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United Arab Emirates Global School- based Student Health Survey

2005



GSHS Country Report

Forword

This report presents findings from the 2005 United Arab Emirates Global School-based Student health survey (UAE-GSHS-2005)

In 2001, WHO, in collaboration with UNAIDS, UNESCO, and UNICEF, and with technical assistance from the Centers for Disease Control and Prevention (CDC) in Atlanta, USA, initiated the development of the Global School-based Student Health Survey (GSHS). Since 2003, Ministries of Health and Education around the world have been using the GSHS to periodically monitor the prevalence of important health risk behaviours and protective factors among students.

Globally the burden of non-communicable diseases has rapidly increased. In 2001 non-communicable diseases accounted for almost 60% of the deaths annually and 47% of the global burden of disease and few major risks factors accounted for much of the morbidity and mortality figures. The ministry of health in UAE it's the collaborating partners have implemented "The Global School Based Student Health Survey to reinforce the holistic approach of the ministry which aims at reducing the burden of mortality, morbidity and disability through conducting scientific research, providing comprehensive medical and preventive services and exchanging information and experiences with regional as well as international agencies.

The Global School-based Student Health Survey in the United Arab Emirates provides data on the prevalence of many health behaviours and protective factors related to the leading causes of mortality and morbidity among youth and adults.

The fact that School health deals with a population sector that constitutes prospective human and economic resources and hence contributes to the process of national development, makes it more important to give it special attention.

School health programs are designed to provide comprehensive quality services which are subjected to continuous evaluation through research and development to meet the expectation of the beneficiaries.

The successful implementation of the GSHS in UAE would not have been possible without the active and dedicated efforts of a large number of organizations and individuals. The international and regional support from the World Health Organization and the CDC technical support is gratefully acknowledged. Also I would like to express my special thanks to our partners from Ministry of education, Abu Dhabi General Authority for Health Services and Dubai Health Authority. Also the members of the steering committee, the local supervisors and researchers, all the staff and students of the selected schools who have participated in this survey in the UAE.

A great deal of work has been put into implementing the 2005 UAE-GSHS. It is hoped that this survey will provide the base and guidance for future child and adolescent health program development.

Humaid AL Qutami
Health Minister

preface

The last twenty five years have witnessed considerable developments the socio- economic environment of the UAE accompanied by significant changes in the leading causes of morbidity and mortality in UAE population. The receding role of communicable diseases is balanced by a greater burden of non-communicable diseases related to non healthy lifestyle behavior.

School health program aims at promoting the health of students and preventing diseases through early detection, promoting health awareness and providing healthy and safe school environment. Promoting students awareness and adoption of health promoting lifestyles is considered one of the main school health program objectives.

The Global School-based Health Survey was developed by the WHO in collaboration with UNAIDS, UNESCO, and UNICEF, and with technical assistance from the Centers for Disease Control and Prevention (CDC) Atlanta, USA, to provide accurate data on health behaviors and protective factors among students to help countries develop priorities, establish programmes and advocate for resources for school health programmes and policies and programs addressing youth health. This will allow countries, international agencies and others to make comparisons across and within countries regarding the prevalence of health behaviors and protective factors; and also to establish trends in the prevalence of health behaviors and protective factors by country for use in evaluation of school health and youth health promotion.

The UAE was among the first Group of Arabic countries to implement this survey. To date, more than 28 countries have already completed the GSHS. GSHS was conducted in United Arab Emirates by the ministry of health and the ministry of education in collaboration with the Abu Dhabi general health authority and Dubai health authority. A total of 15,790 students in 194 governmental and private schools in the United Arab Emirates completed the survey. GSHS data are representative of all students attending the grades from 7th to 10th governmental and private schools in the UAE.

The Global School-based Student Health Survey in the United Arab Emirates provides data on the prevalence of many health behaviors and protective factors related to the leading causes of mortality and morbidity among youth and adults that will support the development of better future strategies for this population.

The GSHS is considered a surveillance system that is repeated in some countries on time intervals to monitor the progress in the field of youth and adolescents health promotion. We recommend that this study should be conducted at regular time intervals to establish a surveillance system and function as a continuous evaluation tool and to be complemented by other in-depth studies for current school health and health education programs.

Dr. Mahmoud Fikree
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We would finally like to extend our thanks to all the headmasters and headmistresses, staff and students of the selected schools who have participated in this survey in UAE, and to all who have contributed in some way or the other to the survey.

Executive Summary

The GSHS was developed by the WHO in collaboration with other partners to provide accurate data on health behaviors and protective factors among students to evaluate school health programs.

The GSHS is based on a scientifically developed two stage sample. Classes of students in the grades 7-10 that students aged 13-15 are most likely to attend, were selected randomly from 200 selected schools (4 regions in the UAE). All students in these classes were asked to participate by answering the self administered questionnaire

The results show that 15790 students completed the questionnaire and 67% were in the age group 13-15 years. Overall, 33.6% of the students were either overweight or at risk of becoming overweight. 9.4% of students went hungry most of the time or always during the past 30 days because there was not enough food in their home. 5% of the students did not clean or brush their teeth during the past 30 days, 6.6% never or rarely washed their hands before eating during the past 30 days and 52% took a bath at least one time per day in the past 6-7 days. During the past 7 days only 19.5% of the students were physically active daily for a total of at least 60 minutes per day. Overall, 38.8% of the students spent three or more hours per day doing sitting activities during a typical or usual day. During the past 12 months (31.9%) of the students were physically attacked one or more times. Overall, 43.2% of the students were in a physical fight one or more times during the past 12 months. 20.8% of the students were bullied on one or more days during the past 30 days. 15.5% felt lonely most of the time or always during the past 12 months and 6.4% of the students had no close friends. 13% of the students seriously considered attempting suicide and 9.8% made a plan about how they would attempt suicide during the past 12 months. During the past 30 days 9.3% of the students smoked cigarettes and 10.7% of the students used any other form of tobacco on one or more days. Male students are significantly more likely than female students to smoke or use tobacco in any form. During the past 30 days, 31.2% of the students missed classes or school without permission one or more days. 19.4% of the students reported that most of the students in their school were never or rarely kind and helpful. 25.7% of students reported their parents or guardians never or rarely knew what they were doing with their free time.

In conclusion it was found that youth risk-taking behaviour is alarming. There are several unfavourable dietary behaviours and sedentary lifestyle that have led to increasing rates of obesity. The wide socio-cultural differences have weakened the family role and their protective nature and students are exposed to open toxic environment. Many school children suffer from mental health problems, may sustain serious injury, be attacked physically or participate in a physical fight. Smoking or tobacco use in general is increasing and starts very early in age.

It is therefore recommended to develop and implement strategies based on the best available scientific research and evidence that are multi-sectoral, comprehensive, culturally appropriate, incorporating both policies and action plan and addressing all major health behaviors. The strategies should aim at promoting healthy lifestyles, reducing risk factors to human health and be followed by proper evaluation and researches to assess trends and direct the development of prospective plan for youth health promotion.

Part 1: Introduction

Background

In 2001, WHO, in collaboration with UNAIDS, UNESCO, and UNICEF, and with technical assistance from the US Centers for Disease Control and Prevention (CDC), initiated development of the Global School-based Student Health Survey (GSHS).

Since 2003, Ministries of Health and Education around the world have been using the GSHS to periodically monitor the prevalence of important health risk behaviours and protective factors among students.

To date, 28 countries have already completed the GSHS. This report describes results from the first GSHS conducted in United Arab Emirates by the ministry of health and the ministry of education in collaboration with the Abu Dhabi general health authority and Dubai Health Authority during the period between 19 March and 30th of April 2005.

Purpose

The purpose of the GSHS is to provide accurate data on health behaviours and protective factors among students to:

- Help countries develop priorities, establish programmes and advocate for resources for school health and youth health programmes and policies;
- Establish trends in the prevalence of health behaviours and protective factors by country for use in evaluation of school health and youth health promotion; and
- Allow countries, international agencies and others to make comparisons across countries and within countries regarding the prevalence of health behaviours and protective factors.

About GSHS

The GSHS is a school-based survey conducted primarily among students aged 13-15 years. It measures behaviours and protective factors related to the leading causes of mortality and morbidity among youth and adults in the United Arab Emirates:

- Dietary behaviours
- Hygiene
- Mental health
- Physical activity
- Protective factors
- Violence and unintentional injury
- Sexual Behaviours and HIV / AIDS

Methods

Sampling

The 2005 U.A.E, GSHS employed a two-stage cluster sample design to produce a representative sample of students in 7th to 10th grades. The first-stage sampling frame consisted of all schools containing any of 7th to 10th grades. Schools were selected with probability proportional to school enrolment size. 200 schools were selected to participate in the U.A.E. GSHS; 25 private and 25 governmental from each of the 4 regions : Abu Dhabi Emirate , Dubai Emirate , Sharjah Emirate and the other northern Emirates (Ajman, Um Al Qaiwan, Al Fujairah and Ras Al Khaimah)

The second stage of sampling consisted of randomly selecting intact classrooms (using a random start) from each school to participate. All classrooms in each selected school were included in the sampling frame. All students in the sampled classrooms were eligible to participate in the GSHS.

Weighting

A weighting factor was applied to each student record to adjust for non-response and for the varying probabilities of selection.

The weighting formula was $W = W1 * W2 * F1 * F2 * F3$

- W1= the inverse of the probability of selecting the school
- W2= the inverse of the probability of selecting classrooms
- F1= a school level non-response adjustment factor
- F2= a student level non-response adjustment factor calculated by classroom
- F3= a post stratification adjustment factor calculated by sex within grade

Response rates

For the 2005 U.A.E. GSHS, 15, 790 questionnaires were completed in 194 schools. The school response rate was 97%, the student response rate was 91%, and the overall response rate was 89%.

Table 1: Response rates of schools and students of different emirates of UAE in GSHS

Emirates	No: of schools		No: of students		School Response rate		Student Response Rate		Overall Response rate	
	Govt.	Pri.	Govt.	Pri.	Govt.	Pri.	Govt.	Pri.	Govt.	Pri.
Abu Dhabi	25	24	2031	2083	100%	96%	93%	93%	93%	89%
Dubai	25	25	2114	1971	100%	100%	92%	90%	92%	90%
Sharjah	25	24	1948	1911	100%	96%	89%	92%	89%	89%
N. Emirates	24	22	1877	1855	96%	88%	93%	89%	89%	78%
UAE	194		15790		97%		91%		89%	

The data set was cleaned and edited for inconsistencies. Missing data were not statistically imputed. Software that takes into consideration the complex sample design was used to compute prevalence

estimates and 95% confidence intervals. GSHS data are representative of all students attending the grades from 7th to 10th in UAE governmental and private schools.

Administering the survey

Survey Administration. Survey administration occurred from 19 March 2005 to 30 April 2005. Survey procedures were designed to protect student privacy by allowing for anonymous and voluntary participation. Students completed the self-administered questionnaire during one classroom period and recorded their responses directly on a computer-scannable answer sheet. Approximately, 28 Survey Administrators were specially trained to conduct the GSHS. Four schools were on vacation during the survey , but visited later to conduct the study.

GSHS Questionnaire

The UAE GSHS questionnaire contained 81 questions. Topics which contained 39 questions and addressed in the core questionnaire include :

- Demographic Characteristics
- Dietary Behaviours
- Hygiene-related behaviours
- Mental Health
- Physical Activity
- Protective Factors
- Violence and Unintentional Injury

Topics which were addressed in 42 core expanded and country specific questions include :

- Tobacco use
- Alcohol and drug use
- Awareness of HIV or AIDS.

The country specific questions address some of those topics plus questions about Nationality and parents' level of education.

The questionnaire was developed by a core committee which included members from Ministry of Health, Ministry of Education , General Authority for Health Services and Dubai Health Authority. The following individuals have contributed in the questionnaire development.

Dr. Mariam Al Matroushi,	Survey Co-ordinator & Director, Central Dept. of School Health
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Dr. Duree Chowdhury	General Authority for Health Services
Dr. Ahmed Wasfi	Dubai Health Authority
Dr. Al Jeeli Al Quraisi	Dubai Health Authority

When the questionnaire was finally reviewed by the core committee it was sent to CDC to be developed into a GSHS standard questionnaire format. The standardized questionnaire was subsequently translated into Arabic and pilot tested in the field. After pilot testing the questionnaire was fine tuned and used for conducting the survey.

Part 2: Results

Overview

By the year 2010 more adolescents of the age group 10 – 19 years estimated at 1.2 billion will be alive in the world than ever before in history. These young people will face considerable challenges to their healthy development.

It is a known fact that most health behaviours whether promotive, preventive or risk taking are cemented in the adolescence period. Young people with impressionable minds are vulnerable to risk taking behaviour such as smoking tobacco, alcohol intake, drug use and promiscuity. Recent biological and technological advances have affected young people globally. The improvement of socioeconomic conditions, environmental conditions (water and sanitation) and control measures have helped decrease the burden of diseases. However lifestyle changes have affected the youth too and new strategies are required to face these emerging health issues in youth in the future.

The last twenty five years have witnessed considerable change in the socio-demographic, economic and cultural environment of the UAE. The population of the UAE is characterized by the presence of a large number of expatriates and increasing mobility. It is also characterized by high fertility rate and low death rates among nationals of all age groups. In 2004 the adolescent population (10-19 years) of the UAE was 616,647 constituting approximately 14.28% of the total population ^{XLV}.

The Global School-based Student Health Survey in the United Arab Emirates provides data on the prevalence of many health behaviours and protective factors related to the leading causes of mortality and morbidity among youth and adults. A self-administered, anonymous 81 item questionnaire was completed by the students of grades 7 to 10 studying in 194 schools in the United Arab Emirates. The survey results are discussed in the following sections

1. Demography
2. Dietary Behaviours
3. Hygiene
4. Violence and unintentional injury
5. Mental health
6. Tobacco use
7. Alcohol and drug use
8. Sexual Behaviours that Contribute to HIV Infection, Other STI, and Unintended Pregnancy
9. Physical activity
10. Protective factors

Demography

Background

Population dynamics in the United Arab Emirates is influenced by many factors. These factors include the presence of a large number of expatriates, increasing mobility, a high fertility rate, low death rates and high life expectancy (76 years at present). The population has doubled every ten years since 1980 and is estimated to be 4,320,000 in 2004. The male-female ratio among adult population however stands at approximately 2:1 due mainly to the disproportionate representation of expatriate males of working age XLV

Results

A total of 15,790 students in 194 schools in the United Arab Emirates completed the questionnaire. The school response rate was 97%, the student response rate 91% and the overall response rate was 89%. (Table 1)

The demographic characteristics of the sample as described in tables 2 and 3 as follows.

- 26.9% of the students were from grade 7; 25.4% from grade 8; 24.2 % from grade 9 and 23.5% from grade 10.
- 67.0% of the students who participated in the survey were in the age group 13 – 15 years, 15.7% were 12 or younger and 17.2% were 16 years and older.
- 48.3% of the students were UAE nationals, 48.3% males and 48.4% females.
- 51.7% of the students were non- national : 5.7% from other GCC countries, 13.8% from Lebanon, Syria, Jordan, Iraq and Palastine , 5.5% from North Africa, 20.6% from South East Asia, 1.7% from Europe, USA, Australia and 4.5% from other countries.(Table 3)

Table2: Demographic characteristics of the sample UAE, 2005

Sex		Nationality		Age			Grade			
Males	Females	UAE	Non UAE	12 or younger	13-15	16 or older	7th	8th	9th	10th
50.0%	50.0%	48.3%	51.7%	15.7%	67.0%	17.2%	26.9%	25.4%	24.4%	23.5%

Table3: Nationality details of the sample UAE, 2005

Nationality	No. of Respondents=N	%
UAE	7,130	48.3
Other GCC countries	800	5.7
Lebanon, Syria, Jordan etc	2,218	13.8
North Africa	892	5.5
South East Asia	3,602	20.6
Europe, USA and Australia	258	1.7
Other countries	712	4.5
Total	15,612	100

Overall, 38.3% of the students' fathers completed college or university as the highest level of schooling while 30.1% of students' mothers completed college or university as the highest level of schooling.

Table 4: Demographic Characteristics of the sample in UAE:-

<i>Emirates</i>		<i>Sex</i>		<i>Age</i>			<i>Grade</i>			
	<i>Type</i>	<i>Male</i>	<i>Female</i>	<i><12</i>	<i>13 - 15</i>	<i>>16</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
Abu Dhabi	<i>Govt.</i>	42.3	57.7	8.8	66.6	24.6	25.1	24.9	24.0	26.0
	<i>Pri.</i>	56.1	43.9	26.5	64.9	8.5	29.8	25.4	24.4	20.4
Dubai	<i>Govt.</i>	47.4	52.6	8.6	67.6	23.8	24.0	24.5	24.0	27.4
	<i>Pri.</i>	53.4	46.6	23.8	66.6	9.6	27.1	26.0	24.7	22.2
Sharjah	<i>Govt.</i>	53.2	46.8	11.5	72.5	16.0	30.6	26.6	23.4	19.4
	<i>Pri.</i>	52.2	47.8	26.1	67.6	6.2	29.5	27.0	23.4	20.1
Northern Emirates	<i>Govt.</i>	50.0	50.0	7.5	67.2	25.3	24.6	24.3	24.4	26.7
	<i>Pri.</i>	56.0	44.0	20.2	64.7	15.1	27.4	26.2	25.0	21.4
Total	<i>No.</i>	7741	7893	2,554	10,669	2,373	4215	4065	3851	3431
	<i>%</i>	50.0	50.0	15.7	67.0	17.2	26.9	25.4	24.2	23.5

Dietary Behaviours

Background

During adolescence, overweight is associated with hyperlipidemia, raised blood pressure (hypertension), abnormal glucose tolerance, and adverse psychological and social consequences. Overweight acquired during childhood or adolescence may persist into adulthood and increase the risk later in life for coronary heart disease, diabetes, gallbladder disease, some types of cancer, and osteoarthritis of the weight-bearing joints. Nutritional deficiencies as a result of food insecurity (protein-energy malnutrition, iron, Vitamin A, and iodine deficiency) affect school participation and learning.

Fruits and vegetables are good sources of complex carbohydrates, vitamins, minerals, and other substances important for good health. Dietary patterns that include high intake of fruits and vegetables are associated with several health benefits, including a decreased risk for some types of cancer.ⁱ

[Results]

Table 5 : BMI and Dietary Behaviours by Sex in UAE:-

Questions	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
At risk for becoming overweight ¹	21.5 (20.6 – 22.4)	21.2 (19.9 – 22.6)	21.7 (20.3 – 23.1)
Overweight ²	12.1 (11.2 – 13.0)	13.2 (11.8 – 14.5)	11.0 (10.0 – 12.0)
Went hungry most of the time or always because there was not enough food in their home during the past 30 days	9.4 (8.8 – 10.0)	10.0 (9.3 – 10.8)	8.9 (7.9 - 9.9)
Usually ate fruit, such as apples, oranges, grapes, kiwi, mango, pears, bananas or melons one or more times per day during the past 30 days	47.4 (45.6 – 49.3)	50.8 (48.2 – 53.3)	44.2 (40.8 – 47.6)
Usually ate vegetables, such as tomatoes, cucumbers, lettuce or carrots one or more times per day during the past 30 days	56.1 (54.6 – 57.5)	58.9 (56.6 – 61.2)	53.2 (50.5 – 55.9)
Ate breakfast most of the time or always during the past 30 days	56.3 (54.6 – 58.1)	61.8 (60.0 – 63.6)	51.1 (48.5 – 53.8)
Main reason for not eating breakfast is that they do not have time for breakfast	29.0 (27.7 – 30.3)	29.5 (27.9 – 31.1)	28.6 (26.5 – 30.6)

*95% confidence interval.

¹Students who were at or above the 85th percentile, but below the 95th percentile for body mass index by age and sex based on reference data from Cole, Bellizzi, Flegal, and Dietz, *BMJ*, May 2000.

²Students who were at or above the 95th percentile for body mass index by age and sex based on reference data from Cole, Bellizzi, Flegal, and Dietz, *BMJ*, May 2000.

Prevalence of overweight

In the UAE, 21.5% of students were at risk for becoming overweight (i.e., at or above the 85th percentile, but below the 95th percentile for body mass index by age and sex). There was no significant difference between male students (21.2%) and female students (21.7%) at risk of being overweight. The percentage of students who were overweight was 12.1% (i.e., at or above the 95th percentile for body mass index by age and sex). There was no significant difference between the overweight male students (13.2%) and the overweight female students (11.0%).

Prevalence of hunger

Overall, 9.4% of students went hungry most of the time or always because there was not enough food in their home during the past 30 days. Male students (10.0%) are almost equally likely as female students (8.9%) to go hungry most of the time or always because there is not enough food in their home.

Fruit and vegetable intake

Overall, 47.4% of students usually ate fruits such as apples, oranges, grapes, kiwi, mango, pears, bananas or melons one or more times per day during the past 30 days. Male students (50.8%) were significantly more likely than female students (44.2%) to eat fruits one or more times per day. Overall, 56.0% of students usually ate vegetables, such as tomatoes, cucumbers, lettuce or carrots one or more times per day during the past 30 days. Male students (58.9%) were significantly more likely than female students (53.2%) to eat vegetables one or more times per day. Overall, 18.5% of students usually ate fruits and vegetables five or more times per day during the past 30 days. Female students (16.5%) were significantly less likely than male students (20.7%) to eat fruits and vegetables five or more times per day during the past 30 days.

Regular Breakfast

Overall, 56.3% of students ate breakfast most of the time or always during the past 30 days. Male students (61.8%) were significantly more likely than female students (51.1%) to eat breakfast most of the time or always during the past 30 days. For 29% of the students, the main reason for not eating breakfast is that they do not have time to eat breakfast. There was no significant difference between male students (29.5%) and female students (28.6%) whose response was that they did not have time to eat breakfast.

Table 6: Other dietary behaviours among students in UAE

Questions	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
Usually drink carbonated soft drinks such as Coke, Pepsi, 7-Up, Mountain Dew, or Merinda two or more times per day during the past 30 days	25.6 (24.0 – 27.3)	31.1 (29.2 – 33.0)	20.2 (18.6 – 21.7)
Ate at a fast food restaurant such as Mc Donalds, BurgerKing, Pizza Hut, Hardees, Subway or KFC on three or more of the past seven days	18.0 (17.0 – 18.9)	19.3 (18.0 – 20.5)	16.5 (15.3 – 17.7)
Usually drink milk or eat milk products such as yogurt, cheese or labneh two or more times per day during the past 30 days	32.3 (30.8 - 33.8)	36.9 (35.2 – 38.6)	27.6 (25.5 – 29.7)
Usually eat foods high in fat such as shawarma, harees, biryani, fried meat or fried potatoes two or more times per day during the past 30 days	17.1 (16.4 – 17.9)	18.7 (17.5 – 19.9)	15.6 (14.7 – 16.5)
Taught in any of their classes during this school year the benefits of healthy eating	49.4 (47.1 – 51.8)	47.9 (45.5 – 50.4)	51.0 (46.9 – 55.0)

*95% confidence interval.

Overall, 25.6% of students usually drank carbonated soft drinks such as Coke, Pepsi, 7-Up, Mountain Dew or Merinda two or more times per day during the past 30 days. Male students (31.1%) are significantly more likely than female students (20.2%) to drink carbonated soft drinks two or more times per day during the past 30 days. 18.0% of students ate at a fast food restaurants such as McDonalds, Burger King, Pizza Hut, Hardees, Subway or KFC three or more times during the past seven days. Male students (19.3%) are significantly more likely than female students (16.5%) to eat in a fast food restaurant on 3 or more times during the past seven days.

Overall, 32.3% of students usually drank milk or ate milk products such as yogurt, cheese or labneh two or more times per day during the past 30 days. Male students (36.9%) were significantly more likely than female students (27.6%) to drink milk or milk product two or more times per day during the past 30 days.

Overall, 17.1% of students usually ate foods high in fat such as shawarma, harees, biryani, fried meat or fried potatoes two or more times per day during the past 30 days. Male students (18.7%) are significantly more likely than female students (15.6%) to eat foods high in fat two or more times per day during the past 30 days. Nearly half of the students (49.4%) had been taught in any of their classes during this school year the benefits of healthy eating. There was no significant difference between male students (47.9%) and female students (51.0%) who were taught about the benefits of healthy eating in any of their classes during this school year.

Hygiene

Background

Dental caries affect between 60-90% of children in developing countries and is the most prevalent oral disease among children in several Asian and Latin American countries. In Africa, the incidence of dental caries is expected to rise drastically in the near future due to increased sugar consumption and inadequate fluoride exposure.ⁱⁱ In addition to causing pain and discomfort, poor oral health can affect children's ability to communicate and learn. More than 50 million school hours are lost annually because of oral health problems.ⁱⁱⁱ In both developed and developing countries, many children do not have access to water fluoridation or professional dental care. Daily tooth cleaning or brushing can help prevent some dental disease.^{iv}

Diarrhoeal diseases kill nearly 2 million children every year. Hygiene education and the promotion of hand-washing can reduce the number of diarrhoeal cases by 45%.^v

About 400 million school-aged children are infected with worms worldwide. These parasites consume nutrients from children they infect, cause abdominal pain and malfunction, and can impair learning by slowing cognitive development.^{vi}

Results

Table 7: Hygiene-related behaviours by sex in UAE -2005

Question	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
Did not clean or brush their teeth during the past 30 days	5.0 (4.1 – 5.8)	7.6 (6.4 – 8.7)	2.4 (1.8 – 3.0)
Never or rarely washed their hands before eating during the past 30 days	6.6 (6.0 – 7.2)	7.5 (6.7 – 8.2)	5.7 (4.9 – 6.5)
Never or rarely washed their hands after using the toilet or latrine during the past 30 days	4.3 (3.8 – 4.8)	5.0 (4.2 – 5.8)	3.5 (3.0 – 3.9)
Never or rarely used soap when washing their hands during the past 30 days	4.8 (4.2 – 5.3)	6.1 (5.3 – 7.0)	3.3 (2.9 – 3.8)
Took a bath at least one time per day during the past 7 days	52.0 (49.6 – 54.3)	54.0 (50.3 – 57.8)	50.0 (46.2 – 53.9)

Were taught in any of their classes during this school year, the importance of hand washing	29.3 (27.5 – 31.2)	30.8 (28.3 – 33.2)	27.9 (25.1 – 30.7)
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*95% confidence interval.

Personal hygiene

In UAE, the percentage of students who did not clean or brush their teeth during the past 30 days was 5.0%. Male students (7.6%) are significantly more likely than female students (2.4%) to not clean or brush their teeth. Overall 6.6% of students never or rarely washed their hands before eating during the past 30 days. Male students (7.5%) are significantly more likely than female students (5.7%) to never or rarely wash their hands before eating.

Overall, 4.3% of students never or rarely washed their hands after using the toilet or latrine during the past 30 days. Male students (5.0%) are significantly more likely than female students (3.5%) to never or rarely wash their hands after using the toilet or latrine. 4.8% of students never or rarely used soap when washing their hands during the past 30 days. Male students (6.1%) are significantly more likely than female students (3.3%) to never or rarely use soap when washing their hands. 52% of students took a bath at least one time per day during the last 7 days. There was no significant difference between male students (54%) and female students (50%) who take a bath at least one time per day during the past 7 days.

Other hygiene results

Overall, 29.3% of students were taught in any of their classes during this school year about the importance of hand washing. Male students (30.8%) are equally likely to be taught about hand washing in schools as female students (27.9%)

Violence and Unintentional Injury

Background

Unintentional injuries are a major cause of death and disability among young children.^{vii} Each year, about 875,000 children under the age of 18 die from injuries and 10 to 30 million have their lives affected by injury. Injury is highly associated with age and gender. Males aged 10-14 have 60% higher injury death rates than females. Teenagers aged 15-19 have higher rates than those aged 10-14 years (64 compared to 29 per 100,000).

Estimated global homicide death rate for males aged 15-17 is 9 per 100,000^{viii}. For every youth homicide, approximately 20 to 40 victims of non-fatal youth violence receive hospital treatment.^{ix} Many unintentional injuries lead to permanent disability and brain damage, depression, substance abuse, suicide attempts and the adoption of health risk behaviours. Victims of bullying have increased stress and a reduced ability to concentrate and are at increased risk for substance abuse, aggressive behaviour and suicide attempts.^x

Results

Table 8: Violence and Unintentional injury among students by Sex in UAE

Questions	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
Were in a physical fight one or more times during the past 12 months	43.2 (40.6 – 45.7)	56.9 (55.4 – 58.5)	29.5 (27.6 – 31.5)
Were seriously injured two or more times during the past 12 months	30.7 (29.0 – 32.3)	39.7 (38.1 – 41.4)	21.6 (20.3 – 22.9)
Were bullied on one or more days during the past 30 days	20.8 (19.6 – 22.0)	24.5 (22.8 – 26.2)	17.2 (15.7 – 18.7)
Among students who were bullied during the past 30 days , those who were bullied most often by being hit, kicked, pushed, shoved around or locked indoors	15.0 (13.1 – 16.8)	19.3 (16.8 – 21.8)	9.2 (7.4 – 10.9)
Physically attacked one or more times during the past 12 months	31.9 (30.0 – 33.9)	40.8 (39.0 – 42.5)	23.0 (21.4 – 24.7)
Currently belong to a gang	18.8 (17.2 – 20.5)	24.8 (22.9 – 26.6)	12.9 (11.2 – 14.7)
Taught in any of their classes during school year how to avoid physical fights and violence	28.4 (26.7 – 30.2)	32.3 (30.1 – 34.6)	24.7 (22.0 – 27.3)
Among students who rode a bicycle or other non-motorized vehicle during the past 30 days the percentage of students who never or rarely wore a helmet when riding a bicycle or other non-motorized vehicle.	72.5 (71.1 – 73.9)	72.0 (70.3 – 73.7)	73.2 (70.6 – 75.7)
Did not go to school on one or more days because they felt it would be unsafe on their way to or from school during the past 30 days	23.0 (21.4 – 24.5)	26.5 (24.7 – 28.4)	19.4 (17.2 – 21.6)
Someone steal or deliberately damage their property, such as their car, clothing, or books on school property on one or more times during the past 30 days	22.1 (20.8 – 23.4)	27.3 (25.3 – 29.3)	16.6 (15.4 – 17.9)
Taught in any of their classes during this school year how to avoid physical fights and violence	28.4 (26.7 – 30.2)	32.3 (30.1 – 34.6)	24.7 (22.0 – 27.3)

*95% confidence interval

Physical fights and Serious Injury

In the UAE, 43.2% of students were in a physical fight one or more times during the past 12 months. Male students (56.9%) are significantly more likely than female students (29.5%) to have been in a physical fight. 30.7% of students were seriously injured one or more times during the past 12 months. Male students (39.7%) are significantly more likely than female students (21.6%) to have been seriously injured.

Bullying

Overall, 20.8% of students were bullied on one or more days during the past 30 days. Male students (24.5%) are significantly more likely than female students (17.2%) to be bullied on one or more days. Among students who were bullied during the past 30 days, 15.0% were bullied most often by being hit, kicked, pushed, shoved around, or locked indoors. Male students (19.3%) are significantly

more likely than female students (9.2%) to be bullied most often by being hit, kicked, pushed, shoved around, or locked indoors.

Over all, 31.9% of students were physically attacked one or more times during the past 12 months. Male students (40.8%) are significantly more likely than female students (23.0%) to be physically attacked one or more times during the past 12 months. Overall, 18.8% reported being currently belonging to a gang. Male students (24.8%) are significantly more likely than female students (12.9%) to report being currently belonging to a gang

Personal safety

Among students who rode a bicycle or other non-motorized vehicle during the past 30 days, 72.5% never or rarely wore a helmet when riding a bicycle or other non-motorized vehicle. There was no significant difference between male students (72%) and female students (73.2%) who reported wearing a helmet when riding a bicycle or other non-motorized vehicle.

Overall, 23% of students did not go to school on one or more days because they felt it would be unsafe on their way to or from school during the past 30 days. Male students (26.5%) are significantly more likely than female students (19.4%) to report not going to school on one or more days because they felt it would be unsafe on their way to or from school during the past 30 days.

Overall, 22.1% of students had someone steal or deliberately damage their property, such as their car, clothing, or books on school property one or more times during the past 30 days. Male students (27.3%) are significantly more likely than female students (16.6%) to have someone steal or deliberately damage their property, such as their car, clothing, or books on school property one or more times during the past 30 days.

Violence and unintentional injury prevention

Overall, 28.4% of students reported being taught in any of their classes during this school year how to avoid physical fights and violence. Male students (32.3%) are significantly more likely than female students (24.7%) to have been taught in any of their classes during this school year how to avoid physical fights and violence.

Mental Health

Background

World-wide, approximately 20% of children and adolescents suffer from a disabling mental illness.^{xi} Anxiety disorders, depression and other mood disorders, and behavioural and cognitive disorders are among the most common mental health problems among adolescents. Half of all lifetime cases of mental disorders start by age 14.^{xii}

Every country and culture has children and adolescents struggling with mental health problems. Most of these young people suffer needlessly, unable to access appropriate resources for recognition, support, and treatment. Ignored, these young people are at high risk for abuse and neglect, suicide, alcohol and other drug use, school failure, violent and criminal activities, mental illness in adulthood and health-jeopardizing impulsive behaviours. Each year, about 4 million adolescents world-wide attempt suicide. Suicide is the third leading cause of death among adolescents.^{xiii, xiv}

Results

Table 9: Mental Health issues among students by Sex in UAE:-

Question	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
Most of the time or always felt lonely during the past 12 months	15.5 (14.6 – 16.4)	13.1 (12.1 – 14.2)	17.7 (16.2 – 19.1)
Most of the time or always felt so worried about something that they could not sleep at night during the past 12 months	14.4 (13.1 – 15.7)	10.6 (9.6 – 11.7)	18.1 (16.3 – 19.9)
Felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing their usual activities during the past 12 months	35.2 (33.7 – 36.8)	32.0 (30.4 – 33.6)	38.5 (36.2 – 40.8)
Seriously considered attempting suicide during the past 12 months	13.0 (12.0 – 13.9)	13.4 (11.9 – 14.9)	12.5 (11.3 – 13.6)
Made a plan about how they would attempt suicide during the past 12 months	9.8 (9.1 – 10.5)	10.3 (9.2 – 11.4)	9.2 (8.4 – 10.1)
Have no close friends	6.4 (5.9 – 6.9)	6.6 (5.8 – 7.4)	6.2 (5.5 – 6.9)
Taught in any of their classes how to handle stress in healthy ways during this school year	20.6 (19.3 – 22.0)	23.3 (21.2 – 25.4)	18.0 (16.1 – 19.9)
Taught in any of their classes how to manage anger during this school year	31.9 (30.1 – 33.6)	34.2 (31.9 – 36.4)	29.6 (27.3 – 31.8)

*95% confidence interval.

Loneliness/depression

In the UAE 15.5% of students felt lonely most of the time or always during the past 12 months. Male students (13.1%) are significantly less likely than female students (17.7%) to feel lonely most of the time or always. Overall, 14.4% of students felt so worried about something, most of the time or always that they could not sleep at night during the past 12 months. Male students (10.6%) are significantly less likely than female students (18.1%) to feel so worried about something, most of the time or always that they could not sleep at night during the past 12 months.

Overall, 35.2% of students felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing their usual activities during the past 12 months. Male students (32.0%) are significantly less likely than female students (38.5%) to feel so sad or hopeless almost every day for two weeks or more that they stopped doing their usual activities during the past 12 months.

Suicidal behaviour

Overall, 13.0% of students seriously considered attempting suicide during the past 12 months and there was no significant difference between male students (13.4%) and female students (12.5%). Overall, 9.8% of students made a plan about how they would attempt suicide during the past 12 months. There is no significant difference between male students (10.3%) and female students (9.2%) who made a plan about how they would attempt suicide during the past 12 months. Overall, 6.4% of students did not have any close friends, with no significant difference between male students (6.6%) and female students (6.2%) who have close friends.

Managing stress and anger

Overall, 20.6% of students reported being taught, during this school year in any of these classes how to handle stress in healthy ways. Male students (23.3%) were significantly more likely than female students (18.0%) to report being taught during this school year in any of these classes how to handle stress in healthy ways. Overall, 31.9% of the students reported being taught in any of their classes how to manage anger. Male students (34.2%) were significantly more likely than female students (29.6%) to report being taught during this school year in any of these classes how to manage anger.

Tobacco Use

Background

About 1.1 billion people worldwide smoke and the number of smokers continue to increase. Among these, about 84% live in developing and transitional economy countries. Currently 5 million people die each year from tobacco consumption, the second leading cause of death worldwide. If present consumption patterns continue, it is estimated that deaths from tobacco consumption will be 10 million people per year by 2020.^{xv} The overwhelming majority of smokers begin tobacco use before they reach adulthood. Among those young people who smoke, nearly one-quarter smoked their first cigarette before they reached the age of ten.

Smokers have markedly increased risks of multiple cancers, particularly lung cancer, and are at far greater risk of heart disease, strokes, emphysema and many other fatal and non-fatal diseases. If they chew tobacco, they risk cancer of the lip, tongue and mouth. Children are at particular risk from adults' smoking. Adverse health effects include pneumonia and bronchitis, coughing and wheezing, worsening of asthma, middle ear disease, and possibly neuro-behavioural impairment and cardiovascular disease in adulthood. Many studies show that parental smoking is associated with higher youth smoking.^{xvi}

Results

Table 10: Tobacco use among students by sex in UAE

Question	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
Smoked cigarettes on one or more days during the past 30 days	9.3 (7.8 – 10.7)	14.9 (12.9 – 16.9)	3.5 (2.9 – 4.2)
Among students who smoked cigarettes on one or more days during the past 30 days, those who tried their first cigarette at age 13 or younger.	39.0 (35.5 – 42.5)	39.2 (35.4 – 43.1)	36.7 (28.8 – 44.6)
Used any other form of tobacco on one or more days during the past 30 days	10.7 (9.1 – 12.2)	16.9 (14.7 – 19.0)	4.5 (3.8 – 5.2)
Used any tobacco on one or more days during the past 30 days	12.7 (11.0-14.5)	19.8 (17.5 -22.1)	5.7 (4.9-6.6)

*95% confidence interval

Prevalence of tobacco use

In UAE, 9.3% of students smoked cigarettes on one or more days during the past 30 days. Male students (14.9%) are significantly more likely than female students (3.5%) to have smoked cigarettes on one or more days. Among students who smoked cigarettes during the past 30 days, 39.0% tried their first cigarette at age 13 or younger. There was no significant difference between male students (39.2%) and female students (36.7%) to have tried their first cigarette at age 13 or younger. Overall, 10.7% of students used any other form of tobacco on one or more days during the past 30 days. Male students (16.9%) are significantly more likely than female students (4.5%) to use any other form of tobacco on one or more days during the past 30 days.

Overall, 12.7% of students used any tobacco on one or more days during the past 30 days. Male students (19.8%) are significantly more likely than female students (5.7%) to use tobacco on one or more days during the past 30 days.

Alcohol and Other Drug use

Alcohol

Background

Worldwide, alcohol use causes 3% of deaths (1.8 million) annually, which is equal to 4% of the global disease burden. Across sub-regions of the world, the proportion of disease burden attributable to alcohol use is greatest in the Americas and Europe ranging from 8% to 18% of total burden for males and 2% to 4% of total burden for females. Besides the direct effects of intoxication and addiction, alcohol use causes about 20% to 30% of each of oesophageal cancer, liver disease, homicide and other intentional injuries, epilepsy, and motor vehicle accidents worldwide^{xvii}, and heavy alcohol use places one at greater risk for cardiovascular disease.^{xviii}

In most countries, alcohol-related mortality is highest among 45- to 54-year-olds, but the relationship between the age of initiation of alcohol use and the pattern of its use and abuse in adulthood makes the study of alcohol consumption among adolescents important.^{xix}

Intentional and unintentional injuries are far more common among youth and young adults.

Unintentional injuries are the leading cause of death among 15- to 25-year-olds and many of these injuries are related to alcohol use.^{xx}

Young people who drink are more likely to use tobacco and other drugs and engage in risky sexual behaviour, than those who do not drink.^{xxi,xxii} Problems with alcohol can impair adolescents' psychological development and influence both the school environment and leisure time negatively.^{xxiii}

Results

The alcohol and drug use characteristics of the sample are described in the following table.

Table 11: Alcohol and other drug use knowledge among students in UAE:-

Questions	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
Who know what alcohol is	80.1 (78.4 – 81.7)	78.7 (76.6 – 80.8)	81.5 (79.1 – 83.9)
Had someone in their family discuss with them the harmful effect of drinking alcohol	70.4 (69.2 – 71.6)	70.5 (68.7 – 72.3)	70.5 (68.9 – 72.1)
Taught in any of their classes the dangers of alcohol use during this school year	50.2 (48.7 – 51.8)	49.3 (47.3 – 51.2)	51.1 (48.6 – 53.6)
Students who think people have great risk harming themselves (physically or in other ways) if they drink alcohol	61.1 (59.1 – 63.2)	56.4 (54.1 – 58.7)	65.9 (63.2 – 68.6)
Students who have friends most or all of which drink alcohol	2.8 (2.3 – 3.2)	4.0 (3.2 – 4.8)	1.5 (1.1 – 1.9)
Would probably or definitely not drink alcohol if one of their best friends offered them	95.3 (94.7 – 96.0)	93.3 (92.3 – 94.3)	97.4 (96.9 – 97.9)

*95% confidence interval

Knowledge and Attitudes regarding alcohol

In U.A.E., 80.1% of students were aware about what is alcohol. There was no significant difference between the knowledge of male students (78.7%) and female students (81.5%). 70.4% of the students had someone in their family discuss with them the harmful effects of drinking alcohol. There was no significant difference between male students (70.5%) and female students (70.5%) who had someone in their family discuss with them the harmful effects of drinking alcohol.

Awareness about risks of alcohol drinking

Overall, 61.1% of the students thought people have great risk harming themselves physically or in other ways if they drink alcohol. Male students (56.4%) are significantly less likely than female students (65.9%) to think that people have great risk harming themselves if they drink alcohol. Overall, 2.8% of students had friends most or all of whom drink alcohol. Male students (4.0%) are significantly more likely than female students (1.5%) to have friends most or all of whom drink alcohol. Overall, 95.3% of students reported that they would probably or definitely not drink alcohol if one of their best friends offered them a drink. Male students (93.3%) are significantly less likely than female students (97.4%) to report that they would probably or definitely not drink alcohol if one of their best friends offered them a drink

Health education in schools about risks of drinking alcohol

Overall, 50.2% of students were taught in any of their classes during the school year the dangers of alcohol use. There was no significant difference between male students (49.3%) and female students (51.1%) who were taught about the dangers of alcohol use in any of their classes during the school year.

Table 12: Knowledge about the harmful effects of using drugs in UAE:-

Question	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
Knew about drugs the first time by watching TV, movies or videos	33.0 (31.6 – 34.4)	30.9 (29.2 – 32.6)	35.0 (32.8 – 37.3)
Those who think people have great risk harming themselves (physically or in other ways) if they use drugs	68.1 (66.0 – 70.2)	63.5 (61.1 – 65.9)	72.7 (69.8 – 75.6)
Taught in any of their classes the dangers of using drugs during this school year	53.1 (50.8 – 55.4)	52.1 (49.7 – 54.4)	54.2 (50.4 – 57.9)
Taught in any of their classes how to tell someone they do not want to use drugs during this school year	28.9 (27.4 – 30.4)	31.9 (30.0 – 33.7)	25.9 (23.9 – 28.0)
Used drugs one or more times during their life	5.0 (4.1 – 5.9)	8.2 (6.8 – 9.5)	1.8 (1.3 – 2.3)
Have friends most or all of which used drugs	1.7 (1.4 – 2.1)	2.9 (2.3 – 3.5)	0.6 (0.4 – 0.8)
Ever had someone offer or sell them drugs	6.5 (5.8 – 7.2)	8.8 (7.7 – 9.9)	4.2 (3.6 – 4.9)
Among students who used drugs the previous year, usually got the drug they used by buying it in a store or from a street vendor	31.4 (27.1 – 35.8)	32.5 (27.5 – 37.5)	-
Think it would be impossible or very difficult to get drugs if they wanted to	70.7 (69.3 – 72.1)	68.7 (66.9 – 70.4)	72.7 (70.5 – 74.8)

*95% confidence interval

Knowledge and Attitudes regarding drug use

In UAE 33% of the students knew about drugs the first time by watching TV, movies or videos. Male students (30.9%) are less likely than female students (35.0%) to know about drugs for the first time by watching TV, movies or videos. Overall, 68.1% of students think people have great risk harming themselves (physically or in other ways) if they use drugs. Male students (63.5%) are significantly less likely than female students (72.7%) to think people have great risk harming themselves if they use drugs.

Health education in schools about risks of drug use

In the U.A.E., 53.1% of the students were taught in their classes the dangers of using drugs during this school year. Male students (52.1%) are equally likely as female students (54.2%) to be taught during their classes this school year about the dangers of using drugs. In addition, 28.9% of students were taught in any of their classes how to tell someone they do not want to use drugs. Male students (31.9%) are significantly more likely than female students (25.9) to be taught in any of their classes how to tell someone they do not want to use drugs.

Prevalence of lifetime drug use

In UAE, the prevalence of lifetime drug use (using drugs such as marijuana , or cocaine; smelling the fumes of gasoline, glue, correctors, car exhaust; burning black ants or ingesting Actifed without medical need) one or more times during their life was 5.0 %. Male students (8.2%) are significantly more likely than female students (1.8%) to use drugs one or more times during their life. Overall, 1.7% of students reported that they have friends most or all of whom used drugs. Male students (2.9%) are more likely than female students (0.6%) to have friends most or all of whom used drugs.

Access to drugs

Overall, 6.5% of students had someone ever offer or sell them drugs. Male students (8.8%) are significantly more likely than female students (4.2%) to have someone offer or sell them drugs. Among the students who used drugs the previous year, 31.4% got the drug they used from a store or from a street vendor. Overall, 70.7% of the students thought that it would be impossible or very difficult to get drugs if they wanted to, and there was no significant difference between male students (68.7%) and female students (72.7%) who thought that it would be impossible or very difficult to get drugs if they wanted to.

Knowledge about HIV Infection and AIDS

Background

AIDS has killed more than 25 million people since 1981. As of 2005, an estimated 40.3 million people were living with HIV. In that year alone, roughly 3.1 million people died of HIV and another 4.9 million people became infected with HIV.^{xxiv} Young people between the ages of 15 and 24 are the most threatened group, accounting for more than half of those newly infected with HIV. At the end of 2003, an estimated 10 million young people aged 15 to 24 were living with HIV. Studies show that adolescents who begin sexual activity early are likely to have sex with more partners and with partners who have been at risk of HIV exposure and are not likely to use condoms. In many countries, HIV infection and AIDS is reducing average life expectancy, threatening food security and nutrition, dissolving households, overloading the health care system, reducing economic growth and development, and reducing school enrolment and the availability of teachers.^{xxv}

STIs are among the most common causes of illness in the world and have far-reaching health consequences. They facilitate the transmission of HIV and, if left untreated, can lead to cervical cancer, pelvic inflammatory diseases, and ectopic pregnancies.^{xxvi} Worldwide, the highest reported rates of STIs are found among people between 15 and 24 years; up to 60% of the new infections and half of all people living with HIV globally are in this age group.^{xxvii}

Table 13: Knowledge about AIDS among school children in UAE

Question	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
Ever heard of HIV infection or the disease called AIDS	90.0 (89.0 – 91.0)	88.5 (87.2 – 89.8)	91.4 (90.2 – 92.6)
Taught in any of their classes during this school year about HIV infection or AIDS	50.0 (47.8 – 52.1)	47.6 (44.8 – 50.4)	52.3 (49.1 – 55.5)
Taught in any of their classes during this school year how to avoid HIV infection or AIDS	47.8 (45.6 – 50.0)	45.5 (42.4 – 48.6)	50.0 (46.6 – 53.3)

*95% confidence interval

Awareness of HIV or AIDS

In the UAE, 90.0% of students had ever heard of HIV or the disease called AIDS. Male students (88.5%) are significantly less likely than female students (91.4%) to have ever heard of HIV or the disease called AIDS. Overall, 50.0% of students had been taught in any of their classes about HIV or AIDS during this school year. There was no significant difference between male students (47.6%) and female students (52.3%) who had been taught in their classes about HIV or AIDS. Overall, 47.8% of students had been taught in any of their classes how to avoid HIV or AIDS during this school year. There was no significant difference between male students (45.5%) and female students (50.0%) who reported having been taught how to avoid HIV or AIDS.

Physical Activity

Background

Participating in adequate physical activity throughout the life span and maintaining normal weight are the most effective ways of preventing many chronic diseases, including cardiovascular disease and diabetes.^{xxviii}

The prevalence of type 2 diabetes is increasing globally and now is occurring during adolescence and childhood.^{xxix} Participating in adequate physical activity also helps build and maintain healthy bones and muscles, control weight, reduce blood pressure, ensure a healthy blood profile, reduce fat, and promote psychological well-being.^{xxx}

Roughly 60% of the world's population is estimated to not get enough physical activity. Patterns of physical activity acquired during childhood and adolescence are more likely to be maintained throughout the life span, thus sedentary behaviour adopted at a young age is likely to persist.^{xxxi}

Results

Table 14: Physical Activity among Students by Sex in UAE:-

Question	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
Physically active on all 7 days for a total of at least 60 minutes per day during the <u>past seven days</u>	19.5 (18.4 – 20.6)	22.9 (21.3 – 24.4)	16.2 (14.9 – 17.6)
Physically active all 7 days for a total of at least 60 minutes per day during a <u>typical or usual week</u>	20.0 (18.7 – 21.3)	24.6 (22.9 – 26.3)	15.4 (14.0 – 16.8)
Participated in physical activity for a total of at least 60 minutes per day on five or fewer days <u>on average</u>	76.9 (75.6 – 78.3)	72.9 (71.0 – 74.8)	81.0 (79.3 – 82.7)
Spent three or more hours per day doing sitting activities during a typical or usual day	38.8 (37.2 – 40.5)	38.0 (36.1 – 40.0)	39.6 (37.4 – 41.9)
Did not walk or ride a bicycle to and from school during the past seven days	80.8 (78.1 – 83.6)	72.9 (69.8 – 76.1)	88.8 (86.5 – 91.1)
Usually took less than 30 minutes to get to and from school each day during the past seven days	68.7 (66.5 – 70.9)	71.7 (69.0 – 74.4)	65.9 (62.9 – 68.9)
Usually travel to and back from school by car or taxi, motorcycle, or bus or coach	84.7 (82.6 – 86.8)	77.5 (74.8 – 80.2)	91.7 (90.5 – 93.0)
Taught in any of their classes during this school year the benefits of physical activity	59.2 (57.6 – 60.8)	58.4 (56.3 – 60.4)	60.0 (57.5 – 62.5)
Taught in any of their classes during this school year, about preventing injury during physical activity	36.4 (34.8 – 38.0)	40.0 (38.3 – 41.8)	32.9 (30.8 – 34.9)
Taught in any of their classes during this school year, about weather related safety such as avoiding physical activity during the hottest part of the day	30.9 (29.4 – 32.4)	36.5 (34.7 – 38.2)	25.5 (23.8 – 27.2)

*95% confidence interval.

Physical activity

In the UAE, 19.5% of students were physically active all 7 days during the past 7 days for a total of at least 60 minutes per day. Male students (22.9%) are significantly more likely than female students (16.2%) to be physically active all 7 days during the past 7 days. Overall 20% of students were physically active on all 7 days during a typical or usual week for a total of at least 60 minutes per day. Male students (24.6%) are significantly more likely than female students (15.4%) to be physically active on all 7 days during a typical or usual week. Overall, 76.9% of students

participated in insufficient physical activity (i.e., participated in physical activity for a total of at least 60 minutes per day on five or fewer days on average). Male students (72.9%) are significantly less likely than female students (81.0%) to participate in insufficient physical activity

Sedentary behaviour

Overall, 38.8% of students spent three or more hours per day doing sitting activities during a typical or usual day. Male students (38.0%) and female students (39.6%) are equally likely to spend three or more hours per day doing sitting activities.

Walk or bicycle to and from school

Overall, 80.8% of students did not walk or ride a bicycle to and from school during the past seven days. Male students (72.9%) are significantly more likely than female students (88.8%) to walk or ride a bicycle to and from school during the past seven days. Overall, 68.7% of students took less than 30 minutes to get to and from school each day during the past seven days. Male students (71.7%) are significantly more likely than female students (65.9%) to take less than 30 minutes to get to and from school each day during the past seven days.

Other physical activity results

Overall, 84.7% of students usually travel to and back by car or taxi, motorcycle or bus or coach. Male students (77.5%) are significantly less likely than female students (91.7%) to usually travel to and back by car or taxi, motorcycle or bus or coach.

Overall, 59.2% of students have been taught about the benefits of physical activity in any of their classes during the school year. Male students (58.4%) and female students (60.0%) are equally likely to have been taught about the benefits of physical activity in any of their classes during the school year. 36.4% of students were taught about preventing injury during physical activity in any of their classes during this school year. Male students (40.0%) are significantly more likely than female students (32.9%) to be taught in any of their classes during this school year, about preventing injury during physical activity. Overall, 30.9% of students were taught in any of their classes during this school year, about weather related safety such as avoiding physical activity during the hottest part of the day. Male students (36.5%) are significantly more likely than female students (25.5%) to be taught in their classes about weather related safety such as avoiding physical activity during the hottest part of the day.

Protective Factors

Background

For most adolescents, school is the most important setting outside the family. School attendance is related to the prevalence of several health risk behaviours including violence and sexual risk behaviours.^{xxxii}

Adolescents who have a positive relationship with teachers, and who have positive attitudes towards school are less likely to initiate sexual activity early, less likely to use substances, and less likely to

experience depression. Adolescents who live in a social environment which provides meaningful relationships, encourages self-expression, and also provides structure and boundaries, are less likely to initiate sex at a young age, less likely to experience depression, and less likely to use substances.^{xxxiii}

Being liked and accepted by peers is crucial to young people's health development, and those who are not socially integrated are far more likely to exhibit difficulties with their physical and emotional health. Isolation from peers in adolescence can lead to feelings of loneliness and psychological symptoms. Interaction with friends tends to improve social skills and strengthen the ability to cope with stressful events.^{xxxiv}

Parental bonding and connection is associated with lower levels of depression and suicidal ideation, alcohol use, sexual risk behaviours, and violence.^{xxxv}

Results

Table 15: Protective Factors among students by Sex in UAE:-

Question	Total % (CI) *	Sex	
		Male % (CI)	Female % (CI)
Missed classes or school without permission on one or more of the past 30 days	31.2 (29.2 – 33.2)	34.0 (31.7 – 36.3)	28.3 (25.2 – 31.5)
Most of the students in their school were never or rarely kind and helpful during the past 30 days	19.4 (18.0 – 20.8)	24.8 (22.9 – 26.7)	14.1 (12.7 – 15.5)
Parents or guardians never or rarely checked to see if their homework was done most of the time during the past 30 days	30.8 (29.3 – 32.3)	27.6 (25.8 – 29.5)	33.8 (31.7 – 36.0)
Parents or guardians never or rarely understood their problems and worries most of the time or always during the past 30 days	31.3 (30.1 – 32.5)	32.1 (30.5 – 33.8)	30.4 (28.7 – 32.2)
Parents or guardians never or rarely really knew what they were doing with their free time during the past 30 days	25.7 (24.4 – 27.0)	27.6 (25.8 – 29.5)	23.7 (22.2 – 25.1)

*95% confidence interval

Missing classes

In the UAE, 31.2% of students missed classes or school without permission on one or more of the past 30 days. Male students (34.0%) are significantly more likely than female students (28.3%) to miss classes or school without permission on one or more of the past 30 days.

Being kind and helpful

Overall, 19.4% of students reported that most of the students in their school were never or rarely kind and helpful during the past 30 days. Male students (24.8%) are significantly more likely than female students (14.1%) to report that most of the students in their school are never or rarely kind and helpful during the past 30 days.

Parents or guardians

Overall, 30.8% of students reported their parents or guardians never or rarely checked to see if their homework was done during the past 30 days. Male students (27.6%) are significantly less likely than female students (33.8%) to report their parents or guardians never or rarely checked to see if their homework was done during the past 30 days. Overall, 31.3% of students reported their parents or guardians never or rarely understood their problems and worries during the past 30 days. Male students (32.1%) are equally likely as female students (30.4%) to report their parents or guardians never or rarely understood their problems and worries during the past 30 days.

Overall, 25.7% of students reported their parents or guardians never or rarely knew what they were doing with their free time during the past 30 days. Male students (27.6%) are significantly more likely than female students (23.7%) to report their parents or guardians never or rarely knew what they were doing with their free time during the past 30 days.

Part 3: Conclusions and Recommendations

1. Overview

Chronic diseases remain the leading causes of morbidity and mortality in the UAE. In the past ten years non-communicable diseases, notably cardiovascular diseases, cancer, and diabetes, in addition to accidents were among the leading causes of mortality. Although the highest mortality is among males over 60 years of age, accidents- related deaths peak in the most economically active age group, from 15-44 years, making accidents the leading cause of productive years lost in the UAE.

Any program for the prevention and control of non communicable diseases should focus on reduction of risk factors at an earlier age to evade the development of these diseases later in life. National data on causes of death strongly indicate that cardiovascular diseases continue to be the leading cause of death in the UAE. Cerebrovascular disease accounts for 19.2% of these deaths, followed by acute myocardial infarction (18.5%), ischemic heart disease (14.3%) and hypertensive disease (10.6%).^{XLV}

The major risk factors of coronary heart disease are high blood pressure, cigarette smoking, unhealthy diet, lack of physical activity and diabetes.

In line with WHO recommendation and the results of recent evaluation reviews, future health strategies in the UAE will focus on risk assessment and reduction of disease burden as the most cost-effective approach to health care provision.^{XLV}

The purpose of applying GSHS in UAE was to provide accurate data on health behaviours and protective factors among students and establish trends in the prevalence of health behaviours and protective factors to identify priorities, establish programmes, and advocate for resources to cover school health and youth health programmes and policies

The discussion will focus on the topics presented in this document and the results will be compared to those of other Arab countries such as Oman and Jordan where GSHS has also been conducted in 2005 and 2004 respectively (keeping in mind that the data you are using for the other countries is coming from their fact sheets and is limited to 13-15 year olds only while the UAE data is mostly 13-15 year olds but also covers a wider age range).

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Dietary behaviours

In the Gulf region, increasing prosperity has been associated with increasing obesity in school children. Since preventive interventions during adult years may ameliorate some of the morbidity consequences of life-long overweight and obesity, possibly preventing associated mortality; it is critical to estimate the burden of obesity and overweight to design strategies to combat these diseases. Thus, scientific estimates of the prevalence of obesity and overweight in school children and factors contributing to this prevalence are essential to devise preventive strategies to be implemented in schools.

A review of published literature demonstrates that the prevalence of obesity is in the range of 8-13% and the prevalence of overweight in the range of 16.5-21.5%. In a recent study published online in September 2006 in Obesity Reviews (Blackwell Synergy) by M. Malik et al, the prevalence of obesity and overweight was estimated in 4281 children aged 5-17 years using the International Obesity Task Force criteria. Overall, 21.5% of the school children were overweight and 13.7% were obese. This study demonstrates a high prevalence of overweight in children and urges the need for interventions aimed at reversing the trends of this emerging epidemic.^{XXXVII}

A school health cross-sectional study to assess the health status of Primary School children in Dubai and Sharjah in the United Arab Emirates was conducted in 6-12 year age group by the school health department in the year 2004. The covered 1422 students in primary school and revealed that the prevalence of obesity in Dubai and Sharjah in this age group was 8.6% (using body mass index by age and sex at or above 95th percentile). xxxix

Another study published in the American Journal of Human Biology, November 2000 by F. A. Haddad et al., 4075 national students aged 6-16 years were examined in Ras Al Khaimah (RAK) emirate. The study demonstrated that 16.5% of the boys and 16.9% of the girls were overweight or obese (using the BMI criteria of the Expert Committee on Clinical Guidelines for Overweight in Adolescent Preventive Services). The study also highlighted that though the median BMI in UAE and US school children show few significant differences overall, the proportions of BMIs in UAE boys and girls at the 95th percentile are higher than the BMIs in US school children of the same age and sex. The prevalence of obesity is 7.9% for both sexes which is 1.6 times the rate of US reference data. The prevalence of obesity increased late in adolescence, particularly after the age of 13 years in UAE youth. As these adolescents are more likely to be obese during adulthood the study suggests an increased risk of coronary heart disease and diabetes mellitus for a relatively large proportion (8%) of the UAE youth . xxxvi

In UAE, the GSHS has shown that 33.6% of the students are either overweight or at risk of becoming overweight .12.1% of the students were overweight and 21.5% at risk for becoming overweight. This result is similar to the study undertaken by M. Malik et al, in RAK. The GSHS also showed that there was no significant difference between male students and female students who are overweight or at risk for becoming overweight

According to the GSHS 2005, students in the UAE are more likely to be overweight or at risk for becoming overweight than students in Jordan where according to Jordan GSHS 2004, 3.5% of Jordanian students are overweight and 13.9% at risk of becoming overweight. .xlvi

Although the per capita income in the UAE estimated to exceed Dh 61,000 in 2005 which is considered one of the highest in the world, 9.4% of the students reported that they went hungry most of the time or always because there was not enough food in their home during the past 30 days with no significant difference than other students in countries like Jordan (10.3 %) or Oman (7.5%).

The GSHS has shown that unhealthy eating practices are adopted by many students. 25% of the students (boys significantly more than girls) drink carbonated soft drinks twice or more times daily; 18% of the students ate at a fast food restaurant on three or more times of the past 7 days (boys significantly more than girls), and 17.1% of the students ate foods high in fat two or more times per day (boys significantly more than girls)during the past 30 days. Only 18.5% of the students ate fruits and vegetables five or more times per day during the past 30 days (girls significantly more than boys).Also only 32.3% of the students drank milk or milk products two or more times per day during the past 30 days (boys significantly more than girls).

These results are close to results of other studies which show very low dietary intake of fruits and vegetables and high intake of low nutritional and high calorie content food.

A cross sectional descriptive study, “Assessing Health Risk Behaviours among secondary school students in Abu Dhabi” was conducted by Ahmed Rabia et al in the year 2004 to determine the prevalence of different health risk behaviours and develop a strategy for health education. The study

demonstrated that of the 2200 students interviewed, only 10% reported eating 3 or more servings of fruits and vegetables while, 40.4% of the students ate one or more servings of food typically high in fat content during the previous day. Out of the students who ate one or more servings of food typically high in fat content, 46% ate hamburgers or sausages, 57% ate French fries or potato chips and 59% ate cookies, pies or cakes. The study also reported the same result as in GSHS that male students were more likely than female students to eat foods higher in fat content, but, female students were less likely than male students to eat fresh fruits and vegetables^{XXXVII}

Hygiene

In UAE, GSHS results show that during the past 30 days 5.0% of students did not clean or brush their teeth. 19.5% of students cleaned or brushed their teeth less than 1 time per day during the past 30 days. This is close to Oman's result where 5.3 % of the students did not clean or brush their teeth during the past 30 days. However, in the UAE, female students were significantly more likely than male students to brush their teeth. A school health survey to assess the health status of Primary School children in Dubai and Sharjah in the UAE was conducted by the school health department in 6-12 year age group in the year 2004 .The cross sectional study covered 1422 students in primary school and revealed that 89.7% of the children had dental problems.

In the UAE, GSHS showed that 6.6% of students never or rarely washed their hands before eating; 4.3% of the students never or rarely washed their hands after using the toilet or latrine and 4.8% never or rarely used soap. Female students were significantly more likely to wash their hands before eating or after using the toilet, or use soap. These results were close to results in Oman GSHS- 2005 where 6.2% of the students never or rarely washed their hands before eating and 7.7% never or rarely washed their hands after using the toilet or latrine^{XLVI}. The results from fact sheets of GSHS-2004 in Jordan showed that 7.5% of students never or rarely washed their hands before eating and 5.6% never or rarely washed their hands after using the toilet or latrine .^{XLVII}

Violence and unintentional injury

Nearly 1148 deaths attributed to accidents have been recorded in the UAE in 2004. The predominant cause of death was road traffic accidents. Males accounted for 83% of these deaths compared to 17% females.^{XLV}

In the UAE-GSHS, during the past 12 months, 31.9% of students were physically attacked one or more times. Overall, 43.2% of students in the UAE were in a physical fight one or more times during the past 12 months. The results were close to Oman (41.6%) and Jordan (46.6%)^{XLVI-XLVII}

In the UAE there is less bullying reported by students where only 20.8% of the students were bullied on one or more days during the past 30 days compared to Oman (36%) . In the UAE, among those students who were bullied, 15.0% were bullied most often by being hit, kicked, pushed, shoved around, or locked indoors. During the school year only 28.4% of students reported being taught in any of their classes how to avoid physical fights and violence, and only 31.9% of the students reported having been taught in any of their classes how to manage anger. Male students were significantly more likely than female students to report violence, injury or bullying.

In the UAE-GSHS, 30.7% of students were seriously injured one or more times during the past 12 months. Among students who rode a bicycle or other non-motorized vehicle during the past 30 days, 72.5% never or rarely wore a helmet when riding a bicycle or other non-motorized vehicle

The results are close to the results of Oman where 26.6% of the students were seriously injured one or more times during the past 12 months and less than the students who were seriously injured in Jordan (36.1%).

Mental health

The UAE has undergone rapid social change which has brought about increasing stress on family life together with an increase in behavioural problems in school children. Since more than one third of the population of the UAE are children and adolescents younger than 18 years of age, the mental health of this group needs to be adequately addressed. The structure and resources of the School Health Services could be effectively utilized to monitor and improve the mental health status of school children. A screening questionnaire has actually been introduced in comprehensive screening of the school health program for the 1st, 5th, and 9th grades. Many students tend to suffer silently since many cases of depression, anxiety and other mental health problems even in adults are kept secret, most likely because of the fear from stigmatization

A two stage epidemiological study on “Prevalence and Risk factors of Mental Health Problems among school children in United Arab Emirates” was conducted in Al Ain district by Valsamma Eapen et al and examined 3278 school children aged 6-15 years. 23.9% of the children were reported to have a mental health problem by either the parent or the school health physician. Boys were more often reported to be having problems than girls (1.8:1). The study also mentions that the weighted average for DSM-IV disorders was 10.4%. The presence of certain culture-specific risk factors such as gender, number of children in the household, polygamy and low socioeconomic status were found to be related to psychiatric disorders. A positive family history and consanguinity were the most significant factors associated with learning disorders.^{XL}

Another study on Childhood Behavioural disturbance in a community sample in Al Ain, United Arab Emirates also by V Eapen et al was published in the Eastern Mediterranean Journal in 2001. The study evaluated the prevalence of behavioural and emotional problems among 620 UAE nationals aged 6-18 years using the Rutter Parent questionnaire. It was found that 11.8% scored above the cut-off point indicating behavioural disturbance. The prevalence of conduct problems were more common among boys while emotional problems were more common among girls. The study is a useful tool in understanding the extent of behavioural disturbance among 6-18 year old children. The study also suggests that behavioural and emotional disorders are more frequent among children when there is a positive family history of psychiatric disorders or drug or alcohol use in a family member.^{XLI}

In the UAE-GSHS, 15.5% of students felt lonely most of the time or always during the past 12 months, 14.4% of students felt so worried about something, most of the time or always that they could not sleep at night and 35.2% felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing their usual activities. 6.4% of the students did not have any close friends.

Male students are significantly less likely than female students to feel lonely, worried, sad or hopeless.

Although suicide is strictly prohibited in many religions including Islam and this may deter many from committing suicide, we have to understand that not all people are equally committed to their religion. During the past 12 months, 13.0% of the students seriously considered attempting suicide and 9.8% made a plan about how they would attempt suicide. The UAE results are close to Jordan-GSHS results where 15.8% of the students felt lonely most of the time or always, 15.1 % considered attempting suicide during the past 12 months and 4.9% had no close friends.^{XLVII}

In the UAE-GSHS, 20.6% of the students reported having been taught, in any of their classes how to handle stress in healthy ways during this school year. Male students were significantly more likely than female students to have been taught in any of their classes how to handle stress in healthy ways.

Tobacco use

The results of the Global Youth Tobacco Survey conducted as a school-based survey in the UAE in 2002 on 4178 students aged 13-15 years in governmental and private schools, showed a smoking prevalence of 14.3% among male students and 2.9% among female students. 25% of students first tried smoking at less than ten years of age. More than 25% of non-smokers and more than 60% of current smokers are exposed to environmental tobacco smoke in their homes and in public places ^{XLII}

In the UAE-GSHS the results show that during the past 30 days, 9.3% of the students smoked cigarettes on one or more days. Among students who smoked cigarettes during the past 30 days, 39.0% tried their first cigarette at age 13 or younger. 10.7% of the students used any other form of tobacco on one or more days. (12.7%) of students used any tobacco on one or more days

Male students are significantly more likely than female students to smoke or use tobacco in any form.

Alcohol and drug use

One of the most global concerns for the youth is the intake of tobacco, alcohol and other addictive products. Although the UAE is an Islamic state where alcohol intake is prohibited for Muslims, the country has a substantial expatriate population and is home for many nationalities.

Children who are drinking alcohol by 7th grade are more likely to report academic problems, substance use, and delinquent behaviour in both middle school and high school. ^{XLIV}

Early alcohol use is associated in young adulthood, with employment problems, other substance abuse, and criminal and other violent behaviour. (XLIV)

Young people who begin drinking before 15 years are four times more likely to develop alcoholism than those who begin at age of 21 ^{XLIV}

In the UAE-GSHS results showed that 70.4% of students had someone in their family who discussed with them the harmful effects of alcohol, only 50.2% were taught in any of their classes about alcohol and only 61.1% think people have a great risk harming themselves if they drank alcohol. However, 95.3% of students reported that they would probably or definitely not drink alcohol if one of their best friends offered them a drink. This means that health education through schools and families is not the only protective factors and religious commitment and social refusal have a significant protective role. Nevertheless, 2.8% of the students have friends most or all of whom drink alcohol.

Male students are significantly more likely than female students to have such friends and more likely to drink if one of their best friends offered them a drink

Overall 5.0 % of the students used drugs one or more times during their life. 1.7% of students reported that they have friends most or all of whom used drugs, and 6.5% of the students reported ever had someone offer or sell them drugs.

Male students were significantly more likely than female students to use drugs one or more times during their life, to have friends most or all of whom used drugs or to have someone offer or sell them drugs.

Awareness of HIV or AIDS

90.0% of students had ever heard of HIV or the disease called AIDS. 50.0% of students reported being taught in any of their classes about HIV or AIDS during this school year. And 47.8% of students had been taught in any of their classes how to avoid HIV or AIDS.

Male students are significantly less likely than female students to have ever heard of HIV or the disease called AIDS. However, there was no significant difference between male students and female students who had been taught in their classes about HIV or AIDS or how to avoid it during this school year.

Physical activity

The rapid socio-economic changes in the UAE past few decades has led to significant change in the way of life of the UAE people. The advent of modern technology has increased the dependence on machines and decreased the need for physical activities. The UAE youth too have been affected by the changing lifestyle. In 2002 the central department of school health with cooperation from WHO/ EMRO office has undertaken a survey to study physical education and activity among school children in UAE. The results of the study which included 4,740 students from private and governmental schools representing all districts in UAE showed that 22.8% of the students in governmental schools participated three times or more during the past week in physical activity for at least 20 minutes that made them sweat and breath hard. Male students (34.5 %) were significantly more likely than female students (11.7 %) to participate in such physical activity. Also 40.7% of the participating students in governmental schools reported watching television for three hours or more daily.

In a cross sectional descriptive study; “Assessing Health Risk Behaviours among secondary school students” in Abu Dhabi in the year 2001 and conducted by Ahmed Rabia et al to determine the prevalence of different health risk behaviours and develop a strategy for health education, it was found that of the 2200 students interviewed, only 17.9% participated in vigorous physical activities and 22.6% in moderate physical activities three or more times during the previous 7 days. It also found that 15.1% of the students did stretching exercises and 17% did exercises to strengthen or tone their muscles on 3 or more of the previous 7 days. 14.4% of the students attended physical education class on one or more days during the week but only 36.6% of the children exercised or played sports for more than 20 minutes during an average physical education class.^{xxxvii}

In UAE-GSHS, only 19.5% of students were physically active daily for a total of at least 60 minutes per day during the past 7 days. 20% of the students were physically active on all 7 days during a typical or usual week for a total of at least 60 minutes per day. 76.9% of the students did not participate in sufficient physical activity. And 80.8% of the students did not walk or ride a bicycle to and from school during the past seven days.^{xlvi} Male students are significantly more likely than female students to be physically active

Overall, 38.8% of the students spent three or more hours per day doing sitting activities during a typical or usual day.

Protective factors

During the past 30 days, 31.2% of the students missed classes or school without permission one or more times. 19.4% of the students reported that most of the students in their school were never or rarely kind and helpful. 30.8% of the students reported their parents or guardians never or rarely checked to see if their homework was done. 31.3% of the students reported their parents or guardians never or rarely understood their problems and worries. 25.7% of the students reported their parents or guardians never or rarely knew what they were doing with their free time. These results were significantly lower than the results in Jordan for the 13-15 years old students where

36.3% missed classes or school without permission one or more times, 44.7% of the students reported that most of the students in their school were never or rarely kind and helpful, and 44.9% of the students reported their parents or guardians never or rarely understood their problems and worries during the past 30 days.

Male students are significantly more likely to miss classes or school without permission, report that most of the students in their school are never or rarely kind and helpful or report their parents or guardians never or rarely knew what they were doing with their free time. Male students are less likely than female students to report their parents or guardians never or rarely check to see if their homework was done during the past 30 days. Male students are equally likely as female students to report their parents or guardians never or rarely understood their problems and worries during the past 30 days.

2. Conclusions

The results of GSHS indicated clearly that the prevalence of risk taking behaviours among school children in the UAE are very high. The main features of the results encountered in the study are as follows:

- One third of the students are either overweight or at risk of becoming overweight and many students have unfavourable dietary behaviours.
- One tenth of the students reported going hungry because of not having enough food in their homes; result which was least expected and should be studied further.
- Dental health education should be strengthened as one fifth of the student brush their teeth less than once a day.
- Addressing violence and unintentional injuries should be given priority as students do not follow safety procedures and therefore are more likely to get more seriously injured during sporting or riding.
- Many students suffer from emotional and mental problems. Depression in this age group is not that uncommon and therefore needs more precise assessment.
- Tobacco use starts in an early age. More than one third to one half of smoking students start before they are 13 years old. Integrated, comprehensive, early interventions are therefore required to protect these young children from early smoking.
- Alcohol and drugs' use is not acceptable in our society but that does not mean it doesn't exist. This requires addressing the problem seriously and restricting the use and availability of alcohol and drugs. It also requires strengthening the protective factors that enhance the refusal and rejection of alcohol and drug abuse.
- Students are less active than expected as more than 80% of adolescents aged 13-15 years are not physically active for at least 60 minutes per day on all 7 days per week and more than 40% of the students spend more than 3 hours per day in a sitting activity.
- Students need more understanding at this critical age. They specially need parents who are more friendly and protective at the same time.

3. Recommendations

Adolescents and school children should be a primary focus for intervention strategies. Health promotion and risk prevention strategies for this age group should be given top priority and incorporated in the ambitious and comprehensive national plan for disease prevention and control has been initiated by the MOH and other health authorities in UAE.

The recommendations will therefore focus on the development and implementation of the national strategies to promote healthy lifestyles. These should be guided by evidence based scientific research and evaluation to assess trends and direct the development of the strategies.

All concerned partners in the UAE should be involved and participate in developing comprehensive, well coordinated and culturally relevant policies and action plans to address all these major health behaviors.

The recommended strategies and action plans should include the following:

- Cost-effective analysis to identify and evaluate high , medium and low priority interventions to prevent or reduce health-related risk behaviours and promote protective factors
- Strengthening the school health education curriculum to be delivered by trained health education teachers as a separate subject or course to insure the quality, variety and quantity of the delivered information and skills.
- Only healthy and balanced school meals should be provided to students in schools since that could be a practical lesson or training laboratory for students on healthy nutrition.
- School's and appropriate community playgrounds should be kept open for children and adolescents to encourage practicing sports and physical activities especially since the outside weather is hot and not encouraging most of the year.
- Strengthening physical education in the school's curriculum and extracurricular activities and ensuring maximum participation of students every day.
- Formulating policies and enforcing laws against tobacco, alcohol and drug use, and in safety and violence related issues to limit the prevalence and reduce the impact of smoking and abuse, accidents and violence related injuries.
- Training of school staff and teachers on issues related to health education, accidents and violence prevention.
- Strengthening the school's mental health services to improve prevention, early detection and management of student's mental and social problems.
- Life skills education to promote physical, mental and social health and prevent health problems of school children.
- Collaboration between health and education staff and promoting parents and community participation to limit risk taking behaviours and promote the protective factors.
- More support is needed for scientific research and improving surveillance of risk behaviours.

It is recommended that this study should be conducted at regular time intervals to establish a surveillance system and function as a continuous evaluation tool and to be complemented by with other in-depth studies for current school health and health education programs.

Part 4: Appendices

4. Overview

- Appendix one English questionnaire

5. GSHS Questionnaire

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