



Nutrition Society Congress 2024, 2–5 July 2024

## Exploring the school environment in relation to healthy eating and physical activity in female high schools in Saudi Arabia

Sarah Aldukair, Prof. Jayne V. Woodside, Dr. Laura McGowan<sup>1</sup> and Prof. Khalid Almutairi<sup>2</sup>

<sup>1</sup>Centre for Public Health, School of Medicine, Dentistry and Biomedical Sciences, Queen's University Belfast, Belfast, UK

<sup>2</sup>Department of Community Health Sciences, College of Applied Medical Sciences, King Saud University, Riyadh, Saudi Arabia

In Saudi Arabia, adolescent health is suboptimal; among those aged 15–29 years, 79% have insufficient levels of physical activity levels, 30% are living with overweight or obesity, and 10% of them have pre-diabetes<sup>(1)</sup>.

The Saudi Guidelines for the Prevention and Management of Obesity recommend implementing school-based interventions to prevent obesity among adolescents<sup>(2)</sup>. Understanding the school setting through a school-based environmental audit can provide insight into the barriers and enablers of obesity prevention strategies in schools (3), which can inform the design of schoolbased interventions. One such tool, the International Study of Childhood Obesity, Lifestyle and the Environment (ISCOLE) tool, assesses the school environment in relation to healthy eating (HE) and physical activity (PA). The reliability and feasibility of this tool has been tested across 256 schools in 12 different countries. Therefore, the ISCOLE tool can be used to conduct reliable environmental audits across international school settings<sup>(3)</sup>. The ISCOLE tool<sup>(3)</sup> was used along with the Saudi Ministry of Education (MOE) canteen policy checklist to examine the school environment in relation to HE and PA.

The Saudi MOE canteen policy is a checklist of banned and recommended food and drink items sold to students. Three female high schools were selected from differing economic deprivation levels (high, medium, and low deprivation) in Riyadh, Saudi Arabia. The ISCOLE tool covers the domains of HE and PA provisions, school facilities and policies, and was completed by the researcher in conjunction with a senior school staff member. The researcher accessed the school canteens and examined the items present. Checklists were completed and pictures taken for documentation. Ethical approval was granted from the Saudi MOE, Princess Noura University's Institutional Review Board, and affirmed by Queen's University Belfast.

There were notable differences between the three high schools sampled. Middle and low deprivation schools had PA and HE policies under development, a specific time allocated for PA, HE promotion and a school shop; the high deprivation school did not have any of these. The results of the MOE canteen checklist illustrated that many 'banned' food items were available in the middle and low deprivation schools, including nectar juices, pre-packaged croissants, chocolates, and popcorn. Regarding 'recommended' food items, both schools offered sandwiches and bottled water. None of the schools offered healthy food at subsidized prices and only the low deprivation school had access to a small outdoor soccer area.

In Saudi Arabia, female high schools face significant challenges regarding a school environment that supports both HE and PA. These challenges include the absence of HE provision and lack of suitable PA facilities. Understanding the school context will help support the development of a future school-based obesity prevention intervention.

### References

1. KSA World Health Survey. (2019) Available online: <https://www.moh.gov.sa/en/Ministry/Statistics/Population-HealthIndicators/Documents/World-Health-Survey-Saudi-Arabia.pdf>.
2. Saudi MOH. (2016) Saudi Guidelines on the Prevention and Management of Obesity. Available online: <https://www.moh.gov.sa/Ministry/About/Health%20Policies/008.pdf>.
3. Broyles ST, Drazba KT *et al.* (2015) Development and reliability of an audit tool to assess the school physical activity environment across 12 countries *International Journal of Obesity Supplements* 5(2), S36–42.