Sauds.

Sampling techniques and sample size:

No probability sampling techniques (convenient sampling) was adopted to collect data from King Khalid Hospital to determine the prevalence rate and other factors associated with the occurrence of the problem, 200 samples were covered during the time of data collection (one week).

Data Analysis and presentation:

Data was analyzed using master sheet and enter to excel to get tables and figures.

Ethical Considerations:

Permission taken from health authorities and respondents to collect data.

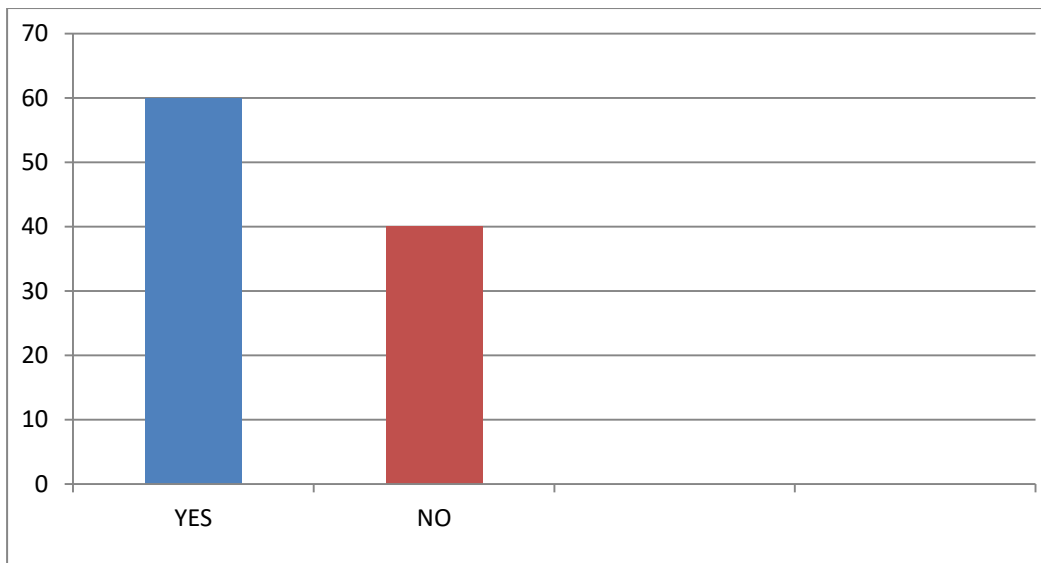
3. RESULT AND DISCUSSION

- The study showed that the prevalence of obesity in Hail city was 33.9 % in 2017

- Prevalence rate =
$$\frac{\text{Number of cases}}{\text{Number of population} \times 1000}$$
$$= \frac{16750}{495000} \times 1000 = 33.9\%$$

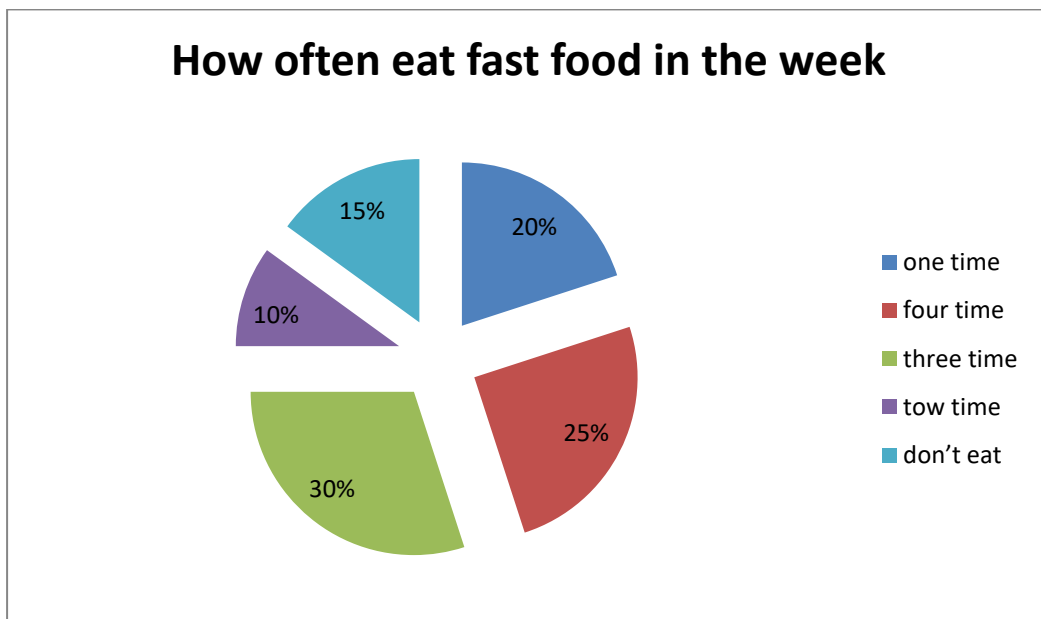
- A questionnaire in hail society about physical activity and fast food.
- The study include 200 people

Figure (1)



60% of target group have known that fast food is unhealthy.

Figure (2)



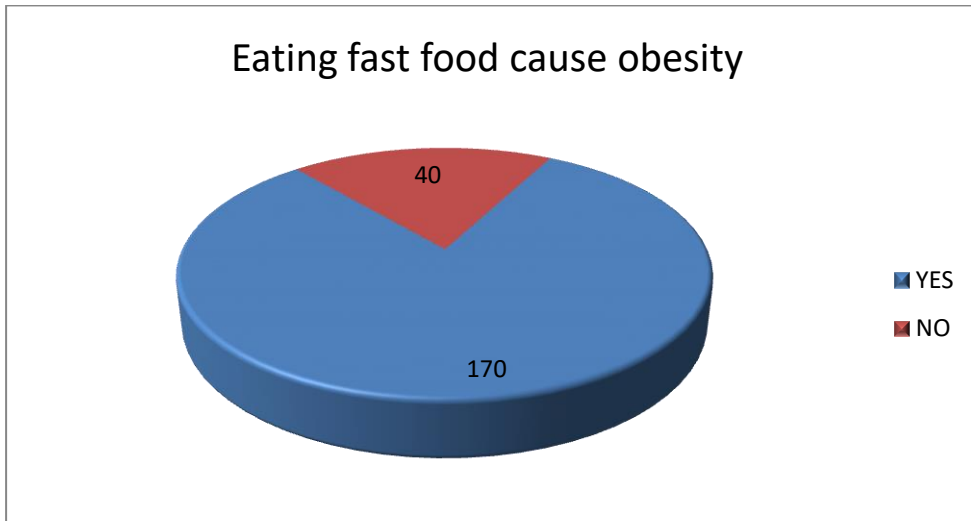
About 30% of target group take fast food three time week.

Table (1)

Do you know the damage for fast food		percentage
YES	170	85%
NO	30	15%
TOTAL	200	100%

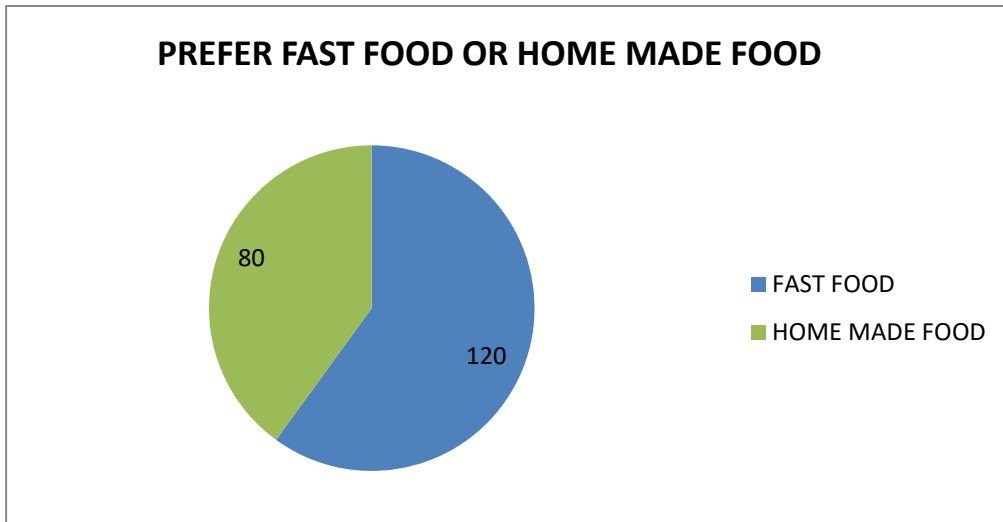
85% of target group have information about dangerous of fast food.

Figure (3)



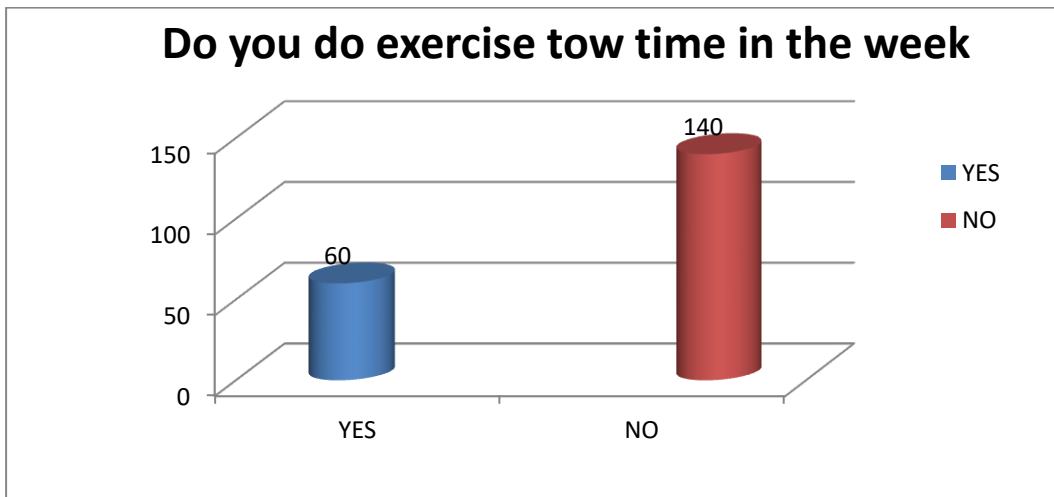
81% of target group join the obesity with fast food.

Figure (4)



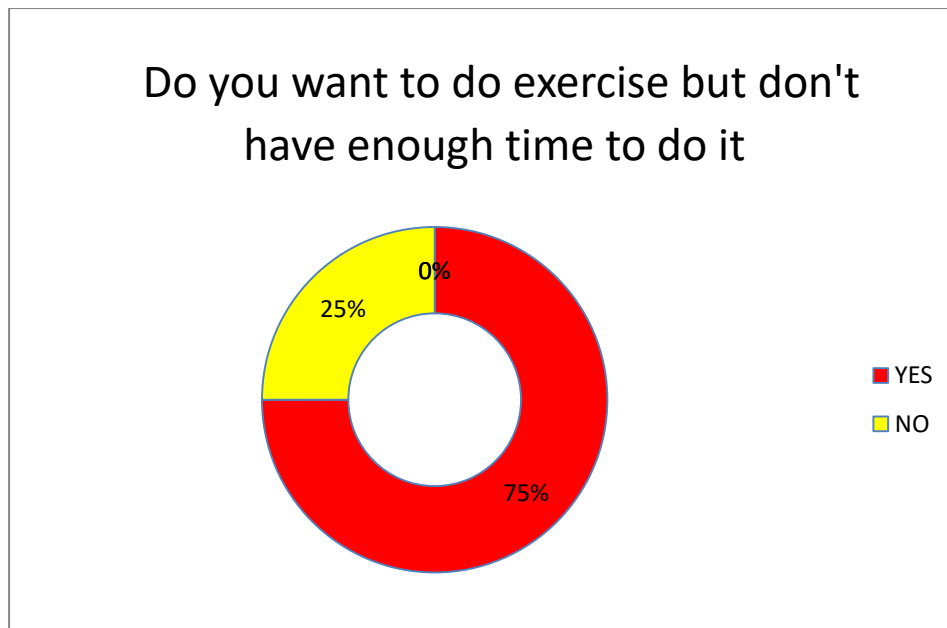
60% of target group prefer fast food than homemade food.

Figure (5)



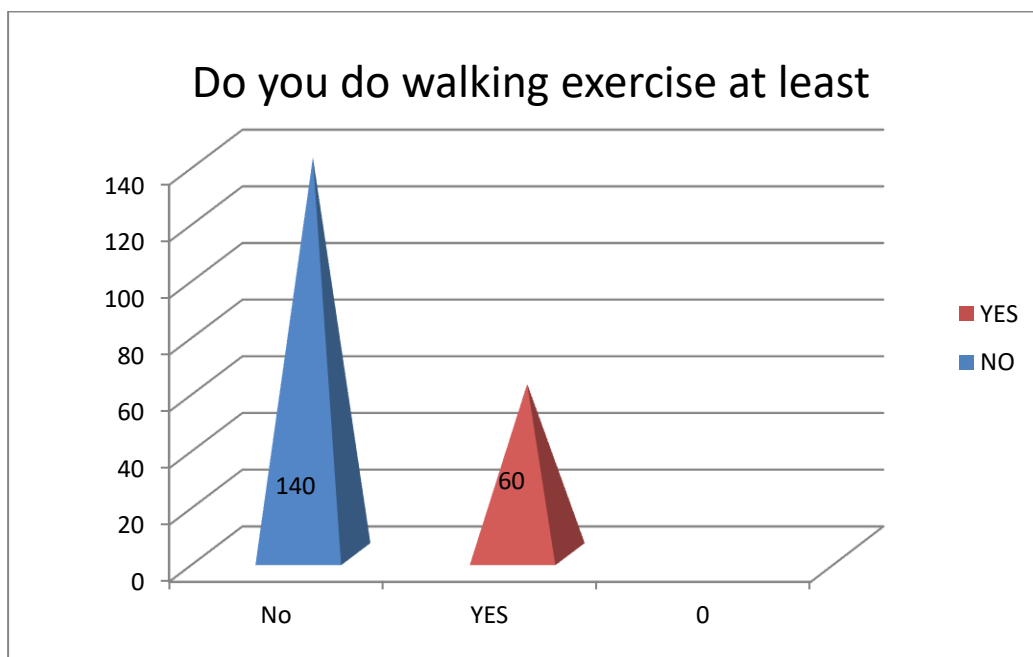
According this study that 70% target group is without practices.

Figure (6)



75% of target group don't have enough time to do exercise.

Figure (7)



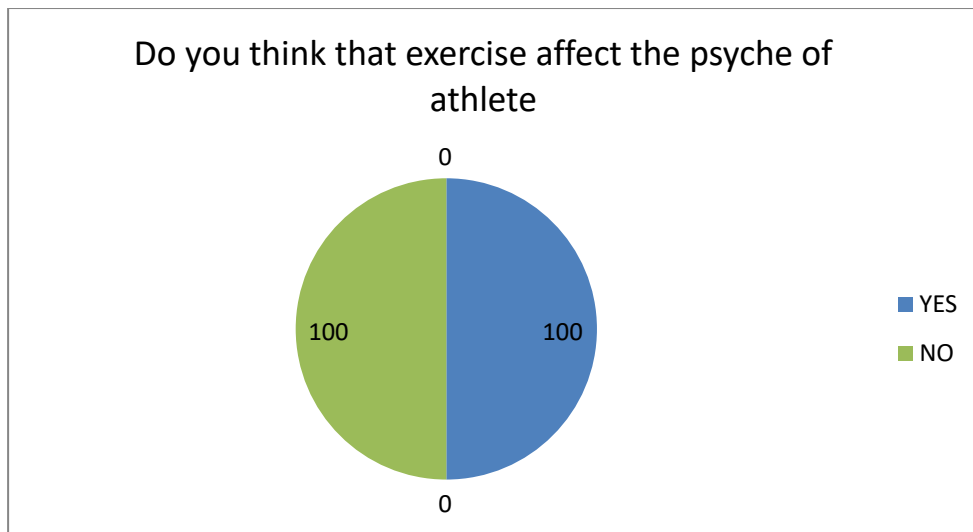
70% of target group don't do any physical training.

Table (2)

Do you think healthy food is a substitute for the exercise		Percentage
YES	110	55%
NO	90	45%
TOTAL	200	100%

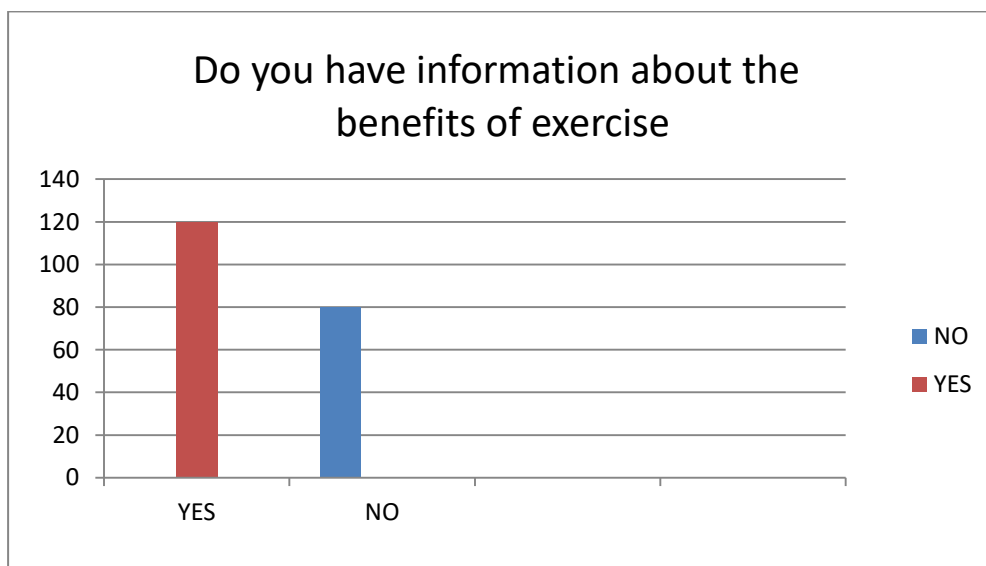
55% of target group attitude that healthy food instead of practice.

Figure (8)



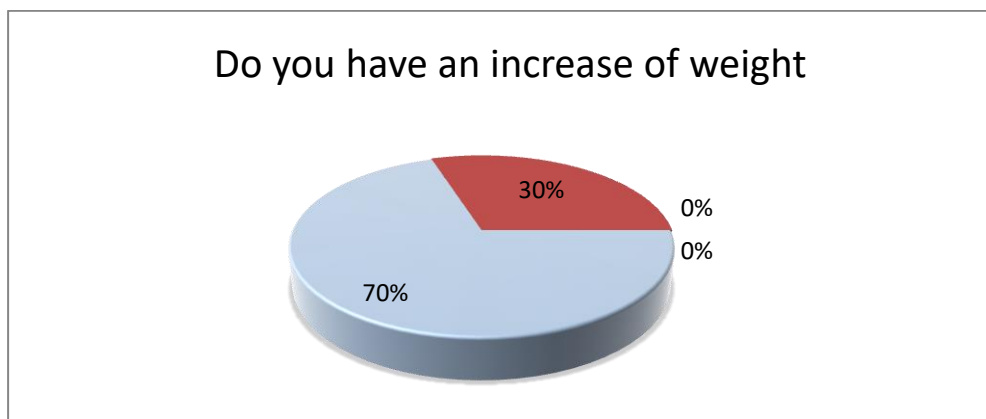
50% of target group believe that they are effect of the psyche of athlete but the others are not.

Figure (9)



60% of target group have information about the benefits of exercise.

Figure (10)



70% of target group increase of their weigh.

4. DISCUSSION

The prevalence of obesity was highest in the hail in Saudi Arabia (33.9%), The increased consumption of fast foods and sugar-dense beverages (e.g., sodas) as well as the extensive use of cars, elevators, escalators, and remotes in recent years has dramatically increased the burden of obesity in KSA. Thus the increased prevalence rate of obesity in the present study indicates the magnitude of the problem in relation to daily life-style. However, increased rates of *obesity* in Hail region over the other parts of Saudi Arabia are previously reported, as the prevalence of obesity ranged from 33.9% in Hail to 11.7% in Jizan, dietary behaviors varied across gender and BMI groups, with males preferring dining out, eating fast foods, and carbonated beverages as compared to females who preferred dining with family, snacking on potato chips, chocolates, cakes, sweets, and drank more caffeinated beverages. Both genders were at risk for dietary behaviors like eating less fruits and vegetables.

Eaten fast foods consider main cause of obesity; the study shows that 30%, 25 % of target group take fast food three time and fourth times respectively a week. which agree with that study by Hussain Gadelkarim Ahmed, Ibrahim Abdelmajeed Ginawi, Abdelbaset Mohamed Elsbali, Ibraheem M. Ashankyty, and Awdah M. Al-hazimi (Prevalence of Obesity in Hail Region, in 2014) which found that the increased consumption of fast foods and sugar-dense beverages (e.g., sodas) as well as the extensive use of cars, elevators, escalators, and remotes in recent years has dramatically increased the burden of obesity in KSA. Thus the increased prevalence rate of obesity in the present study indicates the magnitude of the problem in relation to daily life-style) which is similar to our findings in this study.

- Physical activity reduces the likelihood of obesity, the study shows (70%)of person is not do practice so that the laziness considers main cause of obesity that agree with that study by Abdulmohsen H. Al-Zalabani, Nasser A. Al-Hamdan, Abdalla A. Saeed. The prevalence of physical activity and its socioeconomic correlates in Kingdom of Saudi Arabia in 2015 (There were 4758 participants in the study sample. They were stratified according to five regions of the country. Overall, the prevalence of physical inactivity was found to be 66.6%. Men from the central and northern regions and women from the central, eastern and northern regions were more likely to be physically inactive. The highest proportion of participants achieving a high level of physical activity was reported in the southern region. The southern region is mountainous, agricultural and less urbanized than the other regions, which may explain these findings. This interpretation is supported by the fact that southern region registered the highest level of work-related physical activity.)

5. RECOMMENDATIONS

- Exercise. The basic rule of weight loss is “Calories in. Calories out.” In order to effectively lose weight, you need to burn more calories than you consume. Therefore, exercise—and portion control when eating—are essential components in combating obesity.
- Health education about obesity at school and neighborhood.
- enjoy a wide variety of nutritious foods from these five groups every day:
 - vegetables, including different types and colors, and legumes/beans
 - fruit
 - grain (cereal) foods, mostly wholegrain and/or high cereal fiber varieties, such as bread, cereals, rice, pasta, noodles, polenta, couscous, oats, quinoa and barley
 - lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans (the latter in two food groups as they are rich in protein and carbohydrates)
 - milk, yoghurt, cheese and/or their alternatives, mostly reduced fat (reduced fat milks are not suitable for children under 2 years)
- Drink plenty of water
- limit intake of foods containing saturated fat, added salt, added sugars

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