

## Assessment of Health Problems Contributed to Life Style Behaviour in Secondary School Student in Mosul City

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### ABSTRACT

**Background and aim:** Adolescents form two-thirds of our population. This is a unique group of People with special needs. The study aims to assess lifestyle behaviors of secondary school students through the domains of physical activity, sedentary lifestyle, smoking, personal hygiene e.g. tooth brushing), to look for the presence a relationship between health problem and lifestyle behaviors of secondary school students, to assess the relationships between lifestyle behaviors and health problems of secondary school students and sociodemographic characteristics.

**Materials and method:** A cross- sectional descriptive study conducted in Mosul City from 13 October 2013 to 31 March 2014. A stratified- cluster sample of 1656 students (828 males and 828 females) whose age between 15- 19 years were selected. The schools selected randomly are 24 schools from 76 total schools in Mosul City. Data are collected through the use of semi-constructed questionnaire.

**Results:** The results of the present study demonstrated that there is non-significant relationship between students and family socio-demographic characteristic (age, sex, class level, student's order in the family and family income) while there is significant relationship between students and family socio-demographic characteristics ( residence, number of siblings and family type), also a highly significant relationship was shown between weight with age and sex.

**Conclusions:** The study confirms that 13.7% of students are obese and 12.9% of students have simple hypertension. Physical inactivity and sedentary leisure behavior are most common among students.

**Recommendations:** The researcher recommends promoting school health programs, family and community involvement to help these students live a healthier life, using mass media, which play an important role to identify healthy lifestyle behaviors and establishing national policy between Ministry of Health and Ministry of Education to promote healthier lifestyle behaviors for adolescents.

**Keywords:** Lifestyle, health problem, behavior, contributed.

### INTRODUCTION

Today the world, reveals the largest generation of 10–19 year olds in the history, number over one billion, and their population is continuously increasing (Barton and Jones, 2004).

Health-related behavior is one of the most important elements in people's health and well-being, its importance has grown as sanitation has improved and medicine has advanced. Diseases, that have been once incurable or fatal, can now be prevented or successfully treated, and health-related behavior has become an important component of public health. The improvement of health-related behaviors are, therefore, central to public health activities (WHO, 2010).

Despite the well-known benefits of a healthy lifestyle, unfortunately, there is very little public awareness of the association between health and lifestyle. Many are unaware that a change in lifestyle is an important factor in the emergence of chronic diseases as causes of increased morbidity and mortality. Lifestyle is, generally, considered a personal issue. However, lifestyles are social practices and ways of living adopted by individuals that reflect personal,

group, and socio-economic identities (WHO, 2003).

Lifestyle diseases share risk factors similar to prolonged exposure to three modifiable lifestyle behaviors smoking, unhealthy diet, and physical in activity, that result in the development of chronic diseases, specifically heart disease, stroke, diabetes, obesity, metabolic syndrome, chronic obstructive pulmonary disease, and some types of cancer (Ford *et. al.*, 2009). The study aims to assess lifestyle behaviors of secondary school students through domains physical activity, sedentary lifestyle, smoking, personal hygiene which includes tooth brushing, and to identify some health problems of secondary school students. Finally, it aims to find the relationship between health problem and life style behaviors of secondary school students.

### MATERIALS AND METHOD

A descriptive study was conducted in secondary school started from the period of 13 Oct. 2013 to 31 Mar. 2014 to meet the objectives of the present study. A multistage sample of (1656) subjects, has been selected throughout the use of probability sampling of total

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schools(42598) students. The sampling of study is divided into two stage which include, first stage: schools selection by multistage simple random. Mosul is divided to two sides, right side and Left side. The schools have been selected randomly (24) schools boys, and girls from (76) total schools in Mosul. Second stages: students selection by using the disproportional multistage sampling (International labor organization, 2009).The total school involved in this study are (24) schools distributed according to the following location. For the purpose of the study implementation, a literature review of previous studies relating to lifestyle behavior contributed to health problems of secondary

school students by: using anthropometric measurements, stethoscope and sphygmomanometer to check BMI and blood pressure , and assessment of most common life style behavior which includes (dietary habit, physical activities, sedentary leisure time, smoking and personal hygiene). From this review, an instrument questionnaire format developed by the investigator, in addition to the demographic socio-economic data form. Data collected by utilizing the adopted and developed questionnaire , Weight, height and blood pressure are checked for each respondent. The data collection process had been carried out from 13 October, 2013 until 31 March, 2014.

**RESULTS**

**Table (1): Association of Study Population According to Teeth Brushing and gender.**

Teeth brushing Time /day	Male		female		Total		□ 2 -test P-value
	No.	%	No.	%	No.	%	
- none at all .	113	13.6	0	0.0	113	6.8	22.1 0.032
- Once .	476	57.5	377	45.5	853	51.5	
- Twice.	168	20.3	321	38.8	489	29.5	
- Three times.	71	8.6	130	15.7	201	12.1	

**Table (2): Association of Study Population of Teeth Problem with the gender.**

Variables	Male		Female		Total		□ 2 -test P-value
	No.	%	No.	%	No.	%	
- Nothing.	241	29.1	292	35.3	533	32.2	30 0.024
- decay .	271	32.8	179	21.6	450	27.2	
- missed .	61	7.4	54	6.5	115	6.9	
- Filled .	175	21.1	247	29.8	422	25.5	
- orthodontic device .	80	9.7	56	6.8	136	8.2	

**Table (3): Prevalence of Smoking and Type of Tobacco Products Used Among the Boys Students According to gender.**

Smoking status	15 year		16 year		17 year		18 -19		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<b>1- Smokers .</b>	57	27.2	117	43.7	69	32.4	69	50.0	312	37.7
a- Cigarette only.	32	15.3	59	22.1	47	22.1	38	27.5	176	21.3
b- Nargila (Hub-ble-bubble).	25	11.9	58	21.6	22	10.3	31	22.5	136	16.4
c- Mixed.	43	20.6	77	28.7	27	12.7	22	15.9	169	20.4
<b>2- Nonsmokers.</b>	152	72.8	151	56.3	144	67.6	69	50.0	516	62.3
<b>Total</b>	<b>209</b>	<b>25.2</b>	<b>268</b>	<b>32.3</b>	<b>213</b>	<b>25.7</b>	<b>138</b>	<b>16.6</b>	<b>828</b>	<b>50.0</b>

**Table (4): Association of weight with age group and gender.**

Weight Categories	Age group														2 -test P-Value		
	15 Years				16 Years				17 Years				18 -19 years				
	Male		Female		Male		Female		Male		Female		Male			Female	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%		
Underweight	18	8.6	9	3.9	23	8.6	38	16.5	10	4.7	10	6.8	9	6.5	9	4.1	176 0.000
Normal weight	100	47.8	82	35.7	119	44.4	109	47.4	92	43.2	84	56.8	36	26.1	117	53.2	
Over weight	75	35.9	130	56.5	105	39.2	83	36.1	100	46.9	36	24.3	83	60.1	63	28.6	
Obesity	16	7.7	9	3.9	21	7.8	0	0.0	11	5.2	18	12.2	10	7.2	31	14.1	
<b>Total</b>	<b>209</b>	<b>12.6</b>	<b>230</b>	<b>13.9</b>	<b>268</b>	<b>16.2</b>	<b>230</b>	<b>13.9</b>	<b>213</b>	<b>12.8</b>	<b>148</b>	<b>8.9</b>	<b>138</b>	<b>8.3</b>	<b>220</b>	<b>13.4</b>	<b>100%</b>

**Table (5): Association of Blood pressure with age group and gender.**

Blood Pressure	Age group																□2 -test P-Value
	15 Years				16 Years				17 Years				18 -19 years				
	Male		Female		Male		Female		Male		Female		Male		Female		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
Normal (SBP<130 mmHg and DBP<85 mmHg).	159	76.1	211	91.7	227	84.7	217	94.3	171	80.3	139	93.9	128	92.8	189	85.9	138 0.000
Mild hypertension.	50	23.9	19	8.3	41	15.3	13	5.7	42	19.7	9	6.1	10	7.2	31	14.1	
<b>Total</b>	<b>209</b>	<b>12.6</b>	<b>230</b>	<b>13.9</b>	<b>268</b>	<b>16.2</b>	<b>230</b>	<b>13.9</b>	<b>213</b>	<b>12.8</b>	<b>148</b>	<b>8.9</b>	<b>138</b>	<b>8.4</b>	<b>220</b>	<b>13.3</b>	

**DISCUSSION**

It has been that table (1), 6.8% do not brush their teeth at all; although this figure is lower than reported previous study in Mosul that is 15.3% (Alassaf, 2006) ; here there are 29.5% use tooth brush twice daily, such figure is lower than recorded in WHO as ( 2008) (44.4%), and even lower than that of Malaysia students as (95.7%) (Cheah *et. al.*, 2010). Yazadani *et. al.* (2008) have reported that 26% those of high socioeconomic backgrounds girls do so more frequently as compared with boys; they mention that students, who report twice daily tooth brushing , have less dental plaque and gingival bleeding.

Unfortunately, 6.1% of students. in the present study have reported participating tooth brush with their other members of the family; this behavior may increase the risk of AIDS, Hepatitis B and C; this bad habit indicates lack of knowledge about the importance of tooth brushing behavior; also in addition to 95.4% students possess their own tooth brush. Regarding tooth problems table (2) show that 27.2% study students have tooth decay; 25.5% students have dental filling . Dental carries is the major health problem affecting an estimated 90% of school students worldwide (Cheah *et. al.* ,2010).

The disease is the most prevalent in Asian and Latin American countries; environmental risk factor, such as diet, nutrition, tobacco and oral hygiene, can play an important role in the prevention of dental carries (Petersen *et. al.* ,2005).In addition to that the same table above shows 8.2% students have orthodontic treatment; this is an intervention that usually takes place during the adolescence; to this is manage dent- facial abnormalities and malocclusions (Carmelo *et. al.*, 2007).

Tabacco is the leading cause of preventable death in the world by imposing a large burden of societies (WHO, 2009).

Smoking behavior is typically established during adolescence ; most adult smokers have

their first cigarette or have already been addicted to nicotine by age 18 years (Jarvis, 2004). There is 27.5% students who smoke cigarettes only at age 18 -19 years, 22.5% smoke narghile at age 18 -19 years; moreover, 28.7% students smoke mixed cigarettes and narghile at age 16 years table (22). Youth is time of experimentation, and it is estimated that every day between 3-5 thousand youth try their first cigarette (Greydanus and Patel, 2005).

One third of adolescents who experiment cigarette will be daily smokers (Salawu *et. al.*, 2010).The prevalence of current tobacco use is more reported by Abdulwahd,,( 2012); (14.5%) and more than this is reported by ( Sabih, 2008) in Tikrit( 8.2%); that is this result agrees with Abdulwahd (2012) concerning narghile smoking (21.2%). All these studies reinforced the present study table (3) which is reveal that 37.7% of secondary school smokers cigarette .

It is clear that 45.5% students are cigarette smokers their and fathers education is of college level; 44.4% , 33.1% students who are mixed smokers have mothers and fathers of secondary educational level .There is strong perception among Jordanians that narghile is less harmful than cigarette (Shadid and Hossain, 2013).

Concerning parents' occupation, the study results show that 42% students smoke mixed, have been of father's private sector work, and 65.1% students smoke mixed have been of housewife's mothers .As for the family income, the study result, show that 31.8%, 27.2%, and 34.9% students smoke cigarettes only; narghile and mixed smokers respectively have been of family income more than 1-2 million dinars. Pocket money is significantly associated with being smokers ; having more pocket money increases the likelihood of being a current smoker (Santi and Muji, 2005); easy accessibility , availability and money issues also play important part in their smoking (Shadid and Hossain, 2013).

In addition 41.4% students cigarette are smokers of extended family; this result agrees with Santi and Muji, (2005) who mention that students living with other family members are more likely to be current smokers; (25%) are compared with students living with parents and siblings; cigarette smokers are more prevalent among urban residents(82.9%).There are, then, significant ( 56.2%), ( 66.8%) students who smoke cigarette only, and mixed smoking with low crowding index, respectively. Crowding, within home, that is appears to be more problematic for health and acquire bad habit the smoking ,Shadid and Hossain, (2013).

The present study shows that table (4)7.2% of male students describe, themselves, as underweight compared to 8.0% of female who describe, themselves, as underweight. Females usually have desire to be thinner, and more likely to diet than male, this is agrees with WHO (2008) the prevalence of underweight in the Islamic republic of Iran , Morocco , Saudi Arabia and Tunisia is in the range of 5%-7% respectively. The present study, also, shows that 43.9% of males and 37.7% of females describes themselves a little more than normal weight; Neumark and Sztainer (2005) mention that increased prevalence of overweight, of adolescent, is an increase risk for social stigmatization, adult obesity and chronic diseases. Regarding trying to reduce my weight 30.7% boys and 32.4% girls says yes.

The present study reveals that table (5) the percentages of 23.9%, 15.3%,19.7% of males at the age of 15,16 and 17 years, respectively , and 14.1% of females at the age of 19 year have mild hypertension, this results agrees with Lettie *et. al* ( 2011) who mention the figures of 9.45%,and 2.77%, respectively. Dayana *et. al.* (2012) also mentioned that the study was done among students of middle school in Brazil / Saopaula detected an alteration of blood pressure; the study found 22.3% of individual blood pressure level is above normal; 9.8% of whom increased systolic blood pressure, and 12.5% with higher diastolic blood pressure all of whom have denied the history of arterial hypertension. It is important to mention that increase of BP in puberty can play a determinant role in adults establishment of hypertension (Kavey *et. al.*, 2010). In addition, Iraqi students suffer from stress and anxiety; especially those of secondary school at the sixth class, so they are expected to have elevated blood pressure.

## CONCLUSION

The study concludes that physical inactivity and sedentary leisure behaviors are the most common among students. The overall point prevalence of smoking is 37.7% among males, both close contact and family members play a significant role in the development of smoking habits among students. Finally, the study confirms that 27.2% have teeth decay due to bad teeth brushing behavior.

## RECOMMENDATIONS

The researcher recommends that comprehensive school educational programs are required in Iraq, which include life style behaviors as (physical activity, sedentary leisure time, and smoking). More implementation efforts need to be directed towards female students in particular, as their knowledge and practice of physical activity are inadequate. Comprehensive tobacco prevention programs for adolescents are urgently needed to stem the increasing use of tobacco. Finally, health education about home personal hygiene e.g , teeth brushing .

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