

# Obesity and anaemia rife among Saudi female adolescents

Study shows obesity and iron-deficiency are common among young women in Riyadh.

**A** new study<sup>1</sup> has raised the alarm on the health and nutrition of Saudi adolescent girls, indicating that 77.6 percent of girls aged 16 to 18 suffer from iron deficiency anaemia, 18.2 percent are overweight and 11.5 percent obese. The study also indicates that they are likely to skip breakfast and follow a diet that is high in sugar, consuming a large amount of fast food, and soft drinks.

Work by King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) examined the links between dietary trends, family income levels, excessive use of electronic devices, and insufficient exercise.

The findings are largely in line with those of earlier studies, such as a previous study<sup>2</sup> by the College of Medicine Taibah University demonstrating that 64 percent of female undergraduate students in Saudi Arabia suffer from anaemia. The prevalence of obesity and overweight among young people in the Arab world has been of concern in the past decades, particularly in Gulf countries where levels of affluence have been on the rise and obesity in children and adolescents reached

18 percent in some countries, according to a 2014 study<sup>3</sup> by Sultan AlNohair of Qassim University's Department of Family and Community Medicine.

"It is certainly clear that obesity is on the rise; the rates have multiplied over the past 15-20 years, and women are particularly susceptible to the disease," argues AlNohair. He notes projections<sup>4</sup> by a study conducted at KSAU-HS that predicts the overall obesity rate in Saudi Arabia to increase to 41 percent of men and 78 percent of women by 2022, whereas in 1992 the latter was at a mere 20.7 percent.

"Obesity is associated with diabetes, heart disease, joint pain, osteoporosis, and numerous other health issues. Significant awareness efforts are needed to curb and limit obesity levels," AlNohair says.

## A sweet tooth

The 2018 study by KSAU-HS examines the reasons contributing to obesity among young women, the age group where females in Gulf countries are reportedly almost twice as likely to be obese than their male peers.

Maha Al Turki, programme director of the Clinical Nutrition Program at KSAU-HS

and the lead researcher on the 2018 study, says that the eating habits observed in the Riyadh female adolescent demographic are likely similar to those elsewhere in the region. "I believe that that the eating patterns observed in the study might be similar to other patterns reported in previous studies," she explains. For instance, in neighboring Bahrain, adolescents consume a diet high in some animal protein such as chicken, packaged foods such as potato chips, and low in fruits and vegetables, Al Turki adds.

The study demonstrates that dietary patterns among female adolescents is not nutritious, pointing to consumption of calorie-high foods that are low in iron and fiber. Regularly drinking canned fruit juice, for example, was strongly linked to a higher percentage of body fat among the stated demographic. The study also notes that high sucrose and low fiber consumption aggravates the risk of metabolic syndrome and liver laceration.

The intake of sweets is also noted to be somewhat higher among adolescent females versus their male peers, and research<sup>5</sup> dating back to 2013 finds this to also be true of adolescent women in

# Poor diets and a sedentary lifestyle

Following a diet high in sugar and canned drinks, skipping breakfast and excessively using electronics, Saudi girls aged 16 to 18 are mostly leading a rather unhealthy lifestyle.

**77.6 %**

of girls aged 16 to 18 suffer from iron deficiency anaemia.

**18.2 %**

are overweight

**11.5%**

are obese

**54.5%**

of obese adolescent females come from families with a monthly income higher than SAR 10,000



Regular consumption of canned sugary drinks was common among those with higher body fat percentage.

Excessive use of electronic devices was linked to a sedentary lifestyle.

77.6% of anemic girls were found to consume more fast food.

37.5% of girls skipped breakfast.

Girls in that age group consume a diet high in sugar.



Kuwait. “Several studies have reported that hormonal fluctuations and stress among females may drive their desire to consume sugary foods. Another proposed explanation for this observed sugar cravings is that sugar intake stimulates the release of endorphins, which increases [a fleeting sense of] calm and well-being; since females tend to have lower levels of neurotransmitters, such as serotonin, they may consume more serotonin-boosting foods like sugar,” Al Turki says, urging further research on this aspect.

The 77.6 percent of anemic individuals in the demographic were found to consume more fast food, fatty food and less meat than their non-anemic peers. More than a third of the young women in the study (37.5 percent) reported habitually skipping breakfast, a three-fold increase from a 12 percent rate Al Turki found in a study of primary-school children, further signifying the heightened risk of poor eating habits and related disorders, such as obesity, among young women as they hit puberty and enter adulthood.

Female adolescents were more likely to be obese or overweight in families with higher income levels; 54.5 percent of obese adolescent females came from families with a monthly income higher than SAR 10,000 (\$2,666). The study also

**“The study demonstrates that dietary patterns among female adolescents is not nutritious, pointing to consumption of calorie-high foods that are low in iron and fiber.”**

reports that 71.1 percent of individuals in the demographic habitually participate in some form of exercise, although it does not state the level of exercise intensity or the type of exercise performed.

The study argues that frequent use of technological devices is inversely linked to optimal levels of physical activity. Similarly, the study AlNohair conducted attributes technological advancements, declining levels of physical activity, rapid urbanization and increased consumption of fast foods as major causes of rising obesity levels in Gulf countries. “The new lifestyle and the collapse of traditional reliance on naturally grown produce, a diet that was heavier in fibres, is a primary contributor to these issues,”

AlNohair says. He adds that the traditional Bedouin lifestyle of the past was less sedentary than that of modern-day cities in the Arab world.

“Attention to healthcare and social care is cornerstone to Saudi Vision 2030,” says Al Turki, referring to increased public sector focus on developing medical services, awareness and treatment. “Several Saudi ministries have developed plans targeting lifestyle improvement and reducing the risk of diet-induced disease. In the academic year 2017-18, the Ministry of Education also approved the introduction of physical education classes for girls, encouraging female students to participate in exercise. While the government is taking positive steps to improve the health of the younger generation, there is still a lot more to be done. I would suggest perhaps including nutritional awareness topics in the national school curriculum, which would have a major [positive] impact.”

AlNohair similarly lauds the Ministry of Health’s efforts to curb obesity rates, such as the development of pedestrian walking trails in major cities and the Saudi Arabia is Walking initiative, which launched in 2017 via Twitter. “Such initiatives need to be replicated more widely. In schools, teachers need to constantly educate students concerning health and lifestyle-related illnesses, particularly as obesity rates continue to rise among the younger generation. Also, school cafeterias need to offer more nutritious meal options,” he says.

1. Al Turki, M. et al. Breakfast consumption habits among schoolchildren: A cross-sectional study in Riyadh, Saudi Arabia. *International Research Journal of Medicine and Medical Sciences* **6**, 50-55, (2018)
2. Al Hassan, N. The prevalence of iron deficiency anemia in a Saudi University female students. *Journal of Microscopy and Ultrastructure* **3**, 25-28 (2015).
3. AlNohair, S. Obesity in Gulf Countries. *International Journal of Health Sciences* **8**, 79-83 (2014).
4. Alqarni, S.S. A review of prevalence of obesity in Saudi Arabia. *Obesity & Eating Disorders* **2** (2016).
5. Allafi, A. et al. Physical activity, sedentary behaviours and habits among Kuwaiti adolescents: gender difference. *Public Health Nutrition* **17**, 2045-2052 (2014).