

Original Research Article

**Prevalence of Suicidal Ideation among Iraqi Secondary School Students in Babylon Province During the Academic Year 2016-2017**

Hasan Alwan Baiee\*      Zainab Fadhil Kizar      Huda Salman Jasim  
Suha Sheehan Jasim  
College of Nursing, University of Babylon, Hilla, IRAQ

\*E:mail: [hassanbaey@yahoo.com](mailto:hassanbaey@yahoo.com)

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**Abstract**

The impact of the importance of suicide in our society should not be neglected or overlooked. It is an important cause of death specially among adolescents . Suicide behavior is increasing in developing countries including Iraq during last decades.

This was a cross sectional school based epidemiologic study which was conducted during the period from February to May, 2017. The aim of this study was to identify the prevalence of twenty four months and the correlates of suicidal ideation among the 4<sup>th</sup> and 5<sup>th</sup> grades secondary school students. Five secondary schools were selected randomly (one male, one female and three mixed secondary schools), a multi stage sampling technique was used to select 420 students from the 4<sup>th</sup> and 5<sup>th</sup> grades after obtaining their verbal consents. A self-filled questionnaire(prepared from the Global School Health Survey) was used to collect data.

Results revealed that about half of the participants (49.5%) mentioned that they were having thoughts of engaging in behavior intended to end their lives, females were significantly having higher rate (55%) of suicidal ideations  $p < 0.05$ .

There were a significant relationship between suicidal ideations and low school academic achievement  $< 0.05$ . There was no significant association between suicidal ideations and low family income  $> 0.05$ .

In conclusion very high prevalence rate of suicidal ideations in the last 24 months was noticed among secondary school students the main associated factors were being female and low school performance. Strategic multisector intervention plan is strongly requested to address this emerging serious public health problem among Iraqi students.

**Key Words:** Suicidal ideation, Students, secondary school, Iraq.

انتشار الأفكار الانتحارية بين الطلاب العراقيين في المرحلة الثانوية في محافظة بابل للعام الدراسي ٢٠١٦ -

٢٠١٧

**الخلاصة**

علينا ان لا نتغاضى عن أهمية الوعي الجاد بخطر حالات الانتحار في مجتمعنا، فهو سبب مهم من أسباب الموت عالميا وخاصة بين المراهقين. السلوك الانتحاري اخذ في التزايد في الدول النامية ومنها العراق في العقود الأخيرة.

دراسة وبائية مقطعية أجريت للمدة من شباط إلى أيار ٢٠١٧، كان الهدف من الدراسة: تحديد معدل انتشار الأفكار الانتحارية لمدة ٢٤ شهر قبل بدا الدراسة والمتغيرات المتعلقة بها.

اختيرت خمسة مدارس ثانوية بطريقة العينة العشوائية البسيطة (واحدة للذكور وواحدة للإناث وثلاث مدارس إعدادية مختلطة)، تم اختيار ٤٢٠ طالب وطالبة بطريقة العينة العشوائية الطبقيّة من المرحلتين الرابعة والخامسة. جمعت البيانات باستخدام ورقة استبانة مبنية على الاستبانة المعتمدة من منظمة الصحة العالمية (مسح الصحة المدرسية العالمي).

أظهرت الدراسة ان قرابة نصف العينة (٤٩,٥%) مرت عليها أفكار انتحارية متعلقة بسلوك إنهاء الحياة بشكل متعمد، كان نصيب الإناث الأعلى ويفارق معنوي إحصائي مهم اقل من 0.05، وجد ترابط إحصائي معنوي مهم بين الأفكار الانتحارية وتدني مستوى الإنجاز الدراسي  $p < 0.05$ .

بينما لم يتضح وجود علاقة إحصائية مهمة معنويًا بين دخل عائلة الطالب والأفكار الانتحارية نستنتج من هذه الدراسة أن معدل الأفكار الانتحارية بين طلبة الثانوية العراقيين عالية جدًا ومرتبطة بمتغيرات النوع وتدني التحصيل الدراسي. نحتاج بشدة إلى تبني استراتيجية تدخلية وقائية متعددة الاختصاصات للتصدي لهذه المشكلة الصحية الخطيرة التي انتشرت بين الطلبة العراقيين.

**الكلمات المفتاحية:** الأفكار الانتحارية، الطلاب، المدارس الثانوية، العراق.

## **Introduction**

**D**eveloping countries account for three fourth suicide deaths worldwide. Suicidal behaviors include the following: suicidal ideation and attempting suicide [1,2]. Suicidal ideation, defined as the wishes to be dead or thoughts of killing oneself, has been introduced by some researchers [3,4]. Suicidal ideation, which involves a hierarchy of feelings from the thought of "Life is not worth living" to more serious articulation of a thought-out plan, is important because most suicides and Para suicides have engaged in suicidal thoughts prior to their acts [5,6]. Suicidal ideations often begins in the transitional period of adolescences and is more prevalent in this age interval, mainly among girls [7]. Among developed countries, the prevalence of ideation among middle and secondary school students was not uncommon [8], meaning that this health problem prospectively may end with suicide [9,10]. Most of youth or students who have suicidal ideations did not attempt to commit suicide [11,12]. Chronic exposure to oppressive environment creates distributed thought among adolescents [13].

Some major potential risks for young people suicidal behaviors include gender (more in female gender), exposure to different types of violence (school violence and domestic violence both physical or verbal or both of them), using some drugs, broken families and bad peer relationships [8,14,15], identifying modifiable risk factors is essential for applying intervention programs for prevention [1].

The Global School-Based Health Survey (GSHS) has been used worldwide to provide comparable data on the prevalence of adolescent suicidal ideations and correlates [16,17].

Researches that address this high priority public health problem in many developing countries including Iraq are scarce, without sound data base and epidemiologic information, successful prevention programs cannot be applied [18]. There were shortage in studies among students suicidal ideations in Iraq and non in Babylon province [19].

This study was conducted to identify the prevalence and correlates of suicidal ideations among a sample of secondary school students in Babylon province-Iraq.

## **Materials and Methods**

### **Study design**

A cross-sectional descriptive study was conducted on secondary school students In 4<sup>th</sup>& 4th grades both males and females from five randomly selected schools located in rural and urban districts in Babylon province/Iraq during the academic year 2016- 2017, by using a self-completed anonymous questionnaire as a part of GSHS questionnaire. A multistage, probability sampling technique stratified by urban and rural settings, school type and gender, in which schools, classrooms and students were selected randomly. The overall response rate was 99% (N = 420).

### **Ethical clearances**

Written approvals were sought from the research ethical committee in Babylon University- College of Nursing as well as consents from Babil Educational Directorate and the school management authorities were obtained, verbal consents from all participants were taken. Students were briefed about the purpose of the study, encouraged to participate and to express their experiences. The study included all apparently healthy students those with apparent and confirmed mental diseases or disabilities were excluded.

### **Instruments**

Study participants were asked questions about suicidal ideation adopted from Global School-Based Health Survey [16,17]: During the last two years from the beginning of data collection ;did you ever consider ideation suicide during the past two years? responses were (yes, no). Data were also collected on, gender, low economic level, and school achievement. Responses of economic status of the students family were categorized into three levels. Low, medium and high levels, the

economic levels were classified into three similar levels.

**Statistical Analysis:** Data was analyzed statistically by using SPSS (Statistical Package for Social Sciences) Version 17.0. Chi  $\chi^2$  were used. P-value <0.05 was considered of Statistical Significance.

### **Results**

Table (1) shows the distribution of the study group by stage and gender,(56.2) percentage of the study group is females. The total number of the selected sample is 420.

**Table 1:** Distribution of the study group by stage and gender

Stage	Female	Male	Total No. (%)
	No( %)	No( %)	
10 th stage	79(47.3)	88(52.7)	167(100%)
11 th stage	157(62.1)	96(47.9)	253(100%)
Total	56.2)(236	43.8)(184	420(100%)

Table (2) shows frequency distribution of students according to suicidal ideation by stages of the study, the overall prevalence rate of suicidal ideation during 24 months period among the study group (both stages)

is 49.5%. The prevalence among 4th stage students is (43.1%) while the prevalence among fifth stage is (53.8%) this difference is statistically significant, Chi square 4.557 df=1;p=0.0328.

**Table 2:** Frequency distributions according to suicidal ideation by stage

Stage level	student with Suicidal Ideation No. (%)	Student with No-suicidal Ideation No. (%)	Total No. (%)
4th stage	72(43.1)	95(56.9)	167(100%)
5 th stage	136 (53.8)	117(46.2)	253(100%)
Total	208(49.5)	212(50.5)	420(100%)

Table (3) shows the frequency distribution of suicidal ideations by gender, the prevalence of suicidal ideation for the last 24 months among male and female

students are (45.1) and (55.1) respectively. This difference is statistically significant; Chi square 4.165 df=1 p=0.0413.

**Table 3:** Frequency Distribution suicidal by gender

Gender	Suicidal ideation	No. suicidal ideation	Total No. (%)
	No. (%)	No (%)	
Male	106 (45.1)	129 (54.9)	235 (100)
Female	102 (55.1)	83(44.9)	185 (100)
Total	208 (49.5)	212 (50.5%)	420 (100%)

Chi-square= 4.165 df = 1. p = 0.0413

Table (4) depicts the frequency distribution of students with suicidal ideations by economic states of their families. There is no significant association between the

economic status and the occurrence of suicidal ideations; Chi square 2.083 df=2 p= 0.3529.

**Table 4:** Frequency distribution of students with suicidal ideation by family income

Family income	Suicidal ideation	No suicidal ideation	Total
	No( %)	No( %)	
Low	44 (55.7)	35 (44.3)	79 (100%)
Medium	122 (46.9)	138 (53.1)	260 (100%)
High	42(51.9)	39 (48.1)	81(100%)

Chi-square= 2.083 df = 2. p = 0.3529

Table (5) explains the associations between school achievements and suicidal ideations, students with suicidal ideation have significantly lower achievements, about two thirds of them get low school

performance (66%) as compare to students without suicidal ideations (34%) this difference is highly significant chi square 23,290 df = 2, p = 0,001

**Table 5:** Distribution of the study group by school achievement

School Achievement level	Suicidal ideation	No suicidal ideation	Total No (%)
	No( %)	No( %)	
Low	89(66.4)	45(33.6)	134(100%)
Medium	60(44.4)	75(55.6)	135(100%)
High	59(39.1)	92(60.9)	151(100%)

Chi-square =23.290 df = 2. p = 0.001

## **Discussion**

Our findings reveal that the overall prevalence of suicidal ideation among secondary students is very high, about half of the studied group mentioned that they have experienced suicidal ideation during the last twenty four months from the time of this survey, the prevalence of the current study is higher than those reported by other investigators [8,19,20].

Other Brazilian studies [21], showed that prevalence of suicidal ideation was 22.2% in the Northeastern and 36% in the Southern Regions of Brazil, while in United States the prevalence was 23.3% among ages 12–17 [22], in European countries, the prevalence of 12 months ideations among secondary school students aged 15-16 years ranged from 15% in Armenia to 31.5% in Hungary [8] while in Gaza the prevalence of suicidal ideations reported among middle school students was 26.6% [23].

Previous publications from the Eastern Mediterranean Region suggested that suicidal thinking is common among students. A study in Lebanon found that about 16% of students aged 11–16 years reported suicidal ideation [24]. A study in Morocco found that 12.8% of 11- to 14-year-old students had suicidal thinking and 6.5% of them reported suicidal planning [25].

The high prevalence of suicidal ideation in the current study may be related to insecurity situation in Iraq, arm conflict and high rate of terrorist acts, in addition to high rates of different types of domestic and school violence, the violent behavior of people in any society coupled with economic crisis put a high burden on shoulders of Iraqi families, chronic exposure to such oppressive environment may disturb the thought of adolescents [13], this may be attributed to school examinations stress and bullying this type of violence was highly prevalent among secondary school students in Iraq [23,26]. This high prevalence rate of suicidal ideations may also be related to the absence of a real psychosocial support activities provided to secondary school students in our country this unrest

situation could increase the psychological morbidity of adolescents.

Our finding reveals that female students are at higher risk of suicidal ideations as compared to males, this finding is consistent with the findings of other investigators [27-29] this can be explained by the fact that females were easier influenced by negative economic situation and females may be more vulnerable when they experienced the life-events including being unmarried, depression, uninsured, and having debts, compared with males [30], the less social support of females specially in low and middle income countries played more roles on female suicidal ideations and suicide attempters. Compared with male suicide attempters, female ones are mainly influenced by social factors. A gender-specific approach should be emphasized in suicide prevention [31].

The current study explains that there is no significant association between suicidal ideation and the low\_family\_income of the study group, this finding is in contrast with findings of other studies, while Low financial status may exacerbate any ongoing deterioration in psychological well-being, [32,33]. In another previous local study conducted in Iraq by Jabor MA and Kareem SS who reported that the psychosocial causes among a sample of 100 fatal recorded suicidal cases brought for postmortem examination at the Medico-legal institute of Baghdad within four years period from 2011 to 2015 (males 49 and females 51 cases) [18].

This study depicts that there is a strong positive relationship between having suicide ideation and low school achievement this finding is similar to the finding of other local study conducted in Wasit province –Iraq by Ismail et al who found that suicidal ideation was significantly associated with low school performance [19], the causal relationship between suicidality and school performance cannot achieved by cross-sectional studies, but this association can formulate hypothesis to be tested by further analytic large scale studies.

## **Conclusion**

Considerable number of students have suicidal behavior (suicidal ideation) in our study sample. The percentage of suicidal ideation among females is higher than that of males. Low school achievement and low family income are significantly associated with suicidal ideation.

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