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# Combating Overweight and Obesity among School Children and Adolescents through Student Counselling in Saudi Arabia

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## Abstract

Overweight and obesity are health problems that can affect many children and adolescents around the world. The literature has identified that the prevalence of overweight and obesity is high in the Kingdom of Saudi Arabia (Saudi Arabia) in children and adolescents attending schools in Saudi Arabia. Student counselling practices can be a cost effective way to help students to deal with overweight and obesity in Saudi schools. The aim of the study was to conduct an evidence-based review of the literature in order to suggest new approaches to applying student counselling services and programmes in order to directly combat overweight and obesity in schools in Saudi Arabia. The study used a non-empirical review of the literature on overweight and obesity and on student counselling in the United Kingdom and Saudi Arabia. The study argues that in theory student counsellors in schools in Saudi Arabia are ideally placed to help to directly address and reduce the existing high prevalence of overweight and obesity in youths and adolescents attending schools in Saudi Arabia. This could be done using a combination of dietary interventions and counselling methods. The research study concludes that student counselling in schools in Saudi Arabia could potentially be used to directly help to combat and reduce levels of overweight and obesity among school children and adolescents in the long term.

**Keywords:** Student counselling; overweight; obesity; children; psychotherapy; behavioural therapy; cognitive therapy; health; diet; schools; Saudi Arabia.

## Introduction

The Global Burden of Disease (GBD) 2015 Study systematically estimated the prevalence of overweight and obesity among children (<20 years of age) and adults between 1980 and 2015 (Obesity Collaborators, 2017). It was estimated that in 2015 107.7 million children (prevalence of 5.0%, uncertainty level, 101.1 to 115.1) and 603.7 million adults (prevalence of 12.0%, uncertainty interval, 592.9 to 615.6) were obese worldwide (Obesity Collaborators, 2017). It was also noted that the prevalence of obesity among children and adults has doubled in 73 countries since 1980, it has shown a continuous increase in most other countries, and the rate of childhood obesity in many countries has been greater than the rate of increase in adult obesity (Obesity Collaborators, 2017).

Statistics released by the World Health Organization (WHO) (2010) showed the prevalence of obesity was 23% for males and 36% for females in the Kingdom of Saudi Arabia (Saudi Arabia). These represent highly significant prevalences of obesity in Saudi Arabia. As will be seen, other studies have shown that there has also been an alarming rise in the prevalence of overweight and obesity in children and adolescents in Saudi Arabia. Al-Enazy *et al.* (2014) note that obesity at any age will increase the risk of persistence of obesity at subsequent ages. Indeed, another survey noted that approximately one-third (26% male, 41% female) of obese Arabic-speaking pre-school children and half (42% male, 63% female) of obese school-age children were also obese at adulthood. In practice this would seem to indicate that unless overweight and obesity is tackled effectively at a young age, there is an increased likelihood that overweight and obese children and adolescents will continue this trend on into adulthood. This is highly problematic from a health perspective, as the WHO (2016) states that:

Childhood obesity is associated with a higher chance of obesity, premature death and disability in adulthood. But in addition to increased future risks, obese children experience breathing difficulties, increased risk of fractures, hypertension, early markers of cardiovascular disease, insulin resistance and psychological effects.

This article seeks to highlight the spiraling prevalence levels of overweight and obesity in children and adolescents in Saudi Arabia. It will show how the complex interaction of social determinants that affect overweight and obesity levels in children and adolescents in Saudi Arabia make tackling overweight and obesity highly difficult in practice. The article will also show how student counsellors in schools in Saudi Arabia could in theory be used to bring about a significant change in prevalence levels of overweight and obesity in Saudi schools. The first part of the article will provide an overview of school counseling practices, the second part will outline the prevalence of overweight and obesity around the world, the third part will provide an overview of overweight and obesity in Saudi Arabia, and the fourth part will show how overweight and obesity can be combated through student counseling in Saudi Arabia.

## School Counselling Practices

The United Kingdom (UK) Department for Education (2015) states that although mental health issues are relatively common (e.g. up to 10% of 5 to 15 year old school pupils experience them), many children and young people do not always get the help that they need as quickly as they should. Consequently it is observed that issues such as depression, anxiety, low mood, conduct disorders, and eating disorders can significantly impact on the happiness and future life chances of such children and young people (Department for Education, 2015). The WHO (2014) defines mental health as a state of wellbeing in which every individual recognises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her own community.

Good mental and emotional wellbeing is viewed as an integral part of the personal development of children and young people, so when this development is inhibited in some way counseling can be used to address this inhibition (Department for Education, 2015). Counseling is defined to mean "...a mental health intervention that children or young people can voluntarily enter into if they want to explore, understand and overcome issues in their lives which may be causing them difficulty, distress and/or confusion" (Department for Education, 2015, p.16). The British Association for Counselling & Psychotherapy (BACP) note that in Great Britain nearly 80,000 children and young people are seriously depressed, and around three children in every class have a diagnosable mental health condition (BACP, 2015). School-based counseling is defined as:

...a professional activity, delivered by qualified practitioners in schools. Counsellors offer troubled and/or distressed children and young people an opportunity to explore and understand their difficulties within a relationship of agreed confidentiality (BACP, 2015, p.1).

It has been noted that counseling and psychotherapy involve professionals focusing on encouraging people to talk about their problems and implementing change through these discussions (Rutten and Hulme, 2013). In practice it is also noted that there a range of theoretical models of counseling, with the most well known models being psychodynamic, person-centered and cognitive-behavioural approaches (Rutten and Hulme, 2013). School-based counseling is now one of the most widely recognised forms of psychological therapy for children and young people in the UK, and there are between 70,000-90,000 cases seen in UK secondary schools every year (BACP, 2015). It is noted that counseling in schools has proven to be a highly effective method of support for tens of thousands of troubled children and young people who are experiencing emotional health difficulties (BACP, 2015).

For example, counseling is beneficial because it can: (1) reduce the psychological distress that children and young people experience owing to them having to face a range of difficulties such as bullying and bereavement; (2) support young people who are having relationship problems with family and friends; (3) help young people who

are having difficulty managing their emotions such as anger or depression (Department for Education, 2015). School pupils have also reported improvements in their ability to concentrate, study and learn after undergoing counseling, as well as school pupils reporting an increased motivation for school and schoolwork (Department for Education, 2015). In practice school-based counseling can help children and young people to better cope with bullying, family-related matters, emotional problems, anxiety, depression, self-harm, suicide, mental health issues, and emotional and behavioural difficulties (Phillips and Smith, 2011). This is important because emotional and behavioural difficulties may lead to several negative outcomes such as substance abuse, unemployment, school exclusion, criminal activity, social withdrawal, bullying, fighting, compulsive lying, truancy, vandalism, cruelty to people or animals, and destruction to property (WHO, 1992).

The counsellor's role covers a range of areas such as: (1) listening in a non-judgemental and patient way; (2) helping an individual to make choices and changes; (3) viewing problems from the individual's point of view; (4) helping individuals view issues more clearly and from alternative viewpoints; and (5) helping to minimise confusion (BACP, 2004). Counselling skills may include being empathic, helping people to feel valued and understood, and listening to people in a non-judgmental way (Welsh Government, 2008). These counseling skills may be used by people who work with children and young people in roles such as teachers, school nurses, youth workers and social workers (Welsh Government, 2008).

Although there is strong support to be found in the literature for the benefits of school-based counseling, there are others who have objected to this type of counseling. For example, a research study undertaken by Montgomery (2003) found that a small minority of teachers felt that counseling was not appropriate within an educational environment as they believed that pupils would use it as an excuse to get out of lessons and as a way of exploiting the system. A study undertaken by Polat and Jenkins (2004) also noted that some teachers saw school-based counseling as a way of avoiding lessons, and therefore suggested that it should be offered out of school hours. Kerry (2001) argued that the counseling of students in schools might in theory lead to tensions within the schools. Kerry (2001) explained that counselors are meant to act in a non-judgmental way which might be taken to mean that they condone the actions of students. However, teachers require to instill authority within the classroom setting and this often includes the use of sanctions, and so teachers might perceive counseling staff as undermining their authority (Kerry, 2001). Consequently, when evaluating the use of school-based counseling it is important to note the context in which it will be undertaken in order to aim to ensure that counseling will be beneficial for the students and not negatively affect the school environment in any way.

## Overweight and Obesity

The UK National Health Service (NHS) notes that the term 'obese' describes a person who is very overweight with a lot of body fat (NHS Choices, 2017). In the UK it is said that obesity is a common problem estimated to affect around one in every four adults and around one in every five children aged 10 to 11 (NHS Choices, 2017). Obesity is generally caused by the consumption of excess calories (e.g. fatty and sugary foods), and the excess energy is stored by the body as fat (NHS Choices, 2017). Overweight and obesity can be measured through the use of the 'body mass index' (BMI). This is a weight-for-height index which is typically used to classify overweight and obesity. The BMI is measured by dividing a person's weight in kilograms by their height in meters (kg/m<sup>2</sup>) (WHO, 2015). An individual who has a BMI that is 25 or greater than 25 is overweight (WHO, 2015). An individual who has a BMI that is 30 or greater than 30 is obese (WHO, 2015).

In 2014 more than 1.9 billion people aged 18 or over were overweight, with 600 million of these people being obese (WHO, 2015). The WHO found that worldwide obesity has more than doubled since 1980, that 39% of adults aged 18 years and over were overweight (2014) and 13% were obese (WHO, 2015). It was also found that 41 million children under the age 5 were overweight or obese (2014), and that most of the world's population live in countries where overweight and obesity kills more people than underweight (WHO, 2015). Alqarni (2016) states that the determinants of obesity include: (1) family history of obesity; (2) diet; (3) marital status; (4) diagnoses of diabetes; (5) physical activity; (6) education; (7) age; (8) hypertension; (9) high glucose level; (10) eating habits; (11) sleeping interruptions; and (12) genetic factors. Alqarni (2016) states that the consequences of obesity include: (1) cardiovascular diseases; (2) cancers; (3) hypertension; (4) hypercholesterolemia; and (5) Ischemic heart disease. Obesity may also lead to other serious risks such as type 2 diabetes, coronary heart disease, some types of cancer (e.g. breast cancer, bowel cancer), and stroke (NHS Choices, 2017). It can also lead to other conditions such as depression and low self-esteem (NHS Choices, 2017).

Boodhna (2013) observes that there is considerable evidence that links childhood overweight and obesity with a number of long-term and immediate physiological and psychological health risks. Boodhna (2013) notes that childhood and adolescent obesity can continue on into adulthood, with more severe and well-established health risks such as middle-age mortality and a range of chronic diseases in adult life. Research studies have identified high levels of adolescent dissatisfaction with body size and shape, and an increased prevalence among girls (Gustafson-Larson and Terry, 1992; Hill, Draper, and Stack, 1994; Braet and Wydhooge, 2000). Other negative psychological effects linked with overweight and obesity include low self esteem, low self image and depression (Sjoberg, 2005; Cornette, 2008).

## Overweight and Obesity in Saudi Arabia

Overweight and obesity have been linked to more deaths around the world as compared to underweight (WHO, 2015). However a scoping review of the literature has identified that overweight and obesity in Saudi Arabia is reaching chronic levels, among children, adolescents, and adults. El-Hazmi and Warsy (1997) conducted a research study of 14,660 adult Saudi males and females in Saudi Arabia. The study found that 27.98% out of a sample of 1033 males present in the Western Region were overweight, and 16.55% of these were obese (El-Hazmi and Warsy, 1997). Out of a sample of 1358 females, 24.15% of those were found to be overweight, and 21.8% of these were found to be obese (El-Hazmi and Warsy, 1997).

Al-Nuaim (1996) undertook a research study that demonstrated that out of 9,061 children (6-18 years) attending public schools in Saudi Arabia, the prevalence of overweight (11.7%) and obesity (15.8%) were very high. Al-Nuaim (1996) noted that the findings of a high prevalence of childhood obesity called for an early health education programme on the appropriate choice of diets for growth, health and longevity. The research study carried out by El-Mouzan *et al.* (2010) used Saudi reference data to show that out of 19,317 children and adolescents studied, the prevalence of overweight (21.3%), obesity (9.3%), and severe obesity (2.0%) were all significantly high. El-Mouzan *et al.* (2010) concluded that it was essential that some type of action be taken in order to try to prevent a rise in the significant number of overweight and obese children and adolescents in Saudi Arabia.

Al-Hazzaa (2012) undertook a longitudinal study (10 years) of 2,906 school children (14-19 years) in secondary schools in Saudi Arabia. The study found that young children and adolescents had less active lifestyles, with less physical activity levels and with increasingly sedentary lifestyles owing to sedentary activities such as watching television or video (Al-Hazzaa, 2012). Al-Hazzaa (2012) believed that it was absolutely vital that the Saudi Government should make obesity a national priority in order to promote more healthy and active lifestyles for children and adolescents in Saudi schools. Al-Hazzaa *et al.* (2014) carried out a school-based multicentre cross-sectional study from 2009 to 2010 in three major cities in Saudi Arabia: Al-Khobar, Jeddah, and Riyadh.

The study sampled 1,401 male secondary school students and 1,507 female secondary school students (aged 14 to 19 years) (Al-Hazzaa *et al.*, 2014). The study found the prevalence of overweight in males was 19.5% and in females was 20.8%, whilst the prevalence of obesity in males was 24.1% and in females was 14% (Al-Hazzaa *et al.*, 2014). Al-Hazzaa (2014) stated:

It is concluded [*sic*] that the proportions of overweight, obesity, and abdominal obesity, observed among Saudi adolescents were remarkably high. Such high prevalence of overweight and obesity is a major public-health concern (p.634).



A study carried out by Al Saleh (2013) sampled 1,000 children of Saudi nationality aged 2-14 years who visited the National Guard Comprehensive Specialized Clinic between December 2014 and May 2015. The study found that the prevalence of overweight in boys was 9.5% and in girls was 14.4%, and the prevalence of obesity in boys was 13.5% and in girls was 18% (Al Saleh, 2013). The study also found that the prevalences of overweight and obesity were the highest in the 10-14 year group (Al Saleh, 2013). A cross-sectional study carried out by Al-Dossawry (2010) sought to determine the prevalence and demographic characteristics of overweight and obesity in children in the Eastern province of Saudi Arabia.

The study sampled a total of 7,056 children (aged 2-18 years) from schools and the outpatient department of a hospital (Al-Dossawry, 2010). The study found that the overall prevalence of overweight was 19.0% and of obesity was 23.3% (Al-Dossawry, 2010). It was also found that more than 50% of children aged between 4 and 18 years had weight above the 85th percentile. A cross-sectional study conducted by Al-Enazy *et al.* (2017) focused on primary school students in AlAbnaa schools based in Tabuk, Saudi Arabia. A total of 331 primary school students aged 6-13 years were sampled (Al-Enazy *et al.*, 2017). It was found that the prevalence of overweight among males was 7.3% and among females was 12.4%, whilst the prevalence of obesity among males was 17.4% and among females was 20.9% (Al-Enazy *et al.*, 2017). Al-Enazy *et al.* (2017, p.17) stated "The results of the study provide alarming evidence-based data on the considerable prevalence of childhood overweight and obesity among primary school children in Tabuk, Saudi Arabia."

Al-Saleh (2013) notes that over the past three decades Saudi Arabia has undergone an enormous lifestyle-related transformation, and that this has largely contributed to the increased prevalence of obesity in Saudi children. Al-Saleh (2013) believes that children in Saudi Arabia have become less active, as fewer children walk to school, and many of them spend a lot more time on sedentary activities (e.g. watching television, using computers, playing video games). Al-Saleh also notes that adolescent boys can drive cars which give them easy access to unhealthy diets (e.g. fast food restaurants). Al-Enazy *et al.* (2017) notes that there is evidence that the prevalence of overweight and obesity in Saudi Arabia is growing dramatically, perhaps owing to a tax of urbanization and increased sedentary life style.

Al-Dossary *et al.* (2010) also believed that children in Saudi Arabia had become less active, that few or none walked to school, and more spent time in sedentary activities such as viewing television, or playing computer and video games. Al-Hazzaa *et al.* (2014) also agreed with these conclusions. They noted that the high prevalence rates of overweight and obesity must reflect major changes in lifestyle-related factors such as lack of physical activity, increased sedentary behaviours, unhealthy eating habits, or a combination of any of these factors (Al-Hazzaa *et al.*, 2014). Al-Hazzaa *et al.*, (2014) explain that the hot climate and high air pollution in major cities discourages outdoor activities and increases the prevalence of inactivity. There seemed to be an over-reliance on cars rather than walking for short-distance travel (e.g. trips to and

from schools) (Al-Hazzaa *et al.*, 2014). Also, whereas previously communities in major Saudi cities were designed to support pedestrian travel in common daily activities (e.g. shopping, travelling to schools and mosques), newly modernized cities with large street networks totally discourages walking (Al-Hazzaa *et al.*, 2014).

### **Combatting Overweight and Obesity through Student Counselling in Saudi Arabia**

The WHO (2016) notes that:

Overweight and obesity, as well as their related noncommunicable diseases, are largely preventable. Supportive environments and communities are fundamental in shaping people's choices, by making the choice of healthier foods and regular physical activity the easiest choice (the choice that is the most accessible, available and affordable), and therefore preventing overweight and obesity.

As has been noted previously, the high prevalence rates of overweight and obesity seen in Saudi adolescents reflect major changes in lifestyle related factors. Al-Hazzaa *et al.* (2014) argue that in order to combat childhood overweight and obesity fundamental changes in public policies, the food and built environments, and health systems are required, in addition to primary prevention through promotion of a healthy diet and active lifestyle. Al-Hazzaa *et al.* (2014) warn that if no drastic measures are taken to reduce the level of obesity among Saudi children and youths, it is likely that Saudi Arabia will experience a fair reduction in the absolute life-expectancy for the young generation. Alqarni (2016) states:

There is a dire need to raise the issue at the national level, and design efforts and strategies to combat obesity in the country, through involvement of all stakeholders, including policy makers, educators, healthcare providers, and individual citizens (p.5).

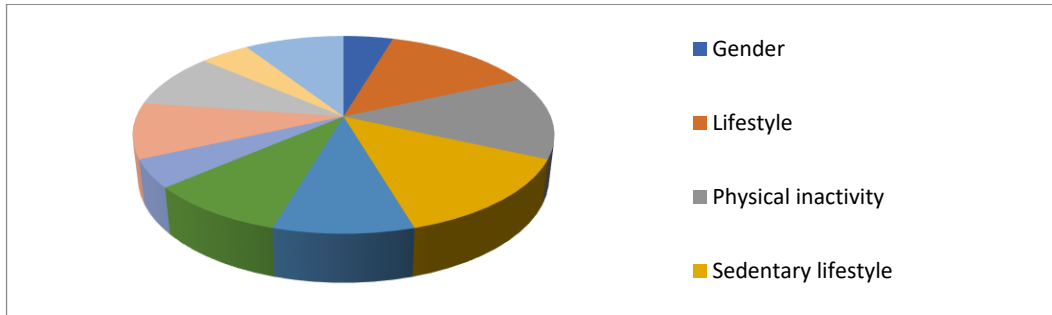
There would therefore seem to be a clear and pressing need to effectively address the alarmingly high levels of prevalence of overweight and obesity in children and adolescents in Saudi Arabia. Al-Enazy (2017) observes that childhood is the critical period for the initiation of obesity and associated morbidity, and therefore this is precisely the time at which measures to prevent overweight and obesity will be most effective. Kann *et al.* (2006) state that school health programmes can significantly affect the lives of children and adolescents as they can improve their health-related knowledge, attitudes, and skills required to learn healthy behaviours. Dhaifallah *et al.* (2017) remark that children spend an essential part of their lives at school and it is plausible to acknowledge that schools can exert significant influence in achieving positive students' health and social outcomes.

They argue that the role of educational institutions in creating sustainable improvements in the health status of the Saudi Arabian community is crucial (Dhaifallah *et al.*, 2017). The school setting is potentially a highly apt environment in which to develop and set up an effective overweight and obesity prevention



programme (OOP Programme) which would aim to tackle the moderating social determinants of obesity Figure 1.

**Figure 1: Social Determinants of Childrens' Overweight and Obesity**



The WHO (2017a) states that the promotion of healthy diets and physical activity in school is essential to fight the childhood obesity epidemic. It states that:

Because children and adolescents spend a significant time of their young lives in school, the school environment is an ideal setting to acquire knowledge and skills about healthy choices and to increase physical activity levels (WHO, 2017a, p.1).

The WHO (2017c) generally recommends that individuals increase consumption of fruit and vegetables (as well as legumes, whole grains and nuts), they limit energy intake from total fats and shift fat consumption away from saturated fats to unsaturated fats, they limit the intake of sugars, and they become physically active, i.e. at least 60 minutes of regular, moderate- to vigorous-intensity activity each day that is developmentally appropriate. In addition to this, it is observed that a multisectoral approach is essential for sustained progress, as it can mobilize the combined energy, resources and expertise of all stakeholders involved (WHO, 2017c).

Pelletier (2015) carried out a review of the literature relating to the school nurse teacher's role in preventing childhood obesity at school. It was found that the review of the literature demonstrated that school nurses could have a major impact in preventing obesity (Pelletier, 2015). Effective interventions implemented by school nurse teachers included: (1) Hohman, Price, Sonneville, Rifas-SHiman, Gortmaker, Gillman and Tavaras, 2012; (2) Johnston, Moreno, El-Mubasher, Gallagher, Tyler, and Woehler, 2013; (3) Morrison-Sandberg, Kubik, and Johnson, 2011; (4) NASN, 2014; (5) Steele, Wu, Cushing, and Jensen, 2013; and (6) Soderlund, Malmsten, Bentsen and Nilsen, 2010 (Pelletier, 2015).

AlBashtaway *et al.* (2014) argue that school nurses are particularly well placed to take action to promote healthy behaviours within the school, and to help students in schools gain appropriate access to services that can help them maintain or improve their health. School nurses can act as health assessors (i.e. obtaining students' health history and performing physical assessments) and health educators (i.e. educating students by promoting a healthy lifestyle and modifying unhealthy behaviours)

(AlBashtaway *et al.*, 2014). Indeed, it is noted that school nurses have an ideal opportunity to enhance health-promoting activities in order to reduce the risks of benign overweight or obese (AlBashtaway *et al.*, 2014).

In practice, the United States (US) National Association of State Boards of Education (NASE) states that schools can help students adopt and maintain healthy eating and physical behaviours in eight ways (Table 1) (Wechsler *et al.*, 2004).

Table 1: 10 Health Strategies for Schools (Wechsler *et al.*, 2004)

1	Address physical activity and nutrition through a Co-ordinated School Health Programme (CSHP) approach.
2	Designate a school health co-ordinator and maintain an active school health council.
3	Assess the schools health policies and programmes and develop a plan for improvement.
4	Strengthen the school's nutrition and physical activity policies.
5	Implement a high-quality health promotion programme for school staff.
6	Implement a high-quality course of study in health education.
7	Implement a high-quality course of study in physical education.
8	Increase opportunities for students to engage in physical activity.
9	Implement a quality school meals programme.
10	Ensure that students have appealing, healthy choices in foods and beverages offered outside of the school meals programme.

Al Saleh (2013) has argued that the establishment of pre-school, school, and adolescent health programmes, with an emphasis on increasing the number of hours of physical education and the consumption of healthy food, as well as incorporating health messages into the school curricula, will help to reduce obesity. The literature has identified that school nurses can help to implement healthy dietary intervention programmes in schools. However, the implementation of an effective and successful OOP Programme will require a great deal of time and effort from a range of stakeholders. This is especially the case in Saudi schools where there exist a broad range of social determinants of childrens' overweight and obesity which need to be specifically addressed.

Consequently, it is argued that the school's student counselor is in the ideal position to be able to implement and oversee the OOP Programme in schools in Saudi Arabia. The student counselor would act as the coordinator to coordinate with relevant stakeholders such as teachers, parents, physical education teachers, and school nurses. The student counselor is also ideally placed because they are able to provide ongoing and rounded support to students in schools. Al-Hazzaa *et al.* (2014, p.642) note that "Obesity is a complex disease with genetic and life-style factors, both playing important roles in de-termining a child's weight and body composition." If student counselors are able to speak and counsel students on a regular basis they will not only be able to provide regular positive support regarding adopting a healthy lifestyle and healthy eating habits, but they will be able to build up a more detailed and

comprehensive picture of the social determinants that may be affecting a particular child.

The use of student counselors in schools to combat overweight and obesity among school children and adolescents in Saudi schools is therefore highly recommended, as this would form part of the overall guidance and counseling programmes for school children and adolescents in schools in Saudi Arabia. The complex nature and interaction of social determinants of overweight and obesity demonstrate the need for a more holistic and comprehensive assessment of the health of children and adolescents in Saudi schools. Consequently, it is noted that within the specific context of Saudi schools, the implementation of an OOP Programme by school nurses alone might prove to be highly challenging. School nurses may understand the medical and health perspectives relating to overweight and obesity.

However, the broad range of social determinants of overweight and obesity in Saudi schools calls for a broader and more comprehensive understanding of social and behavioral factors affecting the prevalence of overweight and obesity in children and adolescents in Saudi schools. Consequently it is recommended that student counselors who have regular and ongoing contact with students in Saudi schools, would be ideally placed to lead a multi-stakeholder OOP Programme in Saudi schools. Overweight and obesity can often be traced back to a number of behavioural, social, and emotional factors such as depression, comfort eating, bullying, and loneliness. Therefore student counselors are in an ideal position to be able to monitor students and provide regular and ongoing support regarding the implementation of health and healthy eating programmes.

## **Conclusion**

The spiraling prevalence levels of overweight and obesity in children and adolescents in Saudi Arabia is highly concerning. Moreover, the literature has identified a complex range of social determinants that affect prevalence levels of overweight and obesity in children and adolescents. These include factors such as increasingly sedentary lifestyles, poor dietary habits, over-abundance of fast foods, and poor quality physical activities. The complex interaction between these factors means that in practice children and adolescents in Saudi schools may find it difficult to effectively tackle overweight and obesity. Without concerted efforts at a national level it has been noted that Saudi Arabia will experience a fair reduction in the absolute life-expectancy for the young generation (Al-Hazzaa *et al.*, 2014).

The literature has identified that dietary and health interventions undertaken by school nurses have been successful in the past. Consequently, building on this literature this article has proposed that because of the broad range of health strategies that schools need to put in place in order to tackle overweight and obesity, student counselors are ideally placed to run and oversee special cost-effective programmes that are designed to effectively combat overweight and obesity in Saudi schools. Student counselors can work with other relevant stakeholders to oversee

these programmes and to regularly communicate and counsel students on dietary and health issues, as well as a broad range of mental, psychological, and emotional issues within the student counseling framework. This is a strategy that would be likely to have a higher probability of successfully combating overweight and obesity among school children and adolescents in schools in Saudi Arabia.

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