

Challenges and Opportunities of Adolescent Health Disorders and Services in Dubai UAE, Where We Are

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Abstract

Background: There are strong demographic, public health, economic, and human rights reasons to invest in the health and the development of adolescents. The three critical, overarching concepts in adolescent health programming are universal health coverage, quality of care, and positive development. The Global Accelerated Action for the Health of Adolescents (AA-HA!) Implementation Guidance document has been developed to support the Global Strategy and to provide countries with a basis for developing a coherent national plan for the health of adolescents. *Objectives:* To map adolescent health patterns among adolescent population in Dubai. *Methodology:* The study reviewed the available related literature written about health status of the adolescents in Dubai. Five papers published in the period from 2014 to 2016 were summarized. All of them were cross-sectional studies with sample size ranged between 1200 and 1500 individuals. They were conducted in both private and governmental schools in Dubai. Some other data were obtained from the annual report of school health in private school of Dubai 2014-2015. *Results:* The study showed that Good dietary behavior was only presented in 20.1% of the students. The incidence of unintentional injuries was 297.7/1000, and most of the injuries (88.9%) were mild. This study showed that 16.7% of the study students have had an asthma attack at some point of time with ever complaining of chest wheeze where near three fourths of them complained of this wheeze during the past 12 months prior to the date of conducting the study. The Study revealed that about showed that 0.13% of school children were diagnosed with ADHD and 0.09% were diagnosed with autism. Depressive symptoms study showed that about 17.5% of students have elevated depressive symptoms (95% Confidence Intervals = 15.43-19.57). *Conclusion:* Adolescent health care services in Dubai still at its earlier stages and suffering from lack of strategy direction, policy, legal, regulatory and ethical standardization, high prevalence of adolescent health related disorders, and significant weakness of adolescent health research agenda, information system and public health interventions. National based adolescent health program needs to be invested in for the medium and long-term action. There is a need to plan for national policies, set effective intervention initiatives and build up a national adolescent research agenda.

Keywords

Health Adolescent, Trends, Dubai

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1. Introduction

Adolescents are defined as persons between the ages of 10-19. [1] They are a very important group of the population. If their health is good then we can be confident that the

population health is also good. Adolescents who are in the age group aged 10-19 years formulate one-sixth of the world's population. [2] They are extremely diverse, but share

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key developmental experiences, such as rapid physical growth, hormonal changes, sexual development, new and complex emotions, and an increase in intellectual capacities.

Adolescent health is affected by positive physical, neurological, and psychosocial development, as well as a diverse array of possible burdens, including unintentional injury, interpersonal violence, sexual and reproductive health (SRH) concerns, communicable diseases, non-communicable diseases, and mental health issues. In addition, numerous important risk factors for health problems start or are consolidated during adolescence and may continue over the life course, such as tobacco use, inadequate nutrition, physical inactivity, and alcohol and drug use. [3]

There are strong demographic, public health, economic, and human rights reasons to invest in the health and the development of adolescents. For example, investing in adolescent health will benefit adolescents now, adolescents in their future lives, and also the next generation. [2]

The three critical, overarching concepts in adolescent health programming are universal health coverage, quality of care, and positive development. [2] The Global Strategy for Women’s, Children’s and Adolescents’ Health (2016-2030) [4] takes a life-course approach that aims for the highest attainable standards of health and wellbeing — physical, mental, and social — at every age. It identifies 27 evidence-based adolescent health interventions. The Global Accelerated Action for the Health of Adolescents (AA-HA!) Implementation Guidance [5] document has been developed to support the Global Strategy and to provide countries with a basis for developing a coherent national plan for the health of adolescents.

Adolescent health program components functioning at different setting are about to be Health Education (Nutrition, PE, Puberty, Substance abuse), Vaccination (MMR), CDs prevention and control (Infection control), NCDs prevention and control (Diabetes, Asthma), Medical Services (First aid, referral, Rehabilitation).

The current work aims to map adolescent health patterns among adolescent population in Dubai. This will play a baseline review of the available literature that have relation with adolescent’s health problems.

2. Methodology

The study reviewed the available related literature written about health status of the adolescents in Dubai. Five papers published in the period from 2014 to 2016 were summarized. All of them were cross-sectional studies with sample size ranged between 1200 and 1500 individuals. They were conducted in both private and governmental schools in Dubai. Some other data were obtained from the annual report of school health in private school of Dubai 2014-2015.

3. Findings

3.1. Deit

A cross sectional study was carried out in private and governmental secondary schools in Dubai, 2011. Stratified random sample was used for selecting the study sample (1221 students). A self-administered questionnaire was used to collect data about socio-demographic, nutritional knowledge, and dietary behaviors in the past seven days preceding the study. Table 1 shows that good dietary behavior was only presented in 20.1% of the students. Breakfast skipping was reported in 18.3% of the students. Only around 12% and 28.4% consumed the recommended daily amounts of vegetables and fruits respectively. Almost one half consumed snacks at least once daily and 29.6% were eating fast foods three times or more per week. Table 2 shows that three predictors were found for low overall dietary behavior; low scores of nutritional knowledge, students in governmental schools, and low education level of mothers. [6]

Table 1. Distribution of the secondary school students according to their dietary behaviors, Dubai, 2011.

Dietary Behavior	Category	No. (n=1221)	%
Do you eat breakfast?	Not eating breakfast	224	18.3
	1-3 times per week	363	29.7
	4-5 times per week	197	16.1
	6-7 times per week	437	35.8
Your diet is based mainly on	High protein content foods	370	30.3
	High fat content foods	85	7.0
	high carbohydrate content foods	193	15.8
	different foods every day	573	46.9
	I did not drink milk during the past 7days.	174	14.3
During the past 7 days, how many times did you drink milk OR did you eat milk products?	Not in all days (some days)	289	23.7
	Everyday		
	-1 time everyday	320	26.2
	-2 times everyday	247	20.2
	-3 times or more every day	191	15.6

Dietary Behavior	Category	No. (n=1221)	%
During the past 7 days, how many times did you eat vegetables?	I did not eat vegetable during the past 7 days.	252	20.6
	Not in all days (some days)	397	32.5
	Everyday		
	-1 time everyday	282	23.1
	-2 times everyday	141	11.5
During the past 7 days, how many times did you usually eat fruits?	-3 times or more every day	149	12.2
	I did not eat fruits during the past 7 days.	164	13.4
	Not in all days (some days)	380	31.2
	Everyday		
	-1 time everyday	330	27.0
During the past 7 days, how many times per day did you usually drink carbonated soft drinks?	-2 times everyday	178	14.6
	-3 times or more every day	169	13.8
	I did not drink soft drinks during the past 7 days.	244	20.0
	Not in all days (some days)	453	37.1
	Everyday		
During the past 7 days, how many times per day did you usually eat snacks?	-1 time everyday	215	17.6
	-2 times everyday	136	11.1
	-3 times or more every day	173	14.2
	I did not eat snacks during the past 7 days.	127	10.4
	Not in all days (some days)	491	40.2
During the past 7 days, on how many days did you eat at/ or ordered from a fast food restaurants?	Everyday		
	-1 time everyday	293	24.0
	-2 times everyday	161	13.2
	-3 times or more every day	149	12.2
	I did not eat fast food during the past 7 days.	287	23.5
	1-2 days/week	573	46.9
	3-4 days/week	261	21.4
	≥5 days/week	100	8.2

Table 2. Results of stepwise multiple linear regression of the factors affecting overall dietary behavior score of the study sample of secondary school students, Dubai, 2011.

Independent variables	Standardized coefficients Beta	t	P value
Knowledge score	0.192	0.192	6.717
Type of school	0.117	0.117	3.763
Mother educational level	0.067	0.067	2.123

Model F= 33.69, P= 0.000

3.2. Injuries

Unintentional school injuries are an important public health issue. A cross-sectional study was performed on a student population aged 12–17 years in grades 7–12 in 10 private schools in Dubai during 2012–2013. The study was implemented in two phases. The first one has estimated the incidence of unintentional injuries in the schools, while the second has evaluated the determinants of severity through a random selection of 1000 cases of injuries. A self-administered questionnaire was completed by participants. Of the sample, 74.2% were male and 57.3% were aged 12–14 years. Table 3 shows that the incidence of unintentional injuries was 297.7/1000. Table 4 shows that most of the injuries (88.9%) were mild. Statistically significant determinants of severity of injuries were age (OR = 9.47) and the student's being responsible for the injury (OR = 12.48). Falls were the most frequent type of injury (P = 0.001). Poor school safety environment was responsible for most of the injuries. School-related unintentional injuries are frequent, even though mostly mild, and warrant urgent attention. [7]

Table 3. Incidence rate of unintentional school injuries among Dubai Private Schools students according to age and sex, 2012.

Variable	Injuries	population	Incidence rate/1000	
Age (years)	12-13	1501	6000	250.1
	14-15	1370	3286	416.9
	16-17	1100	4050	271.6
Total	3,971	13336	297.7	
Sex	Male	3101	8336	372.0
	Female	870	5000	174.0
Total	3,971	13336	297.7	

Table 4. Frequency distribution of injuries among study sample according to their severity in Dubai private schools, 2012.

Injury severity	No.	%
Mild	889	88.9%
Moderate	90	9.0%
Severe	21	2.1%
Total	1000	100%

3.3. Asthma

A cross-sectional study was conducted among students in preparatory and secondary schools “Governmental and

Private” in Dubai, U.A.E. A sample of 1639 students was selected randomly by multistage stratified random sampling technique. Table 5 shows that 16.7% of the study students have had an asthma attack at some point of time with ever complaining of chest wheeze where near three fourths of them complained of this wheeze during the past 12 months prior to the research. Emirian students and those in governmental schools were more affected with bronchial asthma. Obesity and overweight expressed as BMI were among factors associated with increase the prevalence of asthma among school students in preparatory and secondary schools abreast with family history of asthma and being male. [8]

Table 5. Distribution of preparatory and secondary school students in Dubai according to asthma status 2011.

Asthma status	No.	%
Asthmatic	273	16.7
Non asthmatic	1366	83.3
Total number of students	1639	100

In the same study, About 38.5% had asthma at age of less than 3 years. Most of the studied students had no wheezing or whistling in the chest at any time in the past (83.5 while 72.9% had wheezes within the last 12 months. As regards the frequency of asthma symptoms per week it can be noted that 8.5% had the symptoms over the day. Regarding sleeping, it was disturbed less than once weekly in 35.2%. Speech limitation due to wheezing was reported by 42.2%, and 66.8% experienced wheezes during and after exercise. As regards using inhalers, the frequency of use ranged from less than or twice weekly in 57.8%. [9]

3.4. Mental Health

The situation of mental health in private schools of Dubai is very complex because of several factors; most important of which is the multicultural nature of the population and wide geographic distribution that make it difficult to identify size of the mental health problem and its determinants. The annual school health report of the academic year 2014-2015 showed that 0.13% of school children were diagnosed with ADHD and 0.09% were diagnosed with autism. [10]

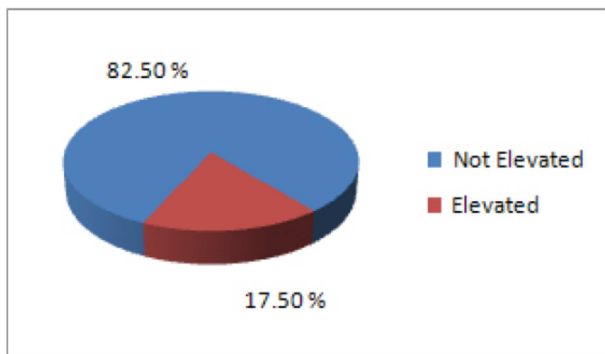


Figure 1. Depressive symptoms among secondary school students according to Children Depression Inventory, Dubai, 2011.

Some studies tried to investigate mental health problems in Dubai. Based on the children depression inventory (CDI score > 19), one cross sectional study explored depressive symptoms in 20 secondary schools in Dubai, involving students of the 10th, 11th and 12th grades. Figure 1 shows that about 17.5% of students have elevated depressive symptoms (95% Confidence Intervals = 15.43-19.57). [11]

Another cross sectional study that randomly selected a sample size of 1054 students from preparatory and secondary governmental and private schools in Dubai, has found that the prevalence of violence either in the form of beating against study students, witnessed or committed by the study students were 27.8% (figure 2), 49.3% and 39.4% respectively. Clothes pulling, boxing, slapping or kicking constituted the common forms of beating. Among the non-physical forms of aggressive actions, stealing, insulting, spitting and circulating rumors were reported either committed or witnessed by the study students. Boys are highly likely more prone to indulge in rough and vulgar violence. Family condition, school environments and some habits like watching TV, playing computer games, practicing violent contact sports and smokers were found to be at more risk of being included in violent acts. [12]

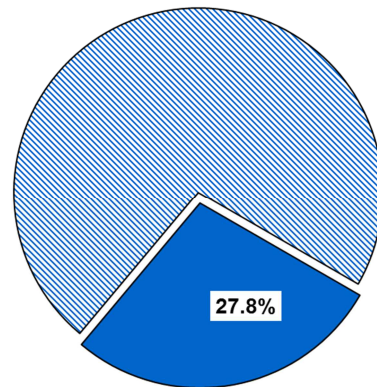


Figure 2. Prevalence of violence in the form of beating against study students.

A cross sectional study was designed with a sample size of 1679 students who were randomly selected from preparatory and secondary governmental and private schools in Dubai using self-administered questionnaire for data collection. About 23% of the students had abnormal or borderline overall emotional and behavioral disorder. Regarding the subscales, figure 3 shows that 17.5% had emotional symptoms, 22.2% had conduct problems. Hyperactivity and peer problems were presented in 16.1% and 22.5 % of the students respectively. Regarding the impact level of overall distress and social impairment, it found that, 50.7 % had abnormal range, 15.8 % had borderline meanwhile 33.5% of the students were in the normal level. The results of stepwise logistic regression revealed twelve predictors associated with

high risk of emotional and behavioral. They are: students in private schools, being females, with insufficient monthly income, bad relationship with parents, siblings, teachers, and friends, with history of chronic illness, family history of

psychological disorder, exposure to stressful event in the past year, exposure to violence from any one of the parents and involvement in fighting or beating with other students in school. [13]

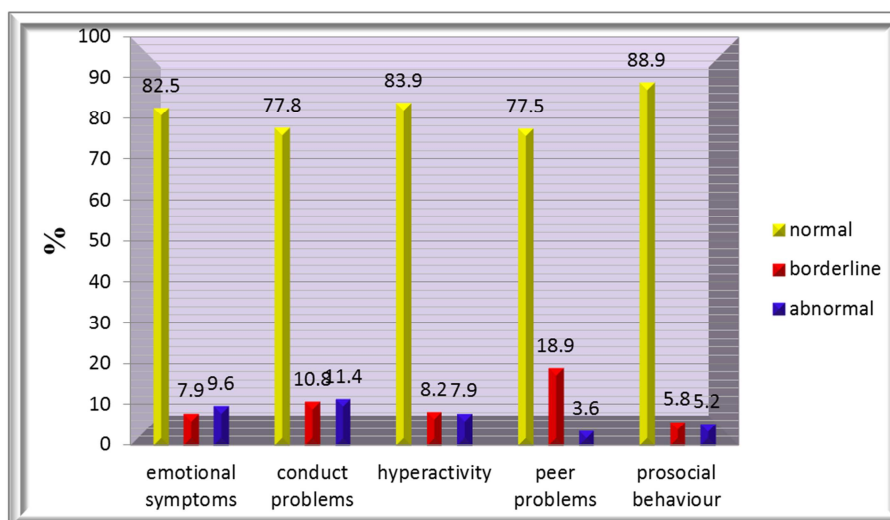


Figure 3. Emotional and behavioral difficulties subscales.

4. Discussion

The review explained that some health problems are common among adolescents in Dubai. The current study showed high non healthy dietary habits and diet consumption which was prevalent among more than two thirds of investigated population. This was higher than what was found in another study conducted in Saudi Arabia which showed that the prevalence of daily consumption of at least five servings of fruits and vegetables was 6.6%. [14] Pearson and Biddle showed a strong association between sedentary behavior and unhealthy diet. [15] In Saudi Arabia, dietary risk factors, high BMI levels, and high blood sugar levels are amongst the leading causes of disability-adjusted life years. The fact that these risk factors are prevalent at younger ages deserves immediate attention and intervention. [16]

As for NCDs and Injuries, this study showed higher prevalence comparing with other studies which stated that there is a growing evidence base for action to improve the health of adolescents and young people. [17] The interventions might target diseases, proximal risk factors, or determinants of health. Such interventions will influence incidence and severity of diseases (especially non-communicable diseases) and injuries at older ages as well as affecting the health status of the current youth population. [18] As part of related interventions, health care providers need to achieve core competencies for appropriate approach to and management of health and development problems of young people; specific attitudes, knowledge, and skills are required for working with youth. [19]

As for mental health disorders among adolescent in Dubai, the figures reflected significant findings of different mental health disorders which is similar to other studies which showed that the overall prevalence of mental disorders was found to be 48% (41% in males and 51% in females); more than 80% of these cases were mild to moderate. Females showed significantly more severe disorders than males ($P = 0.017$) and students with excellent performance degrees showed a significantly lower rate of mental disorders than others ($P = 0.021$). [20-24]

5. Conclusion

Adolescent health care services in Dubai still at its earlier stages and suffering from lack of strategy direction, policy, legal, regulatory and ethical standardization, high prevalence of adolescent health related disorders, and significant weakness of adolescent health research agenda, information system and public health interventions. National based adolescent health program needs to be invested in for the medium and long-term action. There is a need to plan for national policies, set effective intervention initiatives and build up a national adolescent research agenda.

Conflict of Interest

The authors declare that they do not have any conflict of interest.

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