

Assessment of School Students' Awareness Towards Viral Hepatitis in Sohag Governorate

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Abstract

Background: Hepatitis viruses are a type of liver disease which is the leading cause of liver cancer and cirrhosis. Adequate information and good practice are the essential factors to reduce the risk of the disease. **This study aimed to:** Assess the students' level of knowledge and reported practices related to prevention of viral hepatitis. **Design:** A descriptive cross-sectional study was used to conduct this study. **Setting:** This study was conducted at 5 preparatory schools (Huda Sharawi for girls, Khaled Ebn El- walid, Salah Salem for boys, El-Taiser for girls, El –Mohandes El –Nabwi) and 1 secondary public school (El-Shaimaa for girls) in Sohag Governorate. **Subjects:** A convenient sample of 396 students was selected from the previously mentioned schools. **Tools of data collection:** First tool: Predesigned self-administered questionnaire. Second tool: Students' reported practices assessment. **Results:** The present study showed that nearly half of studied students are in the age group 11- < 13 years with mean age 13.23 ± 1.88 years and less than two thirds of them were female. In addition, more than three quarters of them had unsatisfactory level of knowledge and two thirds of them had satisfactory level of total reported practices related to prevention of viral hepatitis. **Conclusion:** There was a positive correlation between total knowledge of the studied students and total reported practices regarding prevention of viral hepatitis. Also, it was concluded that age of students, gender, the accompanying persons in home, ranking, level of education for both the studied students & their mothers, number of family members, mass media, health care worker and school considered as factors that affect the students' awareness about viral hepatitis. **Recommendation:** Conducting health education programs at school to raise the awareness of the students about viral hepatitis and its prevention.

Key words: Viral hepatitis, Awareness, School students.

Introduction

The liver plays a vital role because it removes the toxic waste, stores energy, regulates blood clotting and metabolizes drugs in the body. However, viral hepatitis has become a major public health problem due to outbreak worldwide (WHO, 2017).

The term hepatitis refers to inflammation of the liver and refers to a wide range of clinical disorders caused by liver damage caused by viruses; toxins, drugs, metabolic factors or safety factors arise. Regardless of the hepatitis cause, its clinical course may vary from a mild to severe disease associated with severe impairment of hepatic cell function. Chronic hepatitis includes liver inflammation which lasting for more than six months, indicating that it is a disorder in liver function tests (Ivor, et al., 2013).

Children are the largest investment of any society and the main foundation for its

development. They are the greatest promise for the future. Because they are the parents, workers, leaders, and decision-maker of tomorrow. The nation's destiny lies in the health, well-being and the safety of its children because healthy children are vital resources for ensuring the future and well-being of a nation. School children should be provided with appropriate knowledge and life skills to enable them to make healthy decisions and choices, to adopt a healthy lifestyle and deal with conflicts (WHO, 2016).

School nurses respond to changes in school health by assuming a wide variety of its important roles. They are important members of the school health team. They provide services at school, with families of children, and in society. Nurses in schools are not just bandage dispensers, first aid providers, and record keeper. The nurse's skills and training prepare for wider roles as health counselors, facilitators, and educators within the school and

society (Arhaim and Elzahaf, 2016). However, infectious diseases are one of the most common reasons for the absence of student from their schools.

The incidence of hepatitis in the world is increasing, occurring faster in the population of developing countries (Gowda, et al., 2014). It is necessary to increase students' awareness about the disease because of the prevalence and incidence of disease in the community as well as the risks of this disease and its prevention through vaccination.

Significance of the study

Children in schools are more susceptible to viral hepatitis than others, because in schools, students share their other compartments in equipment, hair and scarves pins, consumption of food contamination in the fields or through infected food handlers, poor hygiene and unsafe drinking water, low levels of awareness about viral hepatitis and its complications. Therefore, the researcher conducted this study to assess the level of school students' awareness about viral hepatitis.

Aim of this Study

This study aimed to assess school students' awareness towards viral hepatitis in Sohag Governorate through:

- 1- Assess the students' level of knowledge about viral hepatitis.
- 2-Assess the students' level of reported practices related to prevention of viral hepatitis.

Research Questions

- 1-What are the students' levels of knowledge about viral hepatitis?
- 2-What are the students' reported practices related to prevention of viral hepatitis?
- 3-What are the factors that affect the students' awareness about viral hepatitis?

Operational definitions:

Awareness: means students' knowledge and reported practices

Subject and Methods

Study design:

A descriptive cross-sectional study was used to conduct this study.

Settings:

The study was conducted at the preparatory and secondary public schools in Sohag governorate. According to educational administration in Sohag governorate, there are 12 districts, each district includes a number of preparatory and secondary schools ranged from

(30-50 school). Sohag district was selected randomly to represent 10% of the total districts. As well, 10% of the preparatory and secondary schools were randomly selected, included five preparatory schools namely (Huda Sharawi school for girls, Khalid Ebn El- walid school, Salah Salem school for boys, El-Taiser school for girls, El –Mohandes El –Nabwi school) and one secondary school (El-Shaimaa school for girls) to represent the selected district.

Subject:

A list with the number of classes in the pre mentioned schools was obtained by the researcher and 10% of the classes were selected randomly to conduct the study.

A convenient sample of 396 students were selected from the previously mentioned schools, however all students in the selected classes were included in the study sample regardless their age, gender and educational level.

Tools for data collection:

Two tools were designed to collect the basic data needed for this study after reviewing the current relevant literature. The tools were designed by the researcher in simple Arabic form, which included the following:

First tool: Predesigned Self-administered Questionnaire Sheet was used in this study and it consisted of two parts as the following:

Part I: Assess characteristics of the students, their parents and housing condition: this part is composed of 18 closed/ended question covering: age, sex, level of education, ranking in family, residence and the accompanying persons at home. Also the level of education of the father and the mother, income, job of the father and the mother, the average monthly household income and the number of family members. Number of rooms, adequate ventilation, availability of electricity, separate bathroom and water suitable for drinking.

Part II: Assess the level of knowledge about viral hepatitis among students, it included information about meaning, anatomy and physiology of the liver, causative agent of viral hepatitis, types, clinical presentation, contagiousness, predisposing factors, source of information, modes of transmission, high risk group, complications, preventive measures, vaccination and treatment of viral hepatitis.

Scoring system: The correct answer was

scored one grade and the incorrect was scored zero. These scores were summed –up and converted into a percent score. Accordingly, the total level of knowledge was scored as the following: (unsatisfactory < 50, satisfactory \geq 50).

Second tool: Students' Reported Practices Assessment Sheet: This tool designed by the researcher to assess students' reported practices related to prevention of viral hepatitis covering 8 items, such as hand washing, washing vegetables and fruits, sharing family members with personal hygiene tools, using ear piercing, using public bathrooms, using bathroom seat, using special shaving tools and going to a private barber.

Scoring system for reported practices assessment were as: The right answer was scored one grade and the wrong was scored zero. These scores were summed –up and converted into a percent score. Accordingly, the total level of reported practices was scored as the following: (unsatisfactory < 50, satisfactory \geq 50).

Operational design

Preparatory phase:

The current and international related literature using books, periodicals, journals, magazines and internet reviewed by the researcher to be more acquainted with the research problem and to help in tool designing.

Content and face validity:

It was ascertain by a group of 5 experts from different academic categories (three Professors and two assistant professors) of the Pediatric Nursing at faculty of Nursing - Ain Shams University. The expertise reviewed the tools for clarity, relevance, comprehensiveness, simplicity and its appropriateness. Accordingly, a minor modification was done in the form of editing for some statements in the tools to be more clear.

Reliability

Reliability of the tool was performed to confirm consistency of the study tools and was calculated statistically. Reliability of the study's tool was done by alpha Cronbach test (0.84).

Pilot study:

A pilot study was conducted on 10 % (40) students of the total study participants to evaluate the study tools applicability, clarity and also served to estimate the time needed for each student to fill the questions. According to

the results of pilot study it was revealed that, the questions were clarified and applicable to complete this study. So, pilot subjects were later included in the study as there was no subsequent modifications in the study tools.

Field work:

The actual field work was carried out from the 2nd week of February 2018 up to the end of April 2018. The researcher was available in the study settings 2 days per week in each study setting from 10 Am to 1 Pm by scheduled rotation. Data collection was done from students, who accepted to be included in the study after explaining the aim of the study. Students asked to fulfill the study tools according to the availability of their free time in schedule throughout the school day and some of students were allowed to fulfill the study tools at home to be received by the researcher in the next day. The average time required for data collection was 40 minutes for Appendix II, 20 minutes for appendix III.

Ethical consideration:

The research approval was obtained from scientific research ethical committee Faculty of Nursing, Ain Shams University before starting the study. Verbal consent was obtained from each student before inclusion in the study sample and after explanation of the study aim in simple and clear manner. Clear and simple clarification of the study nature and its expected outcomes was explained. They secured that all data collected was treated in confidentiality and anonymity. All the study subjects had the right to withdraw at any time from the study.

Administrative design:

An official permission was obtained by submission of a formal letter issued from the Dean of Faculty of Nursing, Ain Shams University to the director of each of the previously mentioned setting to collect the necessary data for current study after a brief explanation of the purpose of study and its expected outcomes.

Statistical design:

Computerized data entry and statistical analysis were fulfilled using the Statistical Package for Social Sciences (SPSS) version20. The obtained data were organized, analyzed and represented in tables and graphs as

required. Data were presented using descriptive statistics in the form of Number, Percentage, Mean score, Standard deviation (SD), Chi-square (χ^2), Logistic regression (B) and Correlation coefficient (r), were used to estimate the statistical significant that was considered at P-value < 0.05.

Results

Table (1) : represent characteristics of the studied students and revealed that, nearly half (42.9%) of studied students are in the age group 11- < 13 years with mean age 13.23 ± 1.88 years, less than two thirds (61.6%) of them were female. Also, 81.1% of them in preparatory stage, while almost one third (31.8%) of them ranked as the second child in their families. Also, it was found that 55.8% and 80.0% of them were living in rural areas and accompanying with both parents in their home respectively.

Figure (1): Shows that, 81.6% of the studied students had unsatisfactory total level of knowledge about viral hepatitis.

figure (2) Shows that, 66.9% of the studied students had satisfactory level of total reported practices regarding prevention of viral hepatitis.

Table (2) Illustrates positive correlation between total level of reported practices among the studied students and their total levels of knowledge about viral hepatitis at $P < 0.01$.

Table (3) reveals that there was a significant difference between the studied students' total level of knowledge & total level of reported practices and the age of students, gender, the accompanying of persons in home, ranking, level of education for both the studied students & their mothers, number of family members, mass media, health care worker and school considered as factors that affect the students' awareness about viral hepatitis at $P < 0.05$.

Table (1): Distribution of the Studied Students according to their Characteristics. (no=396)

Items	No.	%
Age		
11-12	170	42.9
13-14	143	36.1
15-16	48	12.1
17-18	35	8.9
Mean \pm SD	13.23\pm 1.88	
Sex		
Male	152	38.4
Female	244	61.6
Level of education		
Preparatory	321	81.1
Secondary	75	18.9
Ranking		
1 st	105	26.5
2 nd	126	31.8
3 rd	61	15.4
4 th and more	104	26.3
Residence		
Urban	175	44.2
Rural	221	55.8
The accompanying persons in home		
Parents	317	80.0
Father only	20	5.1
Mother only	42	10.6
Family relative	17	4.3

Figure (1): Distribution of the Studied Students according to their total Level of Knowledge regarding Viral Hepatitis. (no = 396)



Figure (2): Distribution of the Studied Students according to their total Level of Reported Practices regarding Prevention of Viral Hepatitis. (no = 396)



Table (2): Correlation between total Level of Knowledge and total Reported Practices among the Studied Students.

Item	Total level of knowledge (n=396)	
	r	P- value
Total level of Reported practices	.196**	.000

* Statistically significant at P < 0.05.

** High statistically significant at P < .01.

Table (3): Factors that Affect the Students' Awareness about Viral Hepatitis.

Students' Characteristics	Total level of knowledge (n=396)		Total Reported practices level (n=396)	
	χ^2	P-Value	χ^2	P-Value
Age	66.011	.000**	30.426	.000**
Gender	5.778	.016*	7.800	.005*
Level of education	4.170	.041*	10.364	.001**
Ranking	8.238	.041*	7.792	.051
accompanying persons in home	9.262	.026*	33.921	.000**
Parents' Characteristics	Total level of knowledge (n=396)		Total Reported practices level (n=396)	
	χ^2	P-Value	χ^2	P-Value
Mothers' Level of Education	14.303	.006**	22.508	.000**
Number of family members	9.911	.007**	44.109	.000**
Source of information	Total level of knowledge (n=396)		Total Reported practices level (n=396)	
	Coefficient (B)	P-Value	Coefficient (B)	P-Value
Mass media (n=157)	.633	.038*		
Health care worker (n=141)	.570	.049*		
School (n=168)			.539	.0380

* Statistically significant at $P < 0.05$.

** High statistically significant at $P < .01$.

Discussion

Viral hepatitis is one of the most common causes of liver disease in the pediatrics population. Acute hepatitis is sometimes serious and may be fatal in children because of their immature immune system. The Egyptian children are at particularly high risk of HBV and HCV infection. "In Egypt "HCV infection is not always benign in the childhood period (Youssef et al., 2013).

Viral hepatitis has become a significant public health problem due to the outbreak that occurs globally (WHO, 2017). There are five dominant types of viral hepatitis, hepatitis A, B, C, D and E. Each form of viral hepatitis has a different mode of transmission, causative agents as well as signs and symptoms (Nazri et al., 2019).

The current study was a descriptive study, aimed to assess the students' level of knowledge about viral hepatitis & level of reported practices related to prevention of viral

hepatitis among preparatory and secondary-school students.

Regarding characteristics of the studied students, the findings of the current study revealed that more than half of studied students were from rural areas and less than two thirds of them were females. This finding was supported by the finding of Jyoti, (2016), who conducted a study to assess the Knowledge and attitude about hepatitis B among secondary school and college students in Bangladesh; found that most of the study populations were females. Also, this finding was in the same line with the study performed by Nazri et al. (2019), who carried out a study about knowledge, attitude and practice of Malaysian Public University Students on Viral Hepatitis, found that more than half of the students were females. Another study conducted by Salem et al. (2015), who carried out a study about knowledge and attitudes regarding hepatitis viruses among secondary-school students in Menoufia governorate, found that more than two thirds of them were females which are

higher than our study. On the other hand, this finding not supported by the finding of *Batholomew, (2011)*, who study about knowledge, attitude and practices concerning hepatitis B among adolescents in the upper west region of Ghana, found that half of them from the rural-urban gradient and more than half of them were males.

As regards total level of knowledge, the current study showed that more than three quarters of the studied students had unsatisfactory level of knowledge about viral hepatitis. This result was supported by *Sami et al. (2015)*, who carried out a study about Knowledge of and risky behaviours towards hepatitis B virus infection among Egyptian school children, who stated that the majority of students were found to have poor knowledge. Also, this study in the same line with the study performed by *Abdel-Mohsen et al. (2016)*, who carried out a study about knowledge and behaviors towards viral hepatitis among Egyptian children, their mothers and pediatricians, who found that the majority of students aged 10–18 years recruited from health insurance outpatient clinics had poor knowledge.

Similarly, *AL-Gashanin and Mustafa, (2013)*, carried out a study about knowledge, attitude and practice of male secondary school students about Hepatitis B in Abha City, Kingdom of Saudi Arabia, who revealed that poor knowledge regarding hepatitis was found among more than half of students and good level of knowledge was found only by the least of them. From the researcher point of view, lack of knowledge about viral hepatitis among students may be due to deficient covering of this important topic in schools, either informally in different school activities, such as health clubs or regular health news, besides health education programs or formally in the form of the school curriculum.

The finding of the current study showed that two thirds of the studied students had satisfactory level of total reported practices. This result was supported by *Atlam et al. (2016)*, who found that more than two-thirds of the participants achieved good practice score.

It was observed from the current study that there was statistically significant positive

correlation between reported practices of the studied students and their total levels of knowledge about viral hepatitis at $P < 0.01$. This finding was supported by *Rathi et al. (2018)*, who carried out a study to assess knowledge, attitude and practices toward prevention of hepatitis B infection among medical students in a high-risk setting of a newly established medical institution and mentioned that there was a positive correlation between the knowledge scores and practice scores of the students ($P = 0.012$). From the researcher point of view, implying that better knowledge about the disease has a positive effect on the practices exercised by children.

Regarding the relation between students' characteristics and total level of knowledge about viral hepatitis. The present study revealed that there was a significant difference between the studied students' total level of knowledge and the age of students, gender, the accompanying of persons in home, ranking and level of education at $P < 0.05$. This finding was agreed with *Sami et al. (2015)*, who reported that factors affecting the knowledge of students about HBV, both age of student, his/her level of education and residence were found to be significant risk factors. Also, this finding in the same line of *Cruz et al. (2018)*, who stated that viral hepatitis perception was associated with the educational level. However, a desirable perception was observed among those who have at least completed secondary school. From the researcher point of view, this may be due to the role of formal education in the dissemination of infectious disease perception.

Concerning the relation between students' characteristics and their reported practices level regarding viral hepatitis, the present study revealed that there was a significant difference between the studied students' total level of reported practices regarding viral hepatitis and the age of students, the accompanying persons in home, level of education, gender and ranking at $P < 0.05$. These results were not agreed with *Atlam et al. (2016)*, who reported that no significant association found between socio-demographic characteristics of the participants and their practices towards B and C viral hepatitis.

Concerning relation between parents' characteristics and level of awareness among the studied students. This study showed that there was a significant difference between the studied students' level of awareness regarding prevention of viral hepatitis and the mothers' level of education, fathers' level of education and number of family members at $P < 0.01$. This finding was not supported by *AL-Gashanin & Mustafa, (2013)*, who found those students' grades of knowledge, attitude and practice did not differ significantly according to their age groups, type of study, scholastic year, residence, father's education, or mother's education. From the researcher point of view, this indicates that high level of education for parents, affects on level of awareness for their children.

Concerning the relation between total level of knowledge about viral hepatitis among the studied students and their source of information, the present study revealed that there was positive correlation between the studied students' total level of knowledge and both the mass media (TV, Radio) and health care worker as a source of information at $P < 0.05$. This finding was supported by *Salem et al. (2015)*, who found that there was a highly statistically significant relation between source of information and level of knowledge about viral hepatitis at $P < 0.01$. Also, Supported by *Nazri et al. (2019)*, who mentioned that there was statistically significant positive good correlation ($r = 0.602$, $P < 0.001$) was found between total scores of knowledge and the sources of information. From the researcher point of view, increasing students' level of knowledge about viral hepatitis through mass media and health care worker as a source of information considered a good indicator for prevention of viral hepatitis.

As regards the relation between total levels of reported practices about prevention of viral hepatitis among the studied students and their source of information. The present study revealed that there was significant positive correlation between the studied students' total level of reported practices and school at $P < 0.05$. This finding was supported by *Nazri et al. (2019)*, who mentioned that there was significant positive but little correlation was also resulted between the total scores of

practices regarding viral hepatitis with the sources of information ($r = 0.298$, $P = 0.001$). From the researcher point of view, this result indicates that relatives and friends & neighbors aren't considered good source of information for improvement practices regarding prevention of viral hepatitis.

Conclusion

Based on the results of the present study, it can be concluded that, more than three quarters of the studied students had unsatisfactory knowledge. Also, two thirds of them had satisfactory level of total reported practices regarding prevention of viral hepatitis. In addition, there was statistically significant positive correlation between total level of reported practices among the studied students and their total levels of knowledge about viral hepatitis. Also, it was concluded that age of students, gender, the accompanying persons in home, ranking, level of education for both the studied students & their mothers, number of family members, mass media, health care worker and school considered as factors that affect the students' awareness about viral hepatitis.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

- 1- Conducting health education programs at schools to raise the awareness of the students about viral hepatitis and its prevention.
- 2- School nurse as a represented member of health team and health educator should take the advantage of the internet to improve their general knowledge about viral hepatitis.

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