

Evaluation of Private Schools Implementation of International School Health Guidelines and the Impact on Childhood Obesity, in Dubai

Alia Abdulrahman Dakhan^{1*} • Racquel Warner²

¹Dubai Health Authority, Dubai, United Arab Emirates.

²Mohammed Bin Rashid School of Government, United Arab Emirate.

*Corresponding author. E-mail: alia.dakhan@hotmail.com.

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Abstract. Childhood obesity is a health concern globally and in the UAE. The prevalence of childhood obesity in the UAE reached 13.7% among 5-17 years old children. The research aimed to explore the implementation of international school health policies at Dubai private schools. The study followed a descriptive, quantitative, cross-sectional method using an online questionnaire. The target population were private schools in Dubai and they account for the majority of schools in the city. The sample size was 40 schools that represent 19% of the population. The data was collected online using Google forms, then analyzed through Microsoft Excel and SPSS. The majority of school principal's (83%) agree on the importance of implementing health policies. The implementation of health policy components recommended by the CDC: 7-9 components: 32.5%, 4-6 components: 35%, and 1-3 components: 30%. The majority of principals (84.6%) are willing to ban sweetened drinks from their school. Also, 64% of principals are willing to increase physical education (PE) classes, only 13% disagree. The study showed that 65% of schools provide 90 minutes/week PE classes (2 classes/week) lower than the recommended 180 to 225 minutes/week by the CDC and other health organizations. The common challenges schools reported to have experienced when trying to implement the health policies were time limitation, finance, human resources, and facilities. In conclusion, schools are working toward supporting health policies and school principals had an overall positive attitude in implementing new health policies. Schools also need to address the challenges they identified since they hinder the implementation of health policies.

Keywords: Childhood obesity, school health, policy, principals, private schools, health, education.

INTRODUCTION

Childhood obesity is a growing health problem globally and locally in the United Arab Emirates (UAE). As reported by the World Health Organization (WHO) statistics for 2016 shows that obesity is affecting around 671 million adults and 124 million children and adolescents age 5-19, globally. It is also essential to notice the increasing rates of overweight among children aged 5-19, reaching 213 million (WHO, 2017a). Rates of overweight and obesity are increasing rapidly in recent years, leading to an increase in the risk of early onset of

diseases (WHO, 2017a). Overweight and obesity are defined as the accumulation of excess body fat that leads to health problems (WHO, 2017b). The recent statistics from the UAE revealed a prevalence of 13.69% of childhood obesity among children age 5-17 years (Vision 2021 United Arab Emirates, 2018). The UAE is a comparably new nation; therefore, health problems among youth can cause significant challenges for the future of the country. Obesity and diseases related to it, can indirectly lead to low productivity, reduced quality of

life, and premature death. Moreover, obesity and obesity-associated health problems are estimated to cause 2.8 million deaths per year in the EU. Obesity is growing to form a burden on both developing and developed countries (European Commission, 2014). The UAE Vision 2021 for health aims to reduce the rates of lifestyle-related diseases such as obesity (Vision2021.ae, 2019). International health organizations recommend school health guidelines and frameworks in order to provide guidance for governments and policymakers on possible areas for school health policies to be implemented. International health organizations such as the World Health Organization, the Centers for Disease Control and Prevention (CDC), and the EU Action Plan on Childhood Obesity suggest that school health policies need to be customized according to the needs and readiness of local schools. School environment improvements can be achieved through educational curriculum, physical education, nutritious meals, and parent's involvement (WHO, 2017c; CDC, 2011; European Commission, 2014). Local governments in the UAE, such as the Ministry of Health and Prevention and Dubai Health Authority, are also proposing and implementing school health programs that focus on overall health and wellbeing and there are other initiatives that are dedicated to preventing childhood obesity (Mohap.gov.ae, 2017; Khaleej Times, 2018). This research examined the implementation of international school health guidelines among private schools in Dubai and also measured the principals' willingness to adopt new health policies. The project further identified the common challenges in implementing health policies, in order to make recommendations for how to best improve the level of implementation. Most previous research conducted in the UAE focused on the prevalence of obesity among students and did not explore the impact of school health policies or principal's perceptions on obesity rates. Therefore, exploring this topic could benefit policymakers in Dubai, and other Emirates would benefit from Dubai's experience as well.

MATERIALS AND METHODS

The research design was a quantitative, descriptive, cross-sectional method. The study helped to better understand school management beliefs and readiness in implementing future policies. In this research, primary data was collected using an online questionnaire among the target group which was the school management personnel (principals, vice-principals, or grade supervisors).

The online questionnaire had 32 questions, including multiple-choice questions, Likert-scale, and open-ended questions. The questionnaire was divided into sections that focused on specific elements of the study. The sections were as following; beliefs, physical activity,

school meals, health education, school policies and procedure, and school demographics. The full questionnaire is available as (Annex 1). The CDC school health guideline was selected to inform the design of the questionnaire use in this research for the following reasons: first, it was easier to compare with previous research which used the same guideline; second, the similarity of the CDC areas with the DHA school health policy components and programs made it relevant locally and internationally (Khaleej Times, 2018; CDC, 2011).

The target population of this study were principals, vice-principals, or supervisors of all private schools in Dubai. Private schools were selected since they account for the majority of schools in Dubai; around 209 schools (Khda.gov.ae, 2018). Compared to only 75 public schools in Dubai (Ministry of Education, 2017). The participants were invited to participate in this research through an email from the researcher. Principals or vice-principals of private schools in Dubai were included in this research similar to previous research that surveyed school principals done in Western Pennsylvania and New Zealand to evaluate health programs (Zuraikat and Dugan, 2015; Mansoor *et al.*, 2017). Participation in the survey was voluntary, participants are anonymous, and they had the right to withdraw from the study at any point. The online survey was sent to all school principals through email, after obtaining the ethical clearance from the research committee at Mohammed bin Rashid School of Government (MBRSG) in May 2019 with reference number REC-26-2019. The sample size was 40 schools which represent 19% of the population. The data was collected online using Google forms, then analyzed through Microsoft Excel and SPSS version 26.

RESULTS

The research results showed that private schools in Dubai are at different levels of developing and implementing health policies. The overall attitude of school principals is positive toward the importance of implementing health policies, regular physical activity, and healthy food on the student's health. Also, the results reflected the willingness of school principals to increase PE classes and to ban sweetened drinks at their schools. On the other hand, school principals reported that they are facing several challenges in the process of implementing health policies. In addition, the study showed that the majority (72.5%), of schools have a health team or council responsible for developing, implementing, and evaluating the health programs.

School principal's beliefs

The overall rates of the principal's beliefs on the importance of healthy meals, regular exercise, and health

Table 1. Principals Beliefs Results from Questions 1 to 6.

Questions 1-6 from the questionnaire	Strongly Disagree % (N)	Disagree % (N)	Neutral % (N)	Agree % (N)	Strongly Agree % (N)	Total (N)
Q1. Implementing school health policies may help reduce overweight and obesity among students.	10%(4)	0	7.5%(3)	45%(18)	37.5%(15)	40
Q2. Regular physical activity helps in improving overall student health.	10%(4)	0	0	25%(10)	65%(26)	40
Q3. Healthy food is essential for a student's overall health.	10%(4)	0	0	22.5%(9)	67.5%(27)	40
Q4. Health and nutrition education at school can help in improving overall student health.	10%(4)	0	5%(2)	35%(14)	50%(20)	40
Q5. As a school principal, i am willing to increase the number of hours of physical education classes at my school.	10.3%(4)	2.6%(1)	23.1%(9)	43.6%(17)	20.5%(8)	39
Q6. As a school principal, i am willing to ban sweetened drinks at my school.	7.7%(3)	5.1%(2)	2.6%(1)	28.2%(11)	56.4%(22)	39
Overall Average	9.6%	1.2%	6.3%	33.2%	49.4%	

education on the overall student health were positive. Also, the statements reflected their willingness to initiate change in the PE and meals provided by the school. The results demonstrated that around 83% agreed with the statements given (both agree and strongly agree combined), 6.3% were uncertain on some of the statements, and only 10.8% disagree (both disagree and strongly disagree). A summary of the principals' responses to questions 1 to 6 illustrate their perceptions (Table 1). The results are in percentage range from strongly disagree to strongly agree with the given statements.

Physical activity

The majority of the principles 62.5% (n = 25) stated that they conduct physical activity programs and competitions at their schools more than 5 times a year, and 20% (n = 8) engage in physical activity competitions 3 to 5 times in a year. 15% engaged their students 1-2 times/year, and only 1 school (2.5%) do not conduct any competitions or programs for physical activity in their school. The most common physical activities conducted were the sports day, competitive group sports, and individual sports such

as; gymnastics, running, swimming, martial art, and football. In addition, the majority of principals 65% (n = 26) rated their students' level of engagement being high, 32% (n = 13) being moderate engagement, and only 2.5% (n = 1) rated their student physical activity participation being low. The average number of PE classes given weekly was 2, with a minimum of 1 class per week and a maximum of 5 classes. As for the average time given for each class was 47 min, ranging between 30 to 60 min per class.

School meals

The majority of schools provide fresh fruits daily around 65% (26), and 17.5% (n = 7) schools provide it from 3 to 4 times/week. Six other schools (15%) responded that they provide fresh fruits once to twice weekly, and only one school does not provide any fresh fruits. In addition, 67.5% of schools provides vegetables daily, 12.5% from 3-4 times/week, and 17.5% of schools provide vegetables 1-2 times/week. As for the availability of low-fat dairy products at school canteens, the study showed that 72.5% of schools provide low-fat dairy products and the remaining 27.5% does not provide. More than half of the

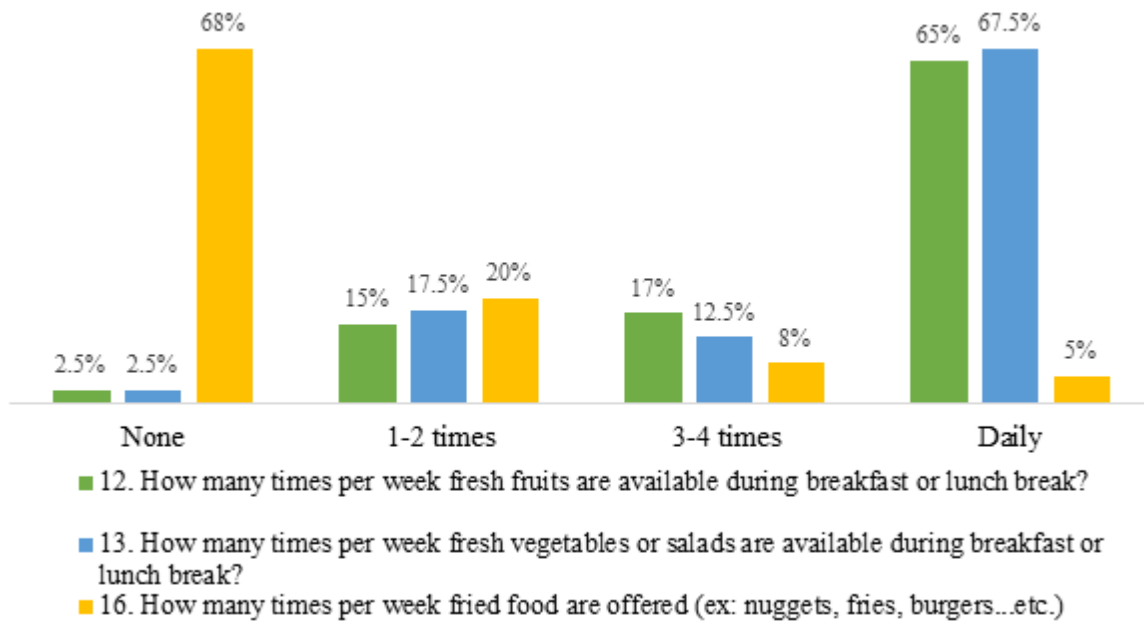


Figure 1. Percentage of the availability of fresh fruits, vegetables, and fried foods at Dubai private schools.

schools (65%) provide unsweetened 100% fruit juice, and 35% of school provide sweetened juices and beverages. When asked about the availability of unhealthy food options, such as fried nuggets, potato fries, and burgers at their school canteen; 67.5% (n = 26) replied that their schools do not provide fried foods at all, and 20% (n = 9) provide it occasionally from 1-2 times/week. The remaining five responses were providing fried food regularly; three schools provided fried food 3 to 4 times weekly and two responses daily (Figure 1).

Health education

The health education section was intended to explore the way health education is delivered and integrated into the educational curriculum. 61.5% (n = 24) of school principals reported that they provide health education classes or lectures 1-2 monthly. 15.4% reported conducting health sessions 3-4 times per month, around one lecture weekly. On the other hand, 20% of schools reported that health education lectures were rarely given. When asked about the integration of health education in the curriculum of different subjects, and the majority (92%) answered Yes and only 7.5% do not include health instructions with other subjects. Delivering health education and awareness to young children would require professional and trained individuals to appropriately conduct health education sessions and programs. The participants selected from the list provided

in the questionnaire, the most common health education facilitator. The school nurse was the most common option selected with 72.5% (n = 29), followed by a PE teacher or any school teacher with 67.5% (n = 27), similarly to school doctor with 60% (n = 24). Some school's social workers would be involved in health education with 25%. Other healthcare professionals such as nutritionists/dietitians and health educators are also involved in health education at some of the schools with rates of 12.5 and 15%, respectively. Moreover, 72.5% responded that the health education provider is receiving training from healthcare professionals. In all cases these are licensed professionals employed within the school under whose remit health education would fall. The UAE has very strict licensing and employment laws to ensure qualified and licensed professionals are employed in schools.

School policies and procedures

The questions in this section of the questionnaire aimed to capture a basic understanding of the current school health policies and procedures at Dubai private schools. The CDC guideline consists of 9 components, and the participants were asked to select the number of components their school's implement. The results show that 32.5% implements 7-9 components, 35% from 4-6 components, 30% from 1-3 components, and only 2.5% do not implement any of the recommended CDC school

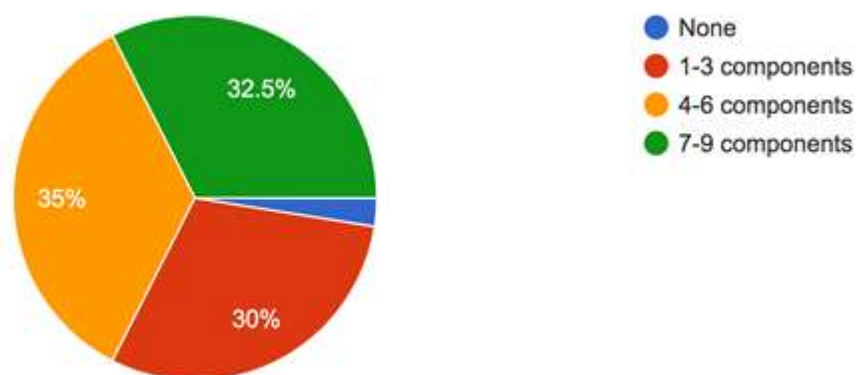


Figure 2. Percentage of the implementation of the CDC school health guideline at Dubai private schools.

health guidelines (Figure 2).

Most of the school principals (72.5%) reported having an assigned team or committee for developing and implementing health policies in their schools. The school health team or council meets several times a year, as reported 54.8% of teams meet every three months, 25.8% meet monthly, 12.9% meet every six months, and only 6.5% meet once a year. In addition, school principals were asked to evaluate the effectiveness of the meetings in improving the overall health of the students. Results were, 48.4% of school principals view the work of the health council to be moderately effective, 38.7% very effective, and 12.9% somewhat effective, no responses were recorded for the ineffective option. Schools often provide training for teachers on how to implement school health policies. 40% of schools provided annual training for their teachers, 35% twice a year, 17.5% train quarterly, and only 7.5% conduct monthly training. Developing health policies for schools would need to involve different stakeholders, and parents are considered one of the critical stakeholders (CDC, 2011; European Commission, 2014). School principals were asked if they involve parents in the development of school health policies and procedures, and 67.5% do involve parents in the process. On the other hand, 32.5% of school principals reported not involving parents in the process of initiating health policies. An essential aspect of implementing new school health policies is to understand what the challenges are that prevent or delay proper implementation. The majority selected time limitation with 72.5% ($n = 29$), followed by a lack of financial support and human resources with 30 and 25%, respectively. Also, 17.5% of the responses selected unequipped facilities such as gym and lecture rooms as a challenge. Others selected lack of training, lack of management support, and lack of parents support and awareness on

the importance of school health policies as challenges to their schools with rates of; 10, 5 and 2.5%, respectively (Figure 3).

School demographics

Most school principals had been working in the school for around 1 year (39%), 36% working from 2-5 years, and 25% working more than 5 years. According to the responses, the majority of the participated principles were female (59%) and non-Arab expatriates (58%), with the remaining being Arab expatriates (42%) and none Emirati. The school's recent KHDA rating was optional for principals to answer, 34 of the participants responded; 44% of schools had Good rating, 35.3% Acceptable, 14.7% outstanding, and 5.9% had a weak rating.

DISCUSSION

The majority of the responses from school principals were positive. Overall 83% agreed with the statement that implementing school health policies can reduce overweight and obesity among students, and healthy food and physical activity can improve student's health. The agreement on those statements reflected the importance of this topic for the principles in private schools in Dubai.

Principals of private schools in Dubai were asked about the CDC school health guideline and how many recommended areas they were implementing. The CDC guideline included nine components and the components are as follows:

1. The coordinated approach in developing, implementing,

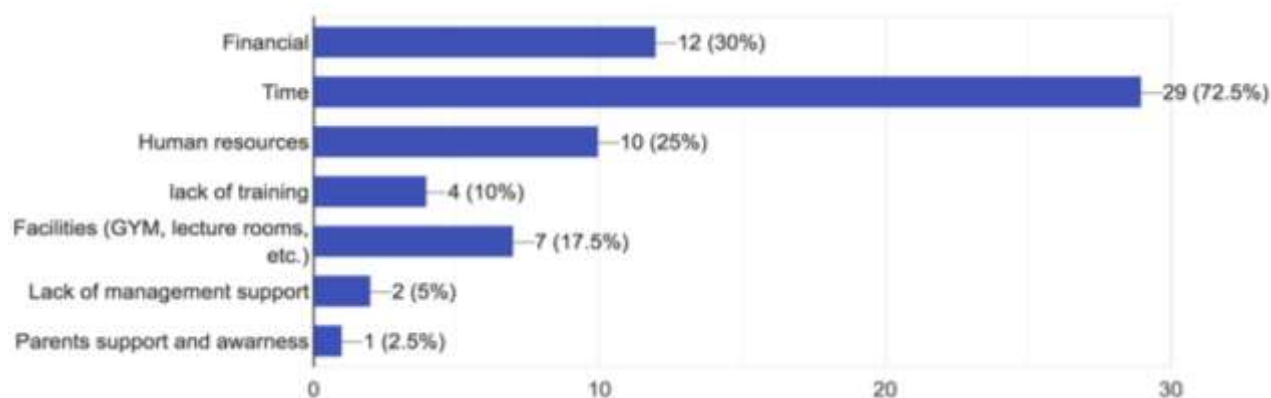


Figure 3. Percentage of challenges that prevent schools from implementing health policies at Dubai private schools as reported by school principals.

and evaluating health policies (through a school health council).

2. A school environment that supports healthy eating and physical activity.
3. Quality school meal program.
4. Physical activity programs.
5. Health education.
6. Mental health and social services.
7. Incorporate families and communities in the development of policies.
8. School employee wellness program.
9. Employ qualified and professional persons to implement and supervise the above programs.

The study showed that more than half of the responses are currently implementing a minimum of 4-6 components. Where 32.5% implemented 7-9 components, 35% implemented 4-6 components, and 30% implemented 1-3 components of the CDC school health guideline (CDC, 2011). Most of the schools that implemented 7-9 components of the CDC guideline were schools with an "Outstanding" rating from the KHDA. Implementing more school health policies are positively linked with a higher KHDA rating since the KHDA annual private schools' inspection report include a health and safety section that evaluate physical activity and well-being (Khda.gov.ae, 2019). Concluding that schools are working toward improving health policies and programs, but they need to include different areas in order to reach optimum results.

Schools also need to address the challenges they identified since they hinder the implementation of long term, sustainable policies that target physical education, healthy meals, and health education. The study showed that most of the principals reported that their school is facing one or more challenges which prevented the implementation of health policies. School principals were

given a list of common challenges, similar to the challenges presented in previous research (Cygan *et al.*, 2019; Shaibu and Phaladze, 2010). Time limitation was the most common reason among schools. With the focus being on academic performance, PE and health activities usually get overlooked. In addition, lack of financial support and human resources are also very significant challenges that are present among 30 and 25% of schools, respectively. Around 18% of schools reported that other challenges were the lack of equipped sports and educational facilities at their campus.

Additionally, the results reflected the willingness on school principals to increase PE classes and to ban sweetened drinks in their schools. When responses were elicited from school principals about their willingness to increase the hours of PE classes, **64%** agreed. Considering that only 10% of schools provide 4-5 classes weekly, that level of increase would add up to 180 to 225 minutes/ week, thus meeting the international recommendation. The CDC and other organizations recommend schools to provide 150 to 225 minutes/ week of PE for all students from kindergarten through secondary school (CDC, n.d; Shapeamerica.org, 2014; Shape of the Nation Report, 2010).

The majority of principals (**84.6%**) agreed on banning sweetened drinks. The results are very similar to a previous study conducted in New Zealand, which evaluated the implementation of banning sweetened drinks at schools. The study showed positive responses from school principals with **85%** of schools implementing this policy and 15% not considering it (Mansoor *et al.*, 2017).

CONCLUSION

Rates of childhood obesity are increasing and imposing a

higher risk factor for major health conditions, and the rates have been rapidly increasing worldwide and similarly in the UAE. The prevalence of childhood obesity reached 13.7% in the UAE based on recent statistics. Health organizations such as WHO and CDC, demonstrated the physical and mental risks associated with obesity. The UAE Vision 2021 for health aims to reduce the rates of lifestyle-related diseases such as obesity. This research aimed to provide an insight into the current school health guidelines implementation at Dubai private schools. In addition, to identify the most common challenges schools are facing during the implementation of health policies or guidelines. Another objective of the study was to evaluate the perspective of school principals on health policies and their willingness to implement physical activity and nutritious school meal programs and policies.

The findings of this research showed that the implementation of international school health recommendations is present among private schools in Dubai, but a lower percent of schools implement all recommended areas for school health. Results also revealed that school principals have a positive perception on the impact of school health policies on reducing the risk of obesity among students. Moreover, the study shows that principals are willing to increase PE hours/week and ban sweetened drinks from their school.

The most common challenges schools are facing as reported by the principals are time, finance, human resources, and facilities. Therefore, policy recommendations should consider the challenges school principals reported in this research, in order to help in better implementation. Along with the involvement of all stakeholders to enable change and exchange experiences. Involving school principals in the development of school health policies would contribute in more effective implementation (Amis *et al.*, 2012). Since school principals hold a significant position that influences the development of nutrition guidelines, physical activities, and policy decisions at their schools.

POLICY RECOMMENDATIONS

Preventive health approaches are critical in reducing the adverse effect of lifestyle-related problems. This study presents a set of policy recommendations that would be helpful for principals and other stakeholders to implement.

The policy recommendations address the challenges the school principals reported in this research. First recommendation is to establish a *School Health Platform* for all schools in Dubai to share their experience with other schools and to communicate with policymakers to discuss ways to minimize the challenges they face in initiating new school health policy. The platform could be managed by members from different organizations such as; the KHDA, Ministry of Education, Ministry of Health and Preventions, DHA, and other interested private or

public entities. The second recommendation is to *increase the hours for PE* to reach the minimum recommended hours of 180 minutes per week. It is achieved by doubling the number of classes from 2 to 4 classes weekly (if the class is 45 minutes long). The third recommendation is to implement the *ban of sweetened drinks* in schools since the study revealed that most of the private school principals are willing to implement this policy. The fourth recommendation is to establish a *multidisciplinary school health team* in schools that are responsible for the development, implementation, and evaluation of any health-related programs and policies and to actively participate in the School Health Platform.

REFERENCES

- Amis J, Wright P, Dyson B, Vardaman J, Ferry H (2012). Implementing Childhood Obesity Policy in a New Educational Environment: The Cases of Mississippi and Tennessee. *Am. J. Public Health* 102(7):1406-13. doi: 10.2105/AJPH.2011.300414.
- CDC (2011). School Health Guidelines to Promote Healthy Eating and Physical Activity. *Morbidity and Mortality Weekly Report*. CDC, pp. 11-12. Available at: <https://www.cdc.gov/healthyschools/npao/pdf/mmwr-school-health-guidelines.pdf> [Accessed 2 Mar. 2019].
- CDC. (n.d). The Physical Activity Guidelines for Children and Adolescents. Available at: https://www.cdc.gov/healthyschools/physicalactivity/toolkit/youth_pa_guidelines_schools.pdf [Accessed 30 Nov. 2019].
- Cygan H, Tribbia C, Tully J (2019). School Health Policy Implementation: Facilitators and Challenges. *The Journal of School Nursing*, [online] p.105984051984608. Available at: <https://journals.sagepub.com/doi/10.1177/1059840519846089> [Accessed 20 Dec. 2019].
- European Commission (2014). *EU Action Plan on Childhood Obesity 2014-2020*. Available at: https://ec.europa.eu/search/?query_source=PUBHEALTH&QueryText=EU+Action+Plan+on+Childhood+Obesity+2014-2020&op=&swlang=en&form_build_id=form-pCY6BidKXns9F7a8jeCnSwSe14pedRoqKXJR XOoFZ5E&form_id=nexteuropa_euro_pa_search_search_form [Accessed 3 Dec. 2019].
- Khaleej Times. (2018). *DHA launches school health policy for Dubai*. Available at: <https://www.khaleejtimes.com/nation/dubai/dubai-health-authority-launches-school-health-policy-for-dubai> [Accessed 19 Oct. 2019].
- Khda.gov.ae. (2018). KHDA's Open Data- Dubai's Private Schools Open Data. Available at: <https://www.khda.gov.ae/en/opendata> [Accessed 19 Oct. 2019].
- Khda.gov.ae. (2019). School Inspection Reports. Available at: <https://www.khda.gov.ae/en/DSIB/Reports?isSearched=1> [Accessed 20 Dec. 2019].
- Mansoor O, Ali R, Richards R (2017). Regional survey supports national initiative for 'water-only' schools in New Zealand. *Austr. New Zealand J. Public Health*, 41(5):508-511.
- Ministry of Education (2017). *School Statistics 2016-2017*. UAE: MoE.
- Mohap.gov.ae. (2017). Ministry of Health & Prevention observes World Obesity Day. Available at: <http://www.mohap.gov.ae/en/MediaCenter/News/Pages/1894.aspx> [Accessed 18 Oct. 2019].
- Shaibu S, Phaladze N (2010). School health: the challenges to service delivery in Botswana. *Primary Health Care Res. Dev.* 11(02):197.
- Shape of the Nation Report (2010). Reston, VA.: National Association for Sport and Physical Education.
- Shapeamerica.org. (2014). Guide for Physical Education Policy. Available at: <https://www.shapeamerica.org/advocacy/upload/Guide-for-Physical-Education-Policy-9-23-14.pdf> [Accessed 3 Dec. 2019].
- Vision 2021 United Arab Emirates (2018). Prevalence of Obesity amongst Children. Available at: <https://www.vision2021.ae/en/national-agenda-2021/list/card/prevalence-of-obesity-amongst-children> [Accessed 2 Mar. 2019].

Vision2021.ae. (2019). *National Priorities*. Available at: <https://www.vision2021.ae/en> [Accessed 12 Aug. 2019].

World Health Organization (2017c). Ending Childhood Obesity Implementation Plan: Executive summary. Geneva: WHO.

World Health Organization (2017a). Tenfold increase in childhood and adolescent obesity in four decades: new study by Imperial College London and WHO. Available at: <http://www.who.int/mediacentre/news/releases/2017/increase-childhood-obesity/en/> [Accessed 5 Aug.2019].

World Health Organization, WHO (2017b). What is overweight and obesity? Available at: http://www.who.int/dietphysicalactivity/childhood_what/en/ [Accessed 5 Aug. 2019].

Zuraikat N, Dugan C (2015). Overweight and Obesity among Children: An Evaluation of a Walking Program. *Hospital Topics*, 93(2):36-43.

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ANNEX**Research questionnaire**

Title: Evaluation of Private Schools Implementation of International School Health Guidelines and the Impact on Childhood Obesity, in Dubai.

BELIEFS	
1. Implementing school health policies may help reduce overweight and obesity among students.	<input type="radio"/> Strongly disagree <input type="radio"/> Disagree <input type="radio"/> Neutral <input type="radio"/> Agree <input type="radio"/> Strongly agree
2. Regular physical activity helps in improving student overall health.	<input type="radio"/> Strongly disagree <input type="radio"/> Disagree <input type="radio"/> Neutral <input type="radio"/> Agree <input type="radio"/> Strongly agree
3. Healthy food is essential for a student's overall health.	<input type="radio"/> Strongly disagree <input type="radio"/> Disagree <input type="radio"/> Neutral <input type="radio"/> Agree <input type="radio"/> Strongly agree
4. Health and nutrition education at school can help in improving student overall health.	<input type="radio"/> Strongly disagree <input type="radio"/> Disagree <input type="radio"/> Neutral <input type="radio"/> Agree <input type="radio"/> Strongly agree
5. As a school principal, I am willing to increase the number of hours of physical education classes at my school.	<input type="radio"/> Strongly disagree <input type="radio"/> Disagree <input type="radio"/> Neutral <input type="radio"/> Agree <input type="radio"/> Strongly agree
6. As a school principal, I am willing to ban sweetened drinks at my school.	<input type="radio"/> Strongly disagree <input type="radio"/> Disagree <input type="radio"/> Neutral <input type="radio"/> Agree <input type="radio"/> Strongly agree

PHYSICAL ACTIVITY	
7. How often do your school conduct sports or physical activity programs, competitions, or activities, per year?	<input type="radio"/> None <input type="radio"/> 1-2 <input type="radio"/> 3-5 <input type="radio"/> More than 5
8. List what type of sports or physical activity programs your school organize.	

ANNEX. Contd

9. How do you describe your student's engagement in physical activity?	<input type="radio"/> Very low <input type="radio"/> Low <input type="radio"/> Medium <input type="radio"/> High <input type="radio"/> Very high
10. How many physical education (P.E) classes students attend per week?	_____
11. How many minutes is each P.E class?	<input type="radio"/> 30 minutes <input type="radio"/> 45 minutes <input type="radio"/> 60 minutes <input type="radio"/> Others (please specify)

SCHOOL MEALS

12. How many times per week fresh fruits are available during breakfast or lunch break?	<input type="radio"/> None <input type="radio"/> 1-2 days <input type="radio"/> 3-4 days <input type="radio"/> Daily
13. How many times per week fresh vegetables or salads are available during breakfast or lunch break?	<input type="radio"/> None <input type="radio"/> 1-2 days <input type="radio"/> 3-4 days <input type="radio"/> Daily
14. Does your school canteen offers low fat milk and dairy products such yogurt and Laban?	<input type="radio"/> Yes <input type="radio"/> No
15. Does your school canteen offers 100% fruit juice with no added sugar?	<input type="radio"/> Yes <input type="radio"/> No
16. How many times per week fried food are offered (ex: nuggets, fries, burgers...etc.)	<input type="radio"/> None <input type="radio"/> 1-2 days <input type="radio"/> 3-4 days <input type="radio"/> Daily

HEALTH EDUCATION

17. How often students attend health education classes/lectures per month?	<input type="radio"/> Less than once <input type="radio"/> Once <input type="radio"/> 2-3 <input type="radio"/> 4 or More
18. Do you incorporate health instructions and education in the curriculum of different subjects?	<input type="radio"/> Yes <input type="radio"/> No
19. Who delivers the health education sessions at you school? Select all applicable fields	<input type="radio"/> Nurse <input type="radio"/> Doctor <input type="radio"/> Nutritionist <input type="radio"/> P.E teacher <input type="radio"/> Any school teacher <input type="radio"/> Health educator <input type="radio"/> Social worker <input type="radio"/> Others (please specify) _____ _____
20. Do school staff receive training from professionals in order to promote health education at your school?	<input type="radio"/> Yes <input type="radio"/> No

ANNEX. Contd

SCHOOL POLICIES AND PROCEDURES	
<p>21. How many components of the CDC school health guideline are you using in your school's health policy?</p> <p>The CDC school health guideline 2011 has nine components: 1) <i>Coordinated approach in developing, implementing, and evaluating health policies (through a school health council).</i> 2) <i>School environment that support healthy eating and physical activity.</i> 3) <i>Quality school meal program.</i> 4) <i>Physical activity programs.</i> 5) <i>Health education.</i> 6) <i>Mental health and social services.</i> 7) <i>Incorporate families and community in the development of policies.</i> 8) <i>School employee wellness program.</i> 9) <i>Employ qualified and professional persons to implement and supervise the above programs.</i></p>	<input type="radio"/> None <input type="radio"/> 1-3 <input type="radio"/> 4-6 <input type="radio"/> 7-9
22. Do you have an assigned team or committee for developing and implementing health policies in your school?	<input type="radio"/> Yes <input type="radio"/> No
23. (If you answer yes to question 2), how often is the school health council/committee/ or team meet during a year?	<input type="radio"/> None <input type="radio"/> 1-2 <input type="radio"/> 3-4 <input type="radio"/> 5 or more
24. (If you answer yes to question 2), rate the effectiveness of the work of the health council/committee/ or team at your school.	<input type="radio"/> Poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Very good <input type="radio"/> Excellent
25. During the most recent school year, how often were teachers offered training on how to implement school health policies?	<input type="radio"/> None <input type="radio"/> 1-2 <input type="radio"/> 3-4 <input type="radio"/> 5 or more
26. Did you incorporate parents in the development of your school health policies?	<input type="radio"/> Yes <input type="radio"/> No
<p>27. In your opinion, what are the challenges that prevents your school from implementing better health policies? Select all applicable fields</p>	<input type="radio"/> Financial <input type="radio"/> Time <input type="radio"/> Human resources <input type="radio"/> lack of training <input type="radio"/> Facilities (GYM, lecture rooms, etc.) <input type="radio"/> Lack of management support <input type="radio"/> Others (please specify)

SCHOOL DEMOGRAPHICS	
28. How long have you been principal at this school?	<input type="radio"/> <1-1 year <input type="radio"/> 2-5 years <input type="radio"/> more than 5 years
29. What are the most recent overweight and obesity rates in your school? (Please state the information in percentage)	<input type="radio"/> Overweight: <input type="radio"/> Obesity:

ANNEX. Contd

30. What is your school's recent KHDA rating?	<input type="radio"/> Outstanding <input type="radio"/> Good <input type="radio"/> Acceptable <input type="radio"/> Weak
31. What is your gender?	<input type="radio"/> Male <input type="radio"/> Female
32. What is your Nationality?	<input type="radio"/> Emirati <input type="radio"/> Arab Expatriate <input type="radio"/> Non-Arab Expatriate