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Original Research

Adolescents' Attitudes Towards Viral Hepatitis Transmission at Secondary Schools

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Abstract:

Objective(s): The study's objective is to assess the students' attitudes regarding the prevention of viral hepatitis transmission.

Methodology: A descriptive quantitative study was used to assess adolescents' attitudes towards viral hepatitis transmission at Al Diwaniyah secondary schools. The period of the study started from (24th December 2023 to 20th April 2024). The study has been carried out on adolescents in secondary schools at AL-Diwaniyah center, in 8 schools, The study applied a non-probability (purposive) sample of 400 students were selected randomly to conduct the study.

Results: The results showed that less than two third of students are in the age between 14 and 16 and female equal male in the study sample. In addition, this study showed that more than half of students had poor attitudes related to prevention of viral hepatitis transmission.

Conclusion: The current study showed significant correlation between students' attitudes towards prevention of viral hepatitis transmission and age, father's educational level, and housing data at $P < 0.05$.

Recommendation:

1. Promoting the role of school health in educating students about viral hepatitis.

2. Encouraging health education initiatives aimed at families and students that emphasize transmission methods, prevention, and consequences.

3. Increased collaboration between the Ministry of Education, the Ministry of Health, and parents, with a focus on immunization and vaccination programs to prevent viral hepatitis.

Key words: Adolescents, Awareness, Viral Hepatitis.

Introduction:

Viral hepatitis is a significant worldwide health issue. The 2017 Global Hepatitis Report by the World Health Organization (WHO) estimates that there are 325 million individuals currently infected with hepatitis.(1,2)

In Iraq, according to ministry of health and environment in 2019, the number of cases of viral hepatitis reached 34879. According to the World Health Organization (WHO), Iraq has a high prevalence of hepatitis, and there has been an increase in the number of people infected with this disease. Several factors, including poor hygiene, contaminated drinking water, and adulterated food, contribute to the dissemination of HAV. (3)

Hepatitis B is a highly contagious viral infection that spreads through the blood or body fluids of an infected individual, including saliva, vaginal secretions, and semen. Additional risk factors include institutions with high patient capacity, inadequate safety protocols, inappropriate management of blood and bodily fluids, and the reuse of contaminated needles. (4,5)

Parenteral medication usage, needle stick injuries, hemodialysis, tattoos, and multiple sexual partners are widely acknowledged as common routes of transmission for viral hepatitis B and C worldwide. Parenteral routes, such as the use of unsterilized needles and syringes in healthcare settings, are the most likely means of transmission for HBV and HCV. (6,7)

Children are the most significant investment in every society and serve as the primary basis for its development. They represent the most significant potential for the future. Because they possess the potential to become future parents, workers, leaders, and decision-makers. The future and well-being of a nation depend on the health, well-being, and safety of its children, as they are crucial assets. It is essential to equip school students with the necessary knowledge and life skills to empower them to make informed and beneficial decisions, embrace a healthy way of living, and effectively manage conflicts. (8)

All students in secondary schools fall within the age range of adolescence. Adolescence is a stage characterized by both difficulties and chances to gain self-awareness in a social setting. Adolescents, or young individuals, constitute 27% of the global population, falling within the age range of 10 to 24 years. Adolescents commonly undergo psychological and social changes during puberty, which marks their shift from infancy to maturity. Due to the inherently unstable nature of this phase, individuals are more susceptible to various dangers such as substance abuse, tobacco usage, alcohol consumption, engaging in unprotected sexual activity, and other similar behaviors. (9)

The purpose of the current study was to assess the students' attitudes regarding prevention of viral hepatitis transmission.

Methodology:

Study Design:

A descriptive quantitative study was used to assess adolescents' attitudes towards viral hepatitis transmission at Al Diwaniyah secondary schools. The period of the study started from (24th December 2023 to 20th April 2024).

Setting of the Study:

The study was conducted at the middle schools in AL-Diwaniyah governorate center. According to educational administration in AL-Diwaniyah governorate the total number of secondary schools in AL-Diwaniyah center was 54 schools. The middle schools were randomly selected, included eight secondary schools namely (Al-Huriya school for girls, Al-Maerifa school for boys, Al-Qabs school for boys, El- Bara'a school for girls, Al-Rasafi school for boys, Umm Al-Baneen school for girls, Al-Qawarir school for girls and Zaid Ibn Ali School for boys).

The Sample of the Study:

The study has been carried out on adolescents in secondary schools at AL- Diwaniyah center. The students were selected randomly to conduct the study. The study applied a non-probability (purposive) sample of 400 students were selected from the previously mentioned schools, only first

and second middle school students were included in the study sample regardless their age, gender. The total number of participants in the study was 485, 85 participants were excluded because they did not complete the information in the questionnaire.

Instrument of the Study:

The researcher constructed a self -administrative questionnaire to accomplish the objective of the study. The researcher used Hussein et.al (2019), questionnaire and work on its development, after which the instrument was sent to experts for analysis. According to recommendations and notes of experts and the Ministry of Planning / Central Council of Statistics, amendments were made to the questionnaire. The instrument designed in simple Arabic form, which consists of two parts that include:

Part I: Socio-Demographic Characteristics Questionnaire, Assess the characteristics of the students, their parents, and the housing situation: This section consists of 14 closed/ended questions that cover age, class, gender, family order, place of residence and accompanying individuals within the home, parents' level of education, occupation of the parents, family's monthly income, number of members of the family, quantity of rooms, housing status, sanitation system, and drinking water.

Part II: The students' attitudes related to prevention of viral hepatitis transmission, this part designed to assess students' attitudes related to prevention of viral hepatitis transmission covering 13 items, such as hand hygiene, undercooked food, washing vegetables and fruits, sharing family members with personal hygiene equipment, dental sterilization tools, utilizing public toilets, making ear piercing, making tattoos, utilizing a toilet seat and using specific shaving equipment.

Validity of the Instrument:

Validity is one of the main concerns of research. Using a panel of 10 experts with a combined total of at least 10 years of expertise in their respective fields, the questionnaire's validity was assessed. These experts are (6) faculty members of the College of Nursing / University of Baghdad, (2) from faculty members of the College of Nursing/ University of Karbala, (1) from faculty members College of Nursing / University of Babylon. In addition, (1) doctor's experts working in the institutions of the Ministry of Health in Diwaniyah. Those experts were provided with a copy of the study instruments and were asked to review and evaluate the instruments for its content clarity and adequacy. Changes and modifications were made with respect to the experts' suggestions and recommendations. Some items were excluded, and others were added after taking all the comments and recommendations into consideration.

Reliability of the Instrument:

The students who participated in the pilot study met the same standards as the main study group. The data of pilot study was collected during 25th to 28th December 2023. The reliability test findings showed an alpha Cronbach coefficient of (r=0.708), which is regarded as statistically acceptable.

Statistical Methods:

The analysis of the data was used through descriptive statistics (frequencies, percentages, and the Mean of scores and standard deviation) and statistical inferential correlation coefficient.

Results of the Study: Part I: Students' Demographic Data:

Table (1): Dissemination of socio demographic traits among students:

Classes	Groups	Study group	
		Frequency	present
Age (Years)	12-less than 14	123	30.8
	14-less than 16	247	61.8
	16 or more	30	7.5
	Total	400	100.0

Gender	Male	200	50.0
	Female	200	50.0
	Total	400	100.0
Class	"1st secondary class"	162	40.5
	2nd secondary class"	238	59.5
	Total	400	100.0
Student's order in the family:	The older	115	28.7
	The middle	182	45.5
	Younger	90	22.5
	Only child	13	3.3
	Total	400	100.0
Student's residence:	"With parents"	355	88.8
	"With father only"	12	3.0
	"With mother only"	28	7.0
	"With family relative"	5	1.3
	Total	400	100.0
Father's Educational Level:	Illiterate	38	9.5
	Read and write	143	35.8
	Secondary school graduate	79	19.8
	Institute graduate	47	11.8
	Graduate of college or higher	93	23.3
	Total	400	100.0
Mother's Educational Level:	Illiterate	74	18.5
	Read and write	149	37.3
	Secondary school graduate	75	18.8
	Institute graduate	45	11.3
	Graduate of college or higher	57	14.2
	Total	400	100.0
Mother's occupation	Government employee	67	16.8
	Freelance work	46	11.5
	Retired	10	2.5
	Unemployed	277	69.3
	Total	400	100.0
father's occupation	Government employee	161	40.3
	Freelance work	165	41.3
	Retired	31	7.7
	Unemployed	43	10.7
	Total	300	100.0
Family's monthly income :(Iraqi Dinar IQD)	Less than 300 thousand IQD	123	30.7
	Between 301 thousand and 600 thousand IQD	124	31.0
	Between 601thousands and 900 thousand IQD	89	22.3
	More than 901 thousand IQD	64	16.0
	Total	400	100.0
	3-5	201	50.2

Family's members	6-8	168	42.0
	9-11	23	5.8
	Above 11	8	2.0
	Total	400	100.0
Housing Data	One room	79	19.8
	Two rooms	203	50.7
	Three rooms	87	21.8
	Others	31	7.7
	Total	400	100.0
Housing Status	Owned	247	61.8
	Rented	98	24.5
	Shared	55	13.8
	Total	400	100.0
Housing data: There is a sanitation system	Yes	298	74.5
	No	28	7.0
	Not sure	74	18.5
	Total	400	100.0
Housing data: There is safe drinking water available	Yes	340	85.0
	No	31	7.8
	Not sure	29	7.2
	Total	400	100.0

Table (1) show that the majority of the total sample fell within the age range of 14 to less than 16, constituting 61.8%. The gender distribution was balanced, with females and males each accounting for 50% of the present sample. In terms of class, 59.5% belonged to the 2nd secondary class. Regarding education levels, the highest percentage for fathers and mothers was in the category of "Read and write," with 35.5% and 37.3%, respectively. Regarding occupation, 69.3% of mothers were house wife, while 41.3% of fathers were freelance work. In addition, family monthly income was between 301 thousand and 600 thousand IQD, making up 31% of the sample.

Part II: Table (2): Students' attitudes towards viral hepatitis prevention.

No.	Questions	Group			MS	SD	RII	Ass.
		Never	Sometimes	Always				
1	Wash hands after using the bathroom	43	79	278	2.5875	.67712	0.86	High
		10.8	19.8	69.5				
2	wash hands before eating	32	118	250	2.5450	.63953	0.85	High
		8.0	29.5	62.5				
3	Eat undercooked food	145	127	128	1.9575	.82607	0.65	Moderate
		36.3	31.8	32.0				
4		38	102	260		.66187		High

	Wash vegetables and fruits before eating	9.5	25.5	65.0	2.5550		0.85	
5	Shares personal hygiene tools with family members, such as sharing toothbrushes	198 49.5	101 25.3	101 25.3	1.7575	.83092	0.58	Moderate
6	Shares personal hygiene tools such as hair clippers with family members	116 29.0	134 33.5	150 37.5	2.0850	.81205	0.69	Moderate
7	Shares personal hygiene tools with family members, such as nail clippers	93 23.3	114 28.5	193 48.3	2.2500	.80879	0.75	Moderate
8	Ask the dentist about the sterilization of the tools	144 36.0	126 31.5	130 32.5	1.9650	.82794	0.65	Moderate
9	Uses public bathrooms	92 23.0	187 46.8	121 30.3	2.0725	.72702	0.69	Moderate
10	Make ears piercing	151 37.8	120 30.0	129 32.3	1.9450	.83590	0.65	Moderate
11	Make tattoos	246 61.5	97 24.3	57 14.2	1.5275	.73184	0.51	Low
12	When entering a bathroom outside of the home, use your own toilet seat	187 46.8	124 31.0	89 22.3	1.7550	.79470	0.59	Moderate
13	use your own shaving tools, such as razor blades or a comb	124 31.0	118 29.5	158 39.5	2.0850	.83638	0.70	Moderate
Total	students' attitudes towards viral hepatitis prevention (Overall): 42.87 %				2.0837	.32961	0.69	Moderate

MS.: Mean of Scores (weighted mean); SD: Standard Deviation, RII.: Relative Importance Index, Ass.: Assessment, Low: (1.0-1.66), Moderate (1.67-2.33), High (2.34-3).

Table (2) illustrates the students' attitudes towards viral hepatitis, with the lowest percentage being 14.2% appears in negative question 11 and the highest being 69.5% for the first question (Wash hands after using the bathroom), indicating a positive trend. However, the negative indicator in the seventh question gives a percentage of 48.3%, confirming that the attitudes are relatively weak in this domain. The Relative Importance Index (RII) showed high values for questions 1, 2, and 3, indicating a positive trend, while question 11 had a negative indicator and The Relative Importance Index (RII) showed low value.

Table (3): ANOVA test results for the relationship between Demographic Data and students' attitudes towards viral hepatitis prevention. (Overall):

students' attitudes towards viral hepatitis prevention.								
Demographic Data		Sum of Squares	DF	Mean Square	F	Sig.	T-value	Ass.
Age	Between Groups	.703	2	.351	3.271	.039	3.03	S
	Within Groups	42.646	397	.107				

	Total	43.349	399					
Gender	Between Groups	.062	1	.062	.575	.449	3.87	NS
	Within Groups	43.286	398	.109				
	Total	43.349	399					
Father's Educational Level	Between Groups	1.508	4	.377	3.559	.007	2.40	S
	Within Groups	41.841	395	.106				
	Total	43.349	399					
Father's occupation	Between Groups	.075	3	.025	.228	.877	2.63	NS
	Within Groups	43.274	396	.109				
	Total	43.349	399					
There is a sanitation system	Between Groups	1.449	2	.725	6.865	.001	3.03	S
	Within Groups	41.900	397	.106				
	Total	43.349	399					
There is safe drinking water available	Between Groups	.695	2	.348	3.237	.040	3.03	S
	Within Groups	42.653	397	.107				
	Total	43.349	399					

N/S: no significant, S: significant, DF: degree of freedom, sig. p-value, T-value: table value

Table (3) demonstrates a significant correlation between age, father's educational level, sanitation system and drinking water with students' attitudes towards viral hepatitis prevention. This significance is indicated by the p-values being less than 0.05 for all variables. Conversely, other demographic factors are found to be not significant, indicating no relation with them.

Discussion:

Discussion of the Socio-Demographic Characteristics of the Study Sample, as shown in (Table 1)

Throughout the data analysis of the present study, Table (3-1) showed the results of the statistical distribution of the students' sociodemographic characteristics. The study findings demonstrated that the percentage of female students equal to that of males. The study result is consistent with result of Ghyadh and Abdul-Wahid, (2016), in research to evaluate secondary schools students' exposure to risk factors in Al-Najaf City, their result indicate that the proportion of female students is the same as that of male students. (10)

On the other hand, this finding not supported by Ali and Mohammed, (2020), in the study s to determine the influence of emotional intelligence on academic achievement among the students at secondary schools in Babylon City. Their findings indicate that more than half of students were female. (11)

Regarding the age of students were most of them was in second class and the highest sample age was between 14 and less than 16. This finding supported by study done by Saleh and Ma´ala, (2015), in research to determine the influence of

fast meals and snack on adolescents' BMI at secondary schools in Baghdad city, their findings indicate that half of them were under the age of 16. (12)

Regarding the student's order in the family, the highest percentage of student who born in middle sequence. This finding was inconsistent with Hussein and Hatab, (2020), in the study to determine impact of juvenile diabetes long-term treatment upon adolescents' physical activity. Their finding indicated the majority of the studied sample assigned at the first sequence. (13)

Regarding the student's residence the results indicated 88.8% of the adolescent living with their parents. This finding was supported with Habsi and Ajil, (2021), in study to compare the self-esteem of children who living with their parents in secondary school in Al-Rusafa to children living in orphanages in Rusafa, Baghdad. The study results indicated 85.5% of the adolescent living with their parents. Regarding the student's family's members most of them at the category (3-5) persons. This finding was inconsistent with Habsi and Ajil, (2021), the study results indicated that the majority of the studied sample are focusing at the class (5-6) persons. (14)

Regarding the education level of father and the education level of mother, the highest rate was read and write. In addition, the study results indicate that the majority of father occupation was freelance work. This finding was inconsistent with Qassim and Abed, (2016) study to assess health promotion behavior of teenage students in Baghdad city. The study results were indicating the majority of teenage fathers and mother's educational levels the college graduate and most of them governmental employee. (15)

Regarding the family monthly income, the study results indicated that the majority of the student within poor family's economic status due to the highest rate of family monthly income was between 301-600 thousand Iraqi dinar. This result supported with Abd Al-Ameer and Ajil, (2023), to determine the Effects of Teenagers' Daily Food Choices, Sleep Patterns, and Physical Activity on Eating Disorder Behaviors, their findings indicate the highest rate of family monthly income between 301-600 thousand Iraqi dinar.(16)

Also, consistent with Kareem and Ali, (2017), Their findings showed that the research sample came from families with a moderate economic situation, which may have contributed to the study's goal of determining the impact of social media use on the mental health of the teenage pupils at preparatory schools in Al-Diwaniyah city.(17)

Regarding housing characteristics revealed that residences with two rooms were most common, representing 50.7%. The majority of respondents reported owning their homes, accounting for 61.8% of the sample. Concerning housing amenities, 74.5% affirmed the presence of a sanitation system, while 85.0% confirmed access to safe drinking water in the housing data. From the researcher's point of view, the characteristics of the home in which students live play a major role in protecting adolescents from contracting viral hepatitis.

Discussion of the students' attitudes about viral hepatitis, as Shown in Tables (2):

Regarding the total level of attitudes, this study showed that more than half of students had poor attitudes related to prevention of viral hepatitis transmission. These results supported by Ali et.al (2022), when found more than half of the examined items regarding adolescents' attitudes against HBV were found to be unsuccessful.(18)

In the same line with the study performed by Sami et.al (2015), in Egypt to assess the risky behaviors towards HBV among school students. Their findings showed more than half of students had high risky behaviors towards viral hepatitis.(19)

Similarly, in the study by Salem et.al (2015), in Egypt to assess the teenagers' knowledge, attitudes, and practices (KAP) about viral hepatitis B and C. Their finding showed that only a quarter of participants had good situations to viral hepatitis prevention, while most of participants had negative situations regarding to viral hepatitis prevention. (20)

This finding is in agreement with study of male secondary school students in Abha, Saudi Arabia, Al-Gashanin and Mustafa, (2013), found that more than half of the adolescent had unsatisfactory attitudes and practices for prevention of hepatitis B. (21)

On the other hand, these findings were inconsistent with Hussein et.al (2019), found in the study to determine the students' level of knowledge and reported behavior related to prevention of viral hepatitis, their finding showed two thirds of the adolescent had satisfactory level of total reported behavior. (8)

Findings of current study disagree with the findings of Atlam et al. (2016), in the study assessed Tanta University medical students' knowledge, attitudes, and practices about hepatitis B and C. Their findings showed more than two-thirds of the participants had positive attitudes and practices regarding viral hepatitis prevention. (22)

Discussion of association between Demographic Data and students' attitudes regarding prevention of viral hepatitis, as shown in tables (3):

Regarding the relationship between the characteristics of the students and their overall level of attitudes regarding prevention of viral hepatitis transmission. The current study showed significant correlation between students' attitudes towards prevention of viral hepatitis transmission and age, father's educational level, and housing data at $P < 0.05$. This result agreed with Hussein et.al (2019), who stated that factors affecting the behavior of students towards prevention of viral hepatitis transmission, the age of students, the accompanying persons in home, level of education, gender and ranking, all of which were determined to be significant risk factors. (8)

Additionally, the result in the same line with Cruz et al. (2018), who found a significant correlation between the perception of viral hepatitis and level of education. Those with at least a secondary school degree, however, showed a positive attitude towards prevention of viral hepatitis transmission. (23)

On the other hand, these findings were inconsistent with Atlam et al. (2016), in the study assessed Tanta University medical students' knowledge, attitudes, and practices about hepatitis B and C. Their findings showed the individuals' demographic characteristics and their attitudes regarding B and C viral hepatitis did not significantly correlate. (22)

This was also observed by Al-Gashanin and Mustafa, (2013), who found the attitude and practice of the students did not significantly change based on their age groups, study types, academic years, place of residence, father's or mother's educational background, or level of education. (21)

Conclusion:

Drawing conclusions from the current study's findings, it is possible to concluded that, more than half of students had poor attitudes related to prevention of viral hepatitis transmission. Furthermore, the study found that students' attitudes towards viral hepatitis are influenced by factors such as and age, father's educational level, and housing data.

Recommendation:

1. Promoting the role of school health in educating students about viral hepatitis.
2. We recommend that school administrations pay attention to sanitary facilities, as they play a key role in the spread of viral hepatitis among students.
3. We recommend that school administrations monitor the cleanliness of shops and the use of gloves by workers to reduce the spread of disease.
4. Increased collaboration between the Ministry of Education, the Ministry of Health, and parents, with a focus on immunization and vaccination programs to prevent viral hepatitis.
5. Encouraging health education initiatives aimed at families and students that emphasize transmission methods, prevention, and consequences.

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