

Prevalence and Risk Factors of Adolescent Depression among Schoolchildren aged 12–18 Years in Babylon, Iraq: A School-Based Study (2025–2026)

Lubna Jassem Rassol ^{1,*}, Mohammed Anwer Zeki ², Mohammed Agrish ³

¹ Department of Community Medicine, Musaib General Hospital, Babil Health Directorate, Al-Musayab 51006, Babylon, Iraq.

² Department of Surgery, Musaib General Hospital, Babil Health Directorate, Al-Musayab 51006, Babylon, Iraq.

³ Department of Community Medicine, Babil Health Directorate, Hilla 51001, Babylon, Iraq.

* Corresponding author: lubnadr59@gmail.com

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Abstract

Background: Depression is a significant public health problem worldwide and a leading cause of disability among adolescents. Low- and middle-income countries, including Iraq, face increasing mental health challenges due to social, economic, and post-conflict stressors. **Objectives:** To determine the prevalence of depressive symptoms and their associated sociodemographic factors among secondary school adolescents in Al-Hilla City, Iraq. **Materials and Methods:** A school-based cross-sectional study was conducted among 384 secondary school students aged 12–18 years. Data were collected using a self-administered questionnaire that included sociodemographic characteristics and the validated Arabic version of the Patient Health Questionnaire-9 (PHQ-9). Data were analyzed using SPSS version 27. Descriptive statistics were calculated, and the Chi-square test was applied to examine associations, with a significance level of $p \leq 0.05$. **Results:** The prevalence of depressive symptoms was high: 29.9% had minimal symptoms, 34.9% mild, 25.8% moderate, and 9.4% moderately severe symptoms. No participants met the criteria for severe Depression. Significant associations were found between depressive symptoms and average monthly family income ($p = 0.002$) as well as smoking status ($p = 0.042$). No significant associations were observed with age, gender, residence, parental education, crowding index, or academic failure. **Conclusion:** Depressive symptoms are highly prevalent among adolescents in Al-Hilla City. Lower socioeconomic status and smoking behavior were significantly associated with higher depression severity. These findings highlight the importance of early screening and the implementation of school-based mental health interventions targeting adolescents.

Keywords: Depression, Depressive symptoms, Adolescents, School-based study, Mental health.

Introduction

A person's mental, social, and emotional well-being undergoes significant development during adolescence. Adolescence is a time of tremendous brain growth that lasts all the way into adulthood [1]. One of the leading causes of impairment on a worldwide scale, depression affects individuals of various ages, backgrounds, and geographical areas. The fact that many people experience depression in their early adult years only adds to the difficulty of dealing with illness [2]. Depression affects a sizable per-

centage of adolescents; the rate increases to 2.8% for those in the 15–19 age brackets and 1.1% for those in the 10–14 age bracket [3]. A further contributing factor to this frequency is the high rate of undiagnosed and untreated Depression, which may intensify symptoms and have long-term effects [4]. More than 322 million individuals throughout the globe were impacted by depression in 2015, according to the World Health Organization, which indicated an 18.4% rise in cases from 2005 to that year. The second greatest cause of mortality among those aged 15-

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29 is suicide, and depression is a crucial factor in this tragic event [5,6]. Due to a lack of resources, social stigma, and willingness to seek care, teenage depression goes undiagnosed and untreated in many low- and middle-income nations. Teens in Iraq are more likely to suffer from depression due to a combination of factors, including the country's social and economic instability, the aftermath of the war, and the lack of mental health supports [3]. Epidemiological data remain limited, particularly at the community and school levels. Identifying the magnitude of Depression and its associated factors among adolescents is essential for guiding mental health policies, preventive strategies, and service planning [7]. Therefore, this study aimed to determine the prevalence of depressive symptoms and their associated sociodemographic factors among secondary school adolescents in Al-Hilla City, Iraq.

Materials and Methods

Study design, setting and time

A School-based cross-sectional study was conducted. Al-Hilla is the capital of Babil Governorate and has a mixed urban and suburban population, providing a representative setting for adolescent mental health research.

The study was conducted in Al-Hilla City, which includes 25 governmental secondary schools (13 for males and 12 for females). Twenty percent of male and female schools were selected randomly. The study was carried out over eight months in 2025, with data collection conducted over three months. School visits were conducted three days per week

Target population

The target population included secondary school students aged 12–18 years enrolled in governmental schools in Al-Hilla City. A random sampling technique was used to ensure

that all eligible students had an equal chance of participation.

Sample size

The required sample size for this study was calculated by using the standard equation for the calculation of sample size of cross-sectional studies. The formula for estimating sample size was as follows:

$$N = (Z_{1-\alpha/2})^2 P(1-P) / d^2$$

Where;

N: sample size

Z: is the standard deviation at a confidence level 95%, which is 1.96.

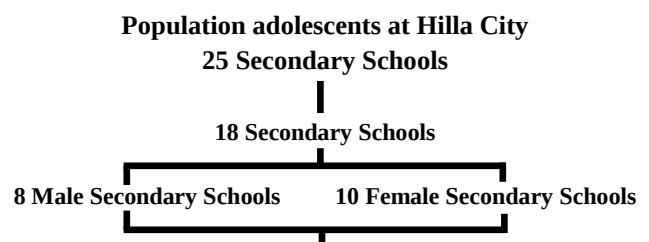
P: is the estimated percentage of probability for the event to be measured.

1-p: is the probability for the event not to occur,
d: is the percentage of the acceptable error, which in our study is equal to 0.05

$$N = (1.96)^2 0.5(1-0.5) / 0.05^2 = 384$$

Sampling technique

A multistage random sampling technique was applied. First, schools were selected randomly. Second, classes were randomly selected from each school. Finally, students were selected proportionally from each class. The cluster sizes varied across the selected schools, with classroom sizes ranging from a minimum of 6 female students and 7 male students to a maximum of 16 female students and 18 male students per selected class.



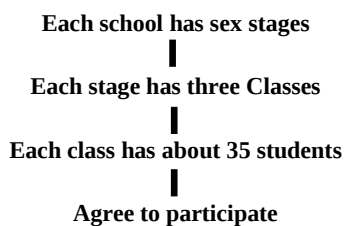


Figure 1: Flow Diagram of Participant Selection and Sampling Procedure

The largest number of female students participating in studies was 16
The largest number of male students who participated in studies was 18
The smallest number of female students participating in studies was 6.
The largest number of male students participating in studies was 7

Inclusion criteria

Adolescents aged 12-18 years in secondary schools in Al Hila city.

Exclusion criteria

Students who refused participation were excluded. The study excluded students with neurological disorders, such as epilepsy.

Data collection Instruments and tools

Data were gathered using a three-part structured questionnaire administered in person:

Part A: Sociodemographic characteristics (Age, Gender, Residence, Parental education, and Crowding index).

Part B: The Patient Health Questionnaire-9 (PHQ-9). Depressive symptoms over the past 2 weeks were screened using the validated Arabic version of the PHQ-9 [9]. The scale consists of 9 items scored from 0 (Not at all) to 3 (Nearly every day), yielding a total score of 0–27. Diagnostic Criteria & Cut-off Scores: In accordance with standard psychiatric validation of the PHQ-9, scores were categorized as follows to define severity: 0–4 indicates No Depression (Normal), 5–9 indicates Mild depressive symptoms, 10–14 indicates Moderate depression, 15–19 indicates moderately severe depression, and 20–27 indicates Severe depression. A cut-off

score of more than 10 was utilized to define clinically significant depressive symptoms.

Data Collection

The researcher went to each of the chosen schools four or five times a week to go over the study's goals and methods in accordance with the ethical document. After providing the pupils with an envelope to be sent to their parents, the research conducted interviews with them to gather data. Before the instruments could be administered, parents were asked to sign a permission form that was included in the envelope. The document also contained the researcher's contact information and an explanation of the study objectives. The next day, after collecting completed permission forms, the researcher gave presentations to the classes that were participating in the data gathering. Everyone who took the class was interviewed. In the presence of their instructors, the data was gathered. The purpose of having instructors there was to prevent students from dropping out of school and to provide them with knowledge. All information is stored in a safe environment. Every time we finished collecting data, we examined the questionnaires for mistakes and inconsistencies and assigned a unique serial number.

Pilot study

A pilot study was conducted by choosing a sample of 30 pupils from a secondary school. The researcher interviewed each one of them and asked all the questions in his questionnaire list. The Pilot study was conducted for the following purposes:

- To assess the compliance and response of the respondents.
- To identify any obstacles that the researcher may face.

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- To identify any difficulty in understanding the questionnaire.
- To assess the time required for the respondents to answer the questionnaire. The necessary modifications were made.

Data management and analysis

Data were analyzed using SPSS version 27. In the first stage (univariate analysis), frequency distributions were calculated, and the Pearson Chi-square test was used to assess the associations between independent variables and depression severity categories. To control for confounding factors and determine the independent predictors of adolescent depression, variables showing a p -value < 0.1 in the univariate analysis (average monthly income and smoking status) were entered into a Multivariable Logistic Regression model. For the regression model, the dependent variable was dichotomized into "No/Mild Symptoms" (PHQ-9 score < 10) versus "Moderate-to-Severe Depression" (PHQ-9 score ≥ 10). Odds Ratios (OR) and 95% Confidence Intervals (CI) were calculated. A p -value < 0.05 was considered statistically significant.

Ethical consideration

There are several acknowledged ethical concerns:

Approval from the ALHILLA Directorate has been secured. Parents of the subjects gave their informed consent. All of the nominated school's administrative heads must sign an informed consent form

Results

Sociodemographic profile:

The study included 384 secondary school adolescents aged 12–18 years, with a mean age of 15.2 ± 2.0 years. The age distribution was relatively even across all age groups, with the

highest proportion observed among students aged 16 years (17.7%). Males constituted slightly more than half of the participants (53.4%), while females accounted for 46.6%. Regarding place of residence, 51.3% of the participants lived in urban areas, and 48.7% resided in rural areas. Concerning parental education, the highest proportion of mothers had a college-level education (35.4%), followed by secondary school education (26.0%). Similarly, the most significant proportion of fathers had a primary education (33.9%), followed by college education (29.2%). Family size varied among participants, with most students living in households consisting of four to six members. The number of bedrooms per household ranged from one to five, with the majority of families having three to four bedrooms. Based on the crowding index, more than half of the participants (51.3%) were classified as living in less crowded households, while 13.8% lived in uncrowded households and 9.6% in highly crowded conditions. Regarding socioeconomic status, the average monthly family income varied widely, with the highest proportion of families reporting an income of approximately 750,000 Iraqi dinars per month (22.1%). The majority of students (91.4%) had no history of academic failure, whereas a small proportion had failed two or more academic years. Smoking was reported by 25.5% of the participants. Among smokers, cigarette smoking was more common (56.1%) than hookah use (43.9%). The mean number of cigarette packs smoked per day was 1.2 ± 0.6 , while the mean frequency of hookah use was 2.1 ± 0.9 times per day. Most smokers reported initiating smoking between the ages of 14 and 15 years. As shown in Table 1

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Table 1: The age and gender distribution of the studied sample.

Variables		No	%
Age (years)	12	57	14.8
	13	35	9.1
	14	50	13.0
	15	49	12.8
	16	68	17.7
	17	65	16.9
	18	60	15.6
	Mean $\pm$ SD (Range) 15.2 $\pm$ 2.0 (12-18)		
Gender	Male	205	53.4
	Female	179	46.6
Residence	Urban	197	51.3
	Rural	187	48.7
Mother education	Primary	78	20.3
	Secondary	100	26.0
	Institute	70	18.2
	College	136	35.4
Father education	Primary	130	33.9
	Secondary	76	19.8
	Institute	66	17.2
	College	112	29.2
Family members	2	35	9.1
	3	41	10.7
	4	74	19.3
	5	67	17.4
	6	74	19.3
	7	31	8.1
	8	26	6.8
	=>9	36	9.4
Number of bedrooms	1	6	1.6
	2	95	24.7
	3	99	25.8
	4	108	28.1
	5	76	19.8
Residence	Urban	197	51.3
	Rural	187	48.7

Crowding index	<1.0CI	53	13.8
	1.0---	197	51.3
	2.0---	97	25.3
	=>3.0CI	37	9.6
Average monthly income (TID)	<250TID	44	11.5
	250---	55	14.3
	500---	63	16.4
	750---	85	22.1
	1000---	49	12.8
	1250---	25	6.5
	1500---	18	4.7
	1750---	11	2.9
	=>2000TID	34	8.9
Number of failed years	0	351	91.4
	2	27	7.0
	3	4	1.0
	4	2	0.5
Smoking	Yes	98	25.5
	No	286	74.5
Type of smoking	Cigarette	55	56.1
	Hooka	43	43.9
Amount of cigarettes per Pack/day	Mean $\pm$ SD (Range)	1.2 $\pm$ 0.6 (0.5-3)	
Amount of Hooka times/day	Mean $\pm$ SD (Range)	2.1 $\pm$ 0.9 (1-4)	
Age of start smoking (years)	10	1	1.0
	11	2	2.0
	12	9	9.2
	13	13	13.3
	14	26	26.5
	15	27	27.6
	16	16	16.3
	17	4	4.1

Depression problems

The PHQ-9 has nine items that measure the severity of various signs of Depression. PHQ-9 scoring is calculated first by assigning scores of

0, 1, 2, and 3 to the response categories of 'not at all', 'several days', 'more than half the days', and 'nearly every day', respectively, and then adding together the scores for the nine questions. As shown in Table 2

Table 2: The distribution and severity of Depression according to the score of positive symptoms.

Over the last 2 weeks, how often have you been bothered by the following problems?	Not at all N _i (%)		Several days N _i (%)		More than half the days N _i (%)		Nearly every day N _i (%)	
1. Little interest or pleasure in doing things.	95	24.7	144	37.5	87	22.7	48	12.5
2. Feeling down, depressed, or hopeless.	130	33.9	157	40.9	59	15.4	38	9.9
3. Trouble falling or staying asleep or sleeping too much.	126	32.8	154	40.1	84	21.9	18	4.7
4. Feeling tired or having little energy.	104	27.1	145	37.8	96	25.0	38	9.9
5. Poor appetite or overeating.	144	37.5	134	34.9	74	19.3	32	8.3
6. Feeling bad about yourself or that you are a failure or have let yourself or family down.	167	43.5	111	28.9	73	19.0	33	8.6
7. Trouble concentrating on things such as reading a newspaper or watching TV.	120	31.3	170	44.3	65	16.9	29	7.6
8. Moving or speaking so slowly that the other people could have noticed? Or the opposite, being so fidgety or restless that you have been moving around a lot more than usual?	125	32.6	180	46.9	51	13.3	27	7.0
9. Thoughts that you would be better off dead, or of hurting yourself in some way?	316	82.3	36	9.4	28	7.3	4	1.0

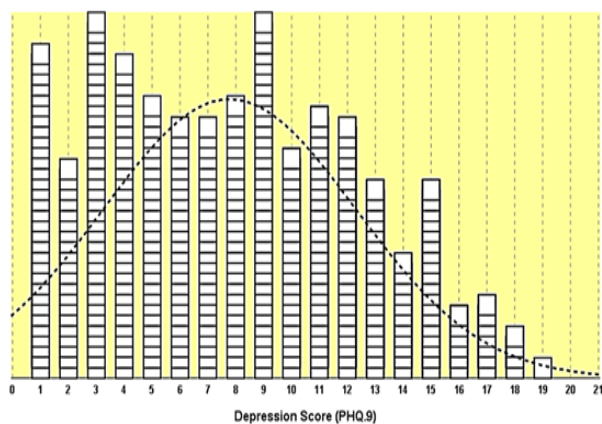


Figure 1: The distribution of depression Score (PHQ-9)

Regarding the summary score for Depression, 29.9% (n=115) of the students scored between 0–4, indicating No Depression (Normal status). Mild depressive symptoms (score 5–9) were present in 34.9% (n=134) of the sample. Clinically significant depression (score more or equal 10) was detected in 35.2% of the participants, divided into: 25.8% (n=99) with Moderate depression and 9.4% (n=36) with Moderately severe depression. No participants met the criteria for Severe depression (score 20–27), as shown in Table 3.

Table 3: The distribution of Depression Score

Depression Score (PHQ-9)	No	%
No Depression (0-4)	115	29.9
Mild Depression (5-9)	134	34.9
Moderate Depression (10-14)	99	25.8
Moderately severe Depression (15-19)	36	9.4
Severe Depression (20-27)	-	-

Factors associated with Depression:

The distribution of depression severity across age groups showed no statistically significant differences ($p = 0.230$). Minimal Depression was reported by 26.5–48.6% of students across different ages, mild Depression by 26.7–47.1%, moderate Depression by 17.1–32.7%, and moderately severe Depression by 3.5–18.0%.

Gender was not significantly associated with depression severity ($p = 0.413$). Among males, 26.8% had minimal Depression, 34.6% mild, 28.3% moderate, and 10.2% moderately severe. Among females, the corresponding proportions were 33.5%, 35.2%, 22.9%, and 8.4%, respectively. Residence (urban vs. rural) also showed no significant association with depression severity ($p = 0.142$). Urban students reported minimal (24.9%), mild (36.0%), moderate (28.4%), and moderately severe (10.7%) depression, while rural students reported 35.3%, 33.7%, 23.0%, and 8.0%, respectively. Parental education, both for mothers ($p = 0.208$) and fathers ($p = 0.281$), was not significantly associated with depression severity. Crowding index categories were also not significantly associated with Depression ($p = 0.388$). Students living in less crowded households (<1.0 CI) had 39.6% minimal, 37.7% mild, 17.0% moderate, and 5.7% moderately severe depression. Those in moderately crowded households (1.0–2.0 CI) had 28.4–33.0% minimal, 32.5–35.1% mild, 22.7–28.9% moderate, and 9.3–10.2% moderately severe depression. Average monthly income was significantly associated with depression severity ($p = 0.002$). Students from families earning less than 500,000 TID per month reported higher proportions of moderate Depression (35.4%) compared to those from higher-income families. The number of failed academic years was not significantly associated with depression severity ($p = 0.117$). However, students with two or more failed years tended to show slightly higher proportions of moderately severe Depression (18.5% among students with two failed years). Smoking status was significantly associated with Depression ($p = 0.042$). Among smokers, 23.5% reported minimal Depression, 29.6% mild, 33.7% moderate, and 13.3% moderately severe depression. As shown in Table 4.

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Table 4: The association of sociodemographic factors with depressed symptoms

Depression Score (PHQ-9)		Minimal Depression (0-4)		Mild Depression (5-9)		Moderate Depression (10-14)		Moderately severe Dep. (15-19)		P value
		No	%	No	%	No	%	No	%	
Age (years)	12	18	31.6	21	36.8	16	28.1	2	3.5	0.230
	13	17	48.6	10	28.6	6	17.1	2	5.7	
	14	15	30.0	17	34.0	9	18.0	9	18.0	
	15	13	26.5	16	32.7	16	32.7	4	8.2	
	16	16	23.5	32	47.1	14	20.6	6	8.8	
	17	17	26.2	22	33.8	19	29.2	7	10.8	
	18	19	31.7	16	26.7	19	31.7	6	10.0	
Gender	Male	55	26.8	71	34.6	58	28.3	21	10.2	0.413
	Female	60	33.5	63	35.2	41	22.9	15	8.4	
Residence	Urban	49	24.9	71	36.0	56	28.4	21	10.7	0.142
	Rural	66	35.3	63	33.7	43	23.0	15	8.0	
Mother education	Primary	19	24.4	22	28.2	28	35.9	9	11.5	0.208
	Secondary	30	30.0	31	31.0	30	30.0	9	9.0	
	Institute	20	28.6	27	38.6	15	21.4	8	11.4	
	College	46	33.8	54	39.7	26	19.1	10	7.4	
Father education	Primary	38	29.2	40	30.8	38	29.2	14	10.8	0.281
	Secondary	19	25.0	24	31.6	25	32.9	8	10.5	
	Institute	17	25.8	27	40.9	17	25.8	5	7.6	
	College	41	36.6	43	38.4	19	17.0	9	8.0	
Crowding index	<1.0CI	21	39.6	20	37.7	9	17.0	3	5.7	0.388
	1.0---	56	28.4	64	32.5	57	28.9	20	10.2	
	2.0---	32	33.0	34	35.1	22	22.7	9	9.3	
	=>3.0CI	6	16.2	16	43.2	11	29.7	4	10.8	
Average monthly income (TID)	<500TID	29	29.3	29	29.3	35	35.4	6	6.1	0.002*
	500---	35	23.6	52	35.1	41	27.7	20	13.5	
	1000---	21	28.4	34	45.9	11	14.9	8	10.8	
	1500---	16	55.2	10	34.5	2	6.9	1	3.4	
	=>2000TID	14	41.2	9	26.5	10	29.4	1	2.9	
Number of failed years	0	104	29.6	120	34.2	96	27.4	31	8.8	0.117
	2	10	37.0	11	40.7	1	3.7	5	18.5	
	=>3	1	16.7	3	50.0	2	33.3	-	-	
Smoking	Yes	23	23.5	29	29.6	33	33.7	13	13.3	0.042*
	No	92	32.2	105	36.7	66	23.1	23	8.0	

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Type of smoking	Cigarette	12	21.8	16	29.1	20	36.4	7	12.7	0.929
	Hooka	11	25.6	13	30.2	13	30.2	6	14.0	

*Significant difference between percentages using Pearson Chi-square test (2-test) at 0.05 levels.

To control for confounding variables and identify the independent predictors of moderate-to-severe depression among the studied adolescents, a multivariable logistic regression analysis was performed. All sociodemographic and behavioral factors that demonstrated a potential association in the univariate analysis ($p < 0.05$) were entered into the model. As presented in Table 5, the model revealed that average monthly family income and smoking status remained significantly and independently associated with the risk of developing moderate-to-severe depression. Adolescents belonging to lower-income families (earning less than 500,000 TID per month) were 2.45 times more likely to experience moderate-to-severe depression compared to their peers from higher-income families, displaying a statistically significant association (adjusted Odds Ratio [aOR] = 2.45, 95% CI: 1.38 – 4.32, $p = 0.002$). Furthermore, smoking behavior was identified as another strong independent predictor; current adolescent smokers had nearly twice the odds of suffering from moderate-to-severe depression compared to non-smokers (aOR = 1.82, 95% CI: 1.04 – 3.18, $p = 0.04$). Conversely, other sociodemographic variables such as age, gender, residence, and parental educational levels did not show any independent statistically significant influence on depression severity after adjusting for covariates within the regression model. As shown in Table 5.

Table 5: Multivariable Logistic Regression Analysis for Predictors of Moderate-to-Severe Depression.

Predictor Variable	Adjusted Odds Ratio (aOR)	95% Confidence Interval (CI)	P-value
Monthly Income (<500,000 TID vs. more 1,500,000 TID)	2.45	1.38-4.32	0.002

Smoking Status (Smoker vs. Non-Smoker)	1.82	1.04-3.18	0.04
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Discussion

The present research revealed a significant incidence of depressive symptoms among secondary school teenagers in Al-Hilla City, accompanied by a broad range of symptom severity as shown by PHQ-9 scores. This study suggests that depressed symptomatology is prevalent among teenagers attending school who are not clinically diagnosed. Item-level analysis of the PHQ-9 indicated elevated frequencies of fundamental depression symptoms, including anhedonia, dysphoria, sleep disorders, weariness, and difficulties in concentration. Conversely, suicidal ideation was infrequent, since the majority of students indicated the absence of such ideas. Even if not many students said they were thinking about killing themselves, it is still clinically important and should be found and reported as soon as possible. This high rate is in line with data from throughout the world that shows depressive symptoms are one of the most frequent mental health issues among teens. The World Health Organization says that around one in seven teens has a mental health issue, and depression is one of the main causes of illness in this age range [8]. A prior research in Baghdad found that 45.5% of people had depression, which is higher than the 45% found in this study [9]. A cross-sectional research in Mosul found that 37.4% of children and adolescents who went to basic health care clinics had mental illnesses [10]. The elevated prevalence seen in that research may be ascribed to variations in the study population and environment, since clinic-based samples tend to include persons with preexisting health issues more often than school-

based community samples. The long-term psychological effects of violence, economic instability, scholastic pressure, and fast sociocultural changes may explain the comparatively elevated prevalence of depression symptoms among Iraqi teenagers. Furthermore, lifestyle variables like elevated screen time, inadequate sleep habits, and diminished physical exercise may exacerbate mental discomfort throughout adolescence. Nonetheless, these characteristics were not explicitly evaluated in the current investigation. In the present investigation, gender did not exhibit a significant correlation with the severity of depression. This research indicates that both male and female adolescents may experience comparable psychosocial pressures in the Iraqi environment. This finding contradicts several worldwide research indicating elevated depression rates among female teenagers, often ascribed to hormonal, social, and emotional influences [11]. The absence of gender disparity in this research may indicate cultural norms that affect emotional expression or symptom reporting in both genders. There was no significant link between residing in a city or a rural area and having depressed symptoms. Some research have shown elevated incidence of mental health issues in rural communities, particularly in Pakistan [12]. In our study and in a similar study in the Islamic Republic of Iran [13]. Internal movement from rural to urban regions, together with common socioeconomic concerns, may mitigate differences between these populations. Parental education, including both maternal and paternal, had no significant correlation with depression symptoms. While elevated parental education is often seen as a protective factor, its influence may be diminished in contexts characterized by significant structural stressors, including economic adversity and insufficient mental health resources. This study indicates that

parental teaching alone may be inadequate in safeguarding adolescents against depression in high-stress contexts. There was a strong link between average monthly family income and symptoms of depression. Adolescents from lower-income homes had elevated levels of mild and moderately severe depression. This conclusion is consistent with substantial research indicating an adverse correlation between socioeconomic status and mental health outcomes in teenagers. Financial pressure could heighten stress exposure, restrict access to recreational and educational resources, and diminish possibilities for psychological assistance. Similar results have been seen in Jordan and many low- and middle-income nations [14]. The severity of depression was also highly correlated with smoking status. Teens who smoked were more likely to show signs of moderate to severe depression. The link between smoking and depression has been extensively studied and found in several studies. Some even propose that the two are inversely related [15, 16]. Nicotine use may intensify depression symptoms via neurobiological and psychological routes, and depressed teenagers may start smoking as a coping method. Adolescent depression is also linked to clusters of risky behaviors, such as drug abuse and smoking [17]. No significant correlation was identified in the current investigation, however prior studies have connected overcrowding to poor mental health outcomes. One possible explanation is that subjective reports of crowding are more strongly associated with emotional discomfort, whereas objective crowding indices are more useful in assessing actual crowding levels [18]. The term "overcrowding" refers to people's subjective experiences in densely populated areas, while "population density" is an objective measure of the same density. Rather of relying on people's subjective feelings, statistical reports and

administrative purposes frequently use density measures to define congestion.

Conclusions

There were a lot of secondary school students in Al-Hilla City who showed signs of depression. The PHQ-9 score showed that 29.9% of students had very little depression, 34.9% had mild depression, 25.8% had moderate depression, and 9.4% had fairly severe depression. There were no instances of severe depression found. Depressive symptoms were evident in all age groups, suggesting that adolescence represents a susceptible phase for the emergence of mental health issues, irrespective of age. There was no statistically significant correlation between the severity of depression and gender, location, parental education level, crowding index, or academic failure. There was a statistically significant link between average monthly family income and depressed symptoms. Teens from homes with lower incomes had greater levels of depression. There was a strong correlation between smoking and greater levels of depression, which suggests that smoking may be connected to worse mental health outcomes in teens. The results underscore that depressive symptoms in teenagers from Al-Hilla City constitute a significant public health issue that need prompt recognition and care.

Limitations of the study

Some limitations in the current research need consideration: The cross-sectional approach inhibits the determination of causal links between Depression and the analyzed sociodemographic and behavioral variables. The self-reported PHQ-9 was used to measure depression; however it could be impacted by recollection and reporting bias. Furthermore, the research cohort included only of school-attending teenagers in Al-Hill City, thereby limiting the generalizability

of the results to out-of-school adolescents or other geographical areas.

Conflict of Interest

The authors state that they have no conflicts of interest.

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