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

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Accepted 20th October, 2020.

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 version26.

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.

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


http://sciencewebpublishing.net/jerr
**ANNEX**

**Research questionnaire**

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

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

<table>
<thead>
<tr>
<th>PHYSICAL ACTIVITY</th>
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</table>
| 7. How often do your school conduct sports or physical activity programs, competitions, or activities, per year? | o | None  
| | o | 1-2  
| | o | 3-5  
| | o | More than 5  |
| 8. List what type of sports or physical activity programs your school organize. |  |
9. How do you describe your student’s engagement in physical activity?
   - Very low
   - Low
   - Medium
   - High
   - Very high

10. How many physical education (P.E) classes students attend per week?

11. How many minutes is each P.E class?
   - 30 minutes
   - 45 minutes
   - 60 minutes
   - Others (please specify)

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**SCHOOL MEALS**

12. How many times per week fresh fruits are available during breakfast or lunch break?
   - None
   - 1-2 days
   - 3-4 days
   - Daily

13. How many times per week fresh vegetables or salads are available during breakfast or lunch break?
   - None
   - 1-2 days
   - 3-4 days
   - Daily

14. Does your school canteen offers low fat milk and dairy products such yogurt and Laban?
   - Yes
   - No

15. Does your school canteen offers 100% fruit juice with no added sugar?
   - Yes
   - No

16. How many times per week fried food are offered (ex: nuggets, fries, burgers...etc.)
   - None
   - 1-2 days
   - 3-4 days
   - Daily

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**HEALTH EDUCATION**

17. How often students attend health education classes/lectures per month?
   - Less than once
   - Once
   - 2-3
   - 4 or More

18. Do you incorporate health instructions and education in the curriculum of different subjects?
   - Yes
   - No

19. Who delivers the health education sessions at your school?
   Select all applicable fields
   - Nurse
   - Doctor
   - Nutritionist
   - P.E teacher
   - Any school teacher
   - Health educator
   - Social worker
   - Others (please specify)

20. Do school staff receive training from professionals in order to promote health education at your school?
   - Yes
   - No
### ANNEX. Contd

#### SCHOOL POLICIES AND PROCEDURES

<table>
<thead>
<tr>
<th>Question</th>
<th>Response Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. How many components of the CDC school health guideline are you using in your school’s health policy?</td>
<td>None, 1-3, 4-6, 7-9</td>
</tr>
<tr>
<td>22. Do you have an assigned team or committee for developing and implementing health policies in your school?</td>
<td>Yes, No</td>
</tr>
<tr>
<td>23. (If you answer yes to question 2), how often is the school health council/committee/ or team meet during a year?</td>
<td>None, 1-2, 3-4, 5 or more</td>
</tr>
<tr>
<td>24. (If you answer yes to question 2), rate the effectiveness of the work of the health council/committee/ or team at your school.</td>
<td>Poor, Fair, Good, Very good, Excellent</td>
</tr>
<tr>
<td>25. During the most recent school year, how often were teachers offered training on how to implement school health policies?</td>
<td>None, 1-2, 3-4, 5 or more</td>
</tr>
<tr>
<td>26. Did you incorporate parents in the development of your school health policies?</td>
<td>Yes, No</td>
</tr>
</tbody>
</table>

#### SCHOOL DEMOGRAPHICS

<table>
<thead>
<tr>
<th>Question</th>
<th>Response Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>28. How long have you been principal at this school?</td>
<td>&lt;1-1 year, 2-5 years, more than 5 years</td>
</tr>
<tr>
<td>29. What are the most recent overweight and obesity rates in your school? (Please state the information in percentage)</td>
<td>Overweight, Obesity</td>
</tr>
</tbody>
</table>
### ANNEX. Contd

<table>
<thead>
<tr>
<th></th>
<th>What is your school's recent KHDA rating?</th>
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<tbody>
<tr>
<td></td>
<td>o Outstanding</td>
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<th>What is your Nationality?</th>
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<td>o Non-Arab Expatriate</td>
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