



Prevalence and Perceived Contributing Factors of Physical Fighting, Cigarette Smoking, and Alcohol Use among Adolescents in Erbil City

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ABSTRACT

Background: Health behaviors and risk behaviors are often related to the community in a more complex pattern of behaviors associated with lifestyles. This study aimed to find out the prevalence and perceived contributing factors of physical fighting, cigarette smoking and alcohol use among adolescents in Erbil city.

Objectives: The Aim of study was assessment of health risk behavior among adolescents and young adults, as an initial step in improving their health and determining which risk behavior requires intervention.

Methodology: A cross-sectional study was conducted in Erbil, Iraq from the 4th of November 2020 through the 10th of March, 2021. A self-administered questionnaire was used to collect the data from the adolescents' preparatory schools. 1000 students were chosen randomly out of 36777 students in high schools.

Results: The mean age + SD of the students was 16.7 + 1.2 years, ranging from 14 to 19 years. The median was 17 years. Physical fighting was the most common risk behavior among the students (28.4%), followed by smoking (13.4%), and the lowest rate of risk behaviors was for alcohol drinking (2.2%). There was significant association between age and alcohol drinking.

Conclusion: The physical fighting was the commonest health risk behavior among all male students in high schools in Erbil city. There was statistically significant association between age and alcohol drinking. future research ought to be conducted in the other governorates of Kurdistan to provide an additional accurate depiction of multiple health risk behaviors among adolescent students in high school in Kurdistan region of Iraq.

Keywords: Smoking, adolescent, alcohol drinking, physical fighting, risk behavior.

INTRODUCTION

Health risk behaviors can have adverse effects on the development and well-being of youth and can significantly impact the lives of youth and those around them ⁽¹⁾. Given the importance of adolescents' health, understanding of adolescent health risk behaviors and determining factors is the initial significant step in improving lifelong health, as well as in determining which adolescent risk behaviors require interventions ^(2, 3).

Furthermore, the adolescent health risk behaviors have been studied in several countries. A research in the U.S. and other contexts has shown that young people's likelihood to engage in such behaviors is positively related to their beliefs regarding peers' engagement in them ⁽⁴⁾.

Health risk behaviors comprise of drinking alcohol, violence, cigarette smoking, engaging in unprotected sexual intercourse, drug abuse, unhealthy diet and physical inactivity ⁽⁵⁾. These behaviors often begin during adolescence and contribute to morbidity and mortality ⁽⁵⁾. Between the ages of 15 and 17, the average proportion of young people who reported weekly smoking and drinking increased by 17% ⁽⁶⁾, and many of the young smokers will continue the habit throughout adulthood similarly ⁽⁷⁾. An international survey had been done by WHO in Ireland in secondary schools showed that 28% of the students were smokers, 28% were using alcohol, 18% abused drugs and 17 % engaged in physical fighting ⁽⁸⁾.

The definitive report of the Iraq National Household Survey on alcohol and drug use (comprising Kurdistan region) displayed the prevalence rates of cigarette smoking, alcohol use, and non-medical use of any prescription drugs as 28.8%, 8.1%, and 2.9%, respectively ⁽⁹⁾.

Studies conducted in Iran discovered that a relatively high percentage of young adults reported substance consumption ^(11, 12). For instance, studies

have shown that cigarette, alcohol, and drug abuse were the maximum recurrently used substances by high school students in Iran ⁽¹⁰⁾. In Turkey, cigarettes, and alcohol were the public substances used by adolescents in high school students ⁽¹¹⁾.

According to the researchers' knowledge there is no enough data about prevalence of unhealthy behaviors among students in Erbil ⁽¹²⁾. Therefore, this study was performed to determine the prevalence of physical fighting, cigarette smoking and alcohol use among high schools adolescents' students of both genders in Erbil city, which would provide a database to institutions to deal with this phenomenon. There was statistically significant association between age and alcohol drinking.

AIMS OF THE STUDY

The Aim of study was assessment of health risk behavior among adolescents and young adults, as an initial step in improving their health and determining which risk behavior requires intervention.

METHODOLOGY

This is a school-based cross-sectional study, where students of grade 10, 11 and 12 of public schools across Erbil city of Kurdistan region of Iraq were taken as the primary sampling unit. Adolescent students between 14 and 19 years of age and of both genders were included in the study. The sample was collected by multistage cluster sampling technique. Data on students in each school and grade were obtained from the General Directorate of Education of Erbil. Schools were divided into 6 groups according to the municipalities of Erbil city, to cover all quarters of the city. From each municipality schools were selected randomly using simple random sampling technique.

There are four types of schools in Erbil city according to the teaching language of that school

(Kurdish, Arabic, Turkish or English). The 1st three types are either male or female schools, while the English schools are mixed. The teaching language of the majority of the schools (68 out of 78) is Kurdish.

The number of schools selected from each municipality was proportional to the number of students within that municipality. Not more than 3 Kurdish schools for males and 3 for females were selected from each municipality (at least one school for each gender was selected from each municipality). The total number of the selected Kurdish schools was 11 male schools and 15 female schools. One school teaching in Arabic language for each gender was selected out of a total of four schools.

Regarding the Turkish schools, there was one school for males and one for females. Only one male school was selected as the number of the female students was much lower than the males. There are a total of four mixed English schools from which proportionally two schools were selected randomly out of the list. Therefore, the total number of selected schools was 32 distributed in the 6 municipalities. From each school a single class was selected randomly and then a minimum sample of 30 students was selected from each class, data collection from each class was attended by the counseling specialist of the school. The researcher explained the nature of the research and a definition of health risk behavior was given to the students.

ETHICAL CONSIDERATION

A written informed consent was distributed to the students to be signed by their parents or other household guardians and returned back the day after. In the next day students were asked to fill the questionnaire. To ensure confidentiality and highest possible honesty in students' answers, the questionnaires were filled in anonymously. The study was done between the 20th of September 2020 and the 10th of March 2021.

The sample size was calculated using a population of 36777 students in grade 10, 11 and 12 (according to the statistical data received from the Ministry of Education for the year 2016-2017), confidence interval of 95%, 5% allowed error (absolute precision) and a prevalence rate of health risk behavior of 50%. The calculated sample size was 381. As stratified cluster sampling techniques require larger target sample size to achieve the required precision, the calculated sample size was then multiplied by the design effect which is 2 in this case making the sample size 762. Adding 10% to account for non-response or recording error made the final sample 839 students. Nevertheless, a sample of 1000 was collected to cover all schools and classes.

A closed-ended questionnaire that was designed by the CDC (Centers for Disease Control and Prevention) was modified and used for data collection ⁽¹³⁾. The questionnaire comprises three parts. The 1st part comprised the demographic characteristics of the participants (age, gender, grade, ethnicity, and religion). The 2nd part included data on socio-economic status (educational level and occupation of father, house ownership, car ownership, and age of father). The 3rd part was about some habits and life style of the students concerned with information about physical fighting, cigarette smoking and drinking alcohol. The questionnaire was translated by the English language center of Sulaimani to the local Kurdish language and also to Arabic language to be sure that all the students will understand it.

The study protocol and data collection instruments were approved by the research ethics committee of the college of medicine of the Hawler medical university. An official permission was obtained from Erbil General Directorate of Education and from schools' administrations. All students were assured that their participation in the study was voluntary; they were informed about the purpose of

the study; their anonymity and confidentiality were assured.

The Statistical Package for Social Sciences software (SPSS, version 22) was used for data processing and statistical analysis. Data were analyzed through the use of simple descriptive statistical data analysis approach and inferential data analysis approach. Chi-square test of association was used to assess the association between socio-demographic variables and health risk behavior. A P value of ≤ 0.05 was considered as statistically significant.

RESULTS

One thousand adolescent students participated in the study; their mean age + SD was 16.7 + 1.2 years with age range of 14 to 19 years. The median was 17 years.

The prevalence of physical fighting was highest (30%) among students aged 14-17 years, ($p = 0.146$). The highest prevalence of smoking (17.5%) was in the age group 18-19 ($p = 0.068$). The proportion of alcohol drinking among students aged 18-19 years (4.5%) is significantly ($p = 0.010$) higher than the prevalence in the other age groups. The prevalence rates of physical fighting and cigarettes smoking among students of the 10th grade (38.6% and 18.2% respectively) were significantly higher than the rates among students of other grades ($p = 0.001$ and $p = 0.014$ respectively). The prevalence of alcohol drinking was relatively high among students of grade 12 ($p = 0.222$).

The rates of physical fighting, cigarettes smoking, and alcohol drinking among males were significantly ($p = 0.001$) higher than the rates among females (Table 1).

Physical fighting was the most frequent health risk behavior among adolescent students while smoking and alcohol drinking had lower risk (28.4%, 13.4%, and 2.2 %) (Table 2).

The risk factors for physical fighting were related to having a problem with a classmate (53.2%), followed by aggressive behaviors (32%) (Table 3). The main reason of cigarette smoking comes from relations with friends (39.6%), however, the lowest risk factor is related to drinking alcohol (4.4%) (Table 4). The leading factor of drinking alcohol was related to smoking (31.8%) and feeling sad (27.3%). Other factors have minimum rate. (Table 5).

DISCUSSION

The prevalence rates of physical fighting, smoking, and alcohol drinking in present study were lower than other study. This finding is in agreement with that of a study done in USA on 993 students which showed that the highest prevalence of risk behaviors was physical fighting (41.5%) ⁽¹⁴⁾. It also agrees with the study done among adolescents in South Thailand and Ghana where the highest health risk behavior among high school students was physical fighting (30.0% and 32%) respectively ^(15, 16).

The most common factor that is associated with physical fighting was related to problems with a classmate. This finding was in agreement with that of a study done in a Turkish high school which showed that the most common associated factors among high school students was fighting with friends (25%) ⁽¹⁷⁾. However, the present study disagrees with a study done in Namibia ⁽¹⁸⁾ which showed that drinking alcohol and drug abuse were the commonest factors that are associated with physical fighting.

Furthermore, the result of the present study showed that the main reasons of physical fighting and cigarette smoking were problems with classmates and the influence of friends which represents 53.2% and 63.5% respectively.

Moreover, the rates of physical fighting among males were significantly higher than the rates among females. This finding is consistent with the previous studies on youth fighting where boys usually engage more in physical fighting than girls in all the settings

(19, 20, and 22). This matches with the results of other studies conducted among adolescent students in Nepal. The engagement in physical fighting was 43.68% among males, and 34.85% among females (23).

Our rates are consistent with reported rates among Portuguese adolescents (20) and among secondary school students in the USA (24). The rates of physical fighting in the Sub-Saharan African region were 55.2% among males and 46.2% among females (21).

The prevalence of cigarette smoking was 16.1% (the second risk behavior) in a study done in USA in 2011 (19), which is similar to our study where cigarette smoking was the second risk behavior while drinking alcohol represented 5% of total risk behaviors. This agrees with the findings of other studies conducted in Iran which showed that the second risk behavior among students was cigarettes smoking (25).

However, our results differ from a study conducted in Scotland which showed that drinking alcohol was the second risk behavior (26). The findings of this study also disagree with that of a study done in USA (27) which showed that the most common health risk behavior was alcohol drinking and the lowest health risk behavior was smoking.

Although international trends indicate that alcohol is the first and the most widely used substance among students globally (26). While, the prevalence rate of alcohol drinking in the current study was relatively low. Similar study was done in Iraq indicates low prevalence use of alcohol by adolescent (30). This is mostly related to religious beliefs and forbidding of alcohol in Islam, knowing that most of Erbil residents are Muslims.

This result is supported by a WHO survey in Copenhagen, Denmark in 2012 regarding associated factors of alcohol consumption which reported that alcohol use commonly occurs with other types of risk behavior such as tobacco, and stress (28).

Our findings were in agreement with a study done in USA revealing that cigarette smoking is one of the important factors that are associated with alcohol drinking (29).

The results are inconsistent with those of a study conducted in South Thailand, which showed that the most common health risk behavior was alcohol drinking which represented 27.7%, compared with 2.2% in our study (16).

CONCLUSION

The most common health risk behavior was physical fighting especially among males, then comes the smoking and alcohol drinking.

RECOMMENDATION

Integrating multiple health risk behaviors education program into the curriculum of high schools to increase the awareness of the students. This program should contain all the risk behaviors which are mentioned in the study.

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TABLES

Table (1): Prevalence of multiple health risk behaviors by age, gender, and grade (N=1000)

Prevalence of multiple health risk behaviors								
Variable		N	Physical fighting		Cigarette smoking		Alcohol drinking	
			No.	(%)	No.	(%)	No.	(%)
Age (years)	14 -15	157	47	(29.9)	20	(12.7)	1	(0.6)
	16 - 17	574	173	(30.1)	67	(11.7)	9	(1.6)
	18 – 19	269	64	(23.8)	47	(17.5)	12	(4.5)
			P = 0.146		P = 0.068		P = 0.010	
Grades	10 th	285	110	(38.6)	52	(18.2)	5	(1.8)
	11 th	426	112	(26.4)	52	(12.2)	7	(1.6)
	12 th	289	62	(21.5)	30	(10.4)	10	(3.5)
			P = 0.001		P = 0.014		P = 0.222	
Gender of student	Male	426	195	(45.8)	114	(26.8)	19	(4.5)
	Female	574	89	(15.5)	20	(3.5)	3	(0.5)
			P = 0.001		P = 0.001		P = 0.001	
Total		1000	284	(28.4)	134	(13.4)	22	(2.2)

Table (2): Frequency of multiple health risk behaviors.

Health risk behaviors	No.	(%) n = 1000
Physical fighting	284	(28.4)
Smoking	134	(13.4)
Alcohol drinking	22	(2.2)

Table (3): Factors leading to physical fighting as perceived by the students. (n=284)

Factors associated with physical fighting	No.	(%)
Problem with a classmate	151	(53.2)
Aggressive behaviors	91	(32.0)
Family problems	20	(7.1)
Relation with girls	22	(7.7)
Total	284	(100.0)

Table (4): Factors leading to smoking as perceived by the students (n=134).

Factors associated with smoking	No.	(%)
Smoking with friends	53	(39.6)
Drinking tea/coffee	23	(17.2)
Stress	21	(15.7)
Smoking for leisure	14	(10.4)
Smoking with relatives	9	(6.7)
Reduce pain	8	(6.0)
Drinking alcohol	6	(4.4)
Total	134	(100.0)

Table (5): Factors leading to alcohol drinking as perceived by the students (n=22)

Factors associate with alcohol drinking	No.	(%)
Smoking	7	(31.8)
Feeling sad	6	(27.3)
During picnic	3	(13.6)
Cheap	3	(13.6)
Use of internet	2	(9.1)
Family problems	1	(4.6)
Total	22	(100.0)