

Impact of Instruction Booklet on Nurses Knowledge Regard Hepatitis B & C Among Children in Mosul City

Article information

Article history:

Received July 6, 2020

Accepted September 6, 2020

Available online October 25, 2020

DOI: [10.33899/mjn.2020.167034](https://doi.org/10.33899/mjn.2020.167034), ©2020, College of Nursing, University of Mosul.

Creative Commons Attribution 4.0 International License (https://www.mjn.mosuljournals.com/article_167034.html).

Omar Khairuldeen Khalid ¹

Mazin Mahmoud Fawzi ²

Abstract

Background: Hepatitis (HBV & HCV) a worldwide public health problem distressing millions of people annually. Millions of people are living with viral hepatitis & other millions are at risk. About ((1.3) million deaths annually result of acute hepatitis infection related liver cancer & cirrhosis. Therefore, the nurse's knowledge regard HBV & HCV influences the nature & quality of care that is given to the patient.

Objectives: The study targeted to assess the nurse's knowledge regarding viral hepatitis B & C, evaluate the efficiency of information booklet on nurse's knowledge about viral hepatitis B & C & learn the connection between the scores of post test & demographic variables selected.

Subjects & methods: A pre experimental design of the study method was adopted, one group pre & post test. The study was conducted between 70 nurses conveniently selected from pediatric hospitals in Mosul city. Content validity was determined by presenting the items to a panel of scientific experts.

Results: Pretest was conducted & the information booklet was distributed. The post test was implemented after 14 day. The data analyzed by using differential & inferential statistics. The mean score of pre-test knowledge (11.1571) the mean score of post-test knowledge (20.2857) was apparently greater than the pre-test, recommending that the information booklet was impact in increasing the knowledge of the nurse's regarding HBV & HCV. The mean enhancement in the

¹ M.Sc. student, Nineveh Health director, Mesentery of health.

² Department of pediatrics, college of medicine, University of Mosul. Corresponding author: Mazin Mahmoud Fawzi, E-mail mmf@uomosul.edu.iq Telephone: 009647701702711

knowledge was (9.1286) among pre-test & post-test knowledge score of the nurse's was found to be high significant. Conclusion the mean knowledge of post-test score is statistical significant higher than the mean knowledge of pre-test score so information booklet was effective.

Recommendations: The study recommends that self-learning module was highly impact in increase of nurse's knowledge about HBV & HCV in pediatric hospitals in Mosul city.

Key words: HBV & HCV, Effectiveness of Information booklet, Nurse's knowledge.

Introduction

Hepatitis B & C (HBV, HCV) are a worldwide public health problem impacting millions of persons globally. It's about more than two billion human are infected by hepatitis B virus (HBV) globally, & around 350 million of them suffering from HBV (chronic hepatitis B virus) infection .In addition around 177.5 million carriers of hepatitis C virus (HCV), lead to around 350,000 worldwide deaths yearly. Load of viral hepatitis (HBV & HCV) disease is highest in the developing world & impact resources limited countries, where screening & access to medical service & management are not easily accessible (Demsiss et al., 2018).

In spite of the access & availability of hepatitis B virus vaccines, the worldwide incidence of chronic hepatitis B virus disease is projected to be 3.7% (Lok, 2016). There are about 350 – 400 million person have hepatitis B virus surface antigen "HBsAg" as a carriers & about one million die yearly of due to HBV associated complications (Goldsteiin 2005; WHO 2012).

Hepatitis C virus (HCV) is an infection with high risk global effect, WHO Organization

estimate that there are 130 – 150 million person who have chronic hepatitis C virus (HCV) with significant regional differences. In some countries, like Egypt, the incidence is >10percent , while in Africa & the western Pacific the incidence is higher significantly than in North America & Europe, it is projected around 15 million (2% of adults) hepatitis C virus positive persons in the WHO Europe area (WHO 2016).

Nurses are at significant hazard of exposure to patient blood & bodily fluids in their occupational environment (Mustafa Wahab & Taha, 2016). Wounds result from sharp tools & splashes of blood & body fluids put nurses at high risk for numerous blood-borne infections including hepatitis B & C (Sreedharan et. al., 2010).

Sharps injuries & needle sticks represent a highly significant danger in expert nursing. Studies also have founded that, among all medical care workers, nurses who tolerate the burden of high needle sticks injury (Smith et al., 2006). Follow comprehensive precautions are simple infection preventive measures that decrease the risk of transmission of blood-borne pathogens over exposure to blood

& bodily fluids between patients & medical care workers. (Chan et al., 2002).

Knowledge of health care worker regard hepatitis B & C & its transmission & prevention can break the spread of this infection in hospitals & in community (Ghahramani et al., 2006; Kerbleski, 2005). Inadequate knowledge of risk awareness calls for concern between all people seeing that health staff have a high risk of being infected with HBV & HCV result from their high recurrent of exposure to blood & other bodily fluids also with the high contagiousness of HBV & HCV (Bhat et al., 2012).

Objectives of the Study

1. To assess the nurse's knowledge regard viral hepatitis B & C among children.
2. To construct instruction booklet regarding viral hepatitis B & C among children.
3. To evaluate the effectiveness of instruction booklet on nurses' knowledge regard viral hepatitis between children.
4. To find out association between the post test scores & selected demographic variables such as hospital, gender, age & level of education.

Subjects & methods

Research Approach: A pre experimental research design with pre & post-test to the one group evaluative method was used to evaluate efficiency of the instruction booklet regard HBV & HCV was carried out from (10th October 2019 to 4th February 2020).

Place of the Study: The study was conducted in pediatric hospitals at Mosul city.

Target Population: The sample of the study consists of staff nurses (males & females) who were available during the data collection period.

Sample: The sample consists of (70) nurses working in both hospitals. They were divided into two groups, each group of (35) nurse who were exposed to the an educational program in Ibn-Alatheer pediatric hospital & another group of (35) nurse in Alkhansa" a teaching hospital.

Sampling technique: Select the sample for this study was used non-probability convenience sampling technique.

Tools & data collection

The self-administered knowledge questionnaire was constructed which has three sections include the following:

1. Demographic Data: Include 9 items on personal data such as hospital name, age, sex, education level, total years of clinical experience, field work in hospital, previous participate training regards prevention of viral hepatitis, previous participate training regards infection control & the source of information you have regards hepatitis B & C.

2. Knowledge questionnaire: including 26 multiple choice questions to assess the knowledge before & after administering Information Booklet on nurse's knowledge regard HBV & HCV. All the 26 objective type items were scored. All correct answer was given a score of one & wrong answers a score of zero.

3. Information booklet: has been prepared to include the following

- Knowledge regards hepatitis B & C as general.

- Knowledge regards liver function & signs & symptoms of hepatitis B & C.

- Knowledge regards high risk groups to infection & infection transmission of hepatitis B & C.

- Knowledge regards diagnosis, prevention & complication of hepatitis B & C.

- Knowledge regards management, precaution measurement, & nurse role of hepatitis B & C.

Results

Table -1 Respondents by Gender, Age, Education level, Experience years & Work site.

Characteristics	Categories	Respondents	
		No.	%
Gender	Male	40	57%
	Female	30	43%
Total		70	100%
Age(years)	18 – 27	19	27%
	28 – 37	31	44%
	38 – 47	15	22%
	48 – above	5	7%
Total		70	100%
Educational level	Secondary School of Nursing	15	22%
	Institution of Nursing	30	43%
	Bachelor of Science in Nursing	21	30%
	Postgraduate studies in nursing	4	5%
Total		70	100%
Experience Years	Less than 5	21	30%
	5 – 10	20	28.5%
	11 – 15	20	28.5%
	16 – 20	5	7%
	21 – above	4	6%
Total		70	100%
Site of work	Surgical Pediatric ward	10	14%
	Medical Pediatric ward	10	14%
	Intensive care unit	5	7%
	Pediatric clinic	5	7%
	Premature unit(NICU)	8	11%
	Vaccination unit	2	3.5%

	Thalassemia Center	10	14%
	Tumor & blood disease unit	5	7%
	Emergency unit	2	3.5%
	Operation Room	9	13%
	Others	4	6%
Total		70	100%

Table 1 demonstrates the distribution of respondents according to gender, age, education level, experience years & work site. Males were participated (57%) more than females (43%). The maximum respondents were in the age group of 28-37 years (44%) followed by 18-27 years (27%) & (22%) were found in the age group of 38-47 years. Most of respondents (43%) were found with the educational level of nursing institution followed by 30% with bachelor of science in

nursing & further (22%) noticed with secondary school of nursing of education. Majority of the respondents emerge with experience years of less than 5 years was (30%) followed by (28.5%) with experience years for both 11-15 years & 5 -10 years. Majority of the respondents work in surgical pediatric ward, medical pediatric ward & thalassemia center for each was (14%) & followed by 13% with operation theater.

Table 2 Aspect wise of Pre-test & Post-tests Mean Knowledge scores N= 70

Sl. No	Aspects	Max Score	Pre – test		Post – test		Enhancement		Paired t - Value
			Mean	SD	Mean	SD	Mean	SD	
1	General knowledge about viral hepatitis	5	2.1571	0.8450 3	3.8571	0.8215 5	1.700 0	1.0264 6	13.857 *
2	Knowledge about liver functions & signs & symptoms of HBV&HC V	5	2.2571	0.9118 5	3.9286	0.8396 2	1.671 4	1.1127 9	12.567 *
3	Knowledge about high risk groups & mode of transmission of HBV&HC V	5	2.1714	0.8676 4	3.8286	0.8335 6	1.657 2	0.9150 2	15.152 *

4	Knowledge about diagnosis prevention & complications of HBV&HCV	5	2.0429	0.8586 4	3.8286	0.7796 6	1.785 7	1.0199 9	14.648 *
5	Knowledge about treatment , universal precautions & nurse role	6	2.5286	0.7934 8	4.8429	0.8100 0	2.314 3	0.9561 8	20.250 *
Combined		26	11.157 1	3.0863 7	20.285 7	2.8647 9	9.128 6	3.5749 6	21.364 *

*Significant at 0.05 Level

Table 2 indicates the total of pre test & post test mean knowledge score which reveals that post test mean knowledge result was show higher (20.2857 & SD of 2.86479) when compared with pre test knowledge score value which was (11.1571) with SD of (3.08637). The statistical paired t-test show that the difference in the pre-test & post test

knowledge score found higher significant at level $P < 0.05$. Further, the enhancement result was (9.1286) with SD value (3.57496). The paired t-value worked out to be (21.364) reveals that founded a statistical significant in the enhancement results indicating the impact of effectiveness of information booklet on Nurses knowledge regarding hepatitis B & C among children.

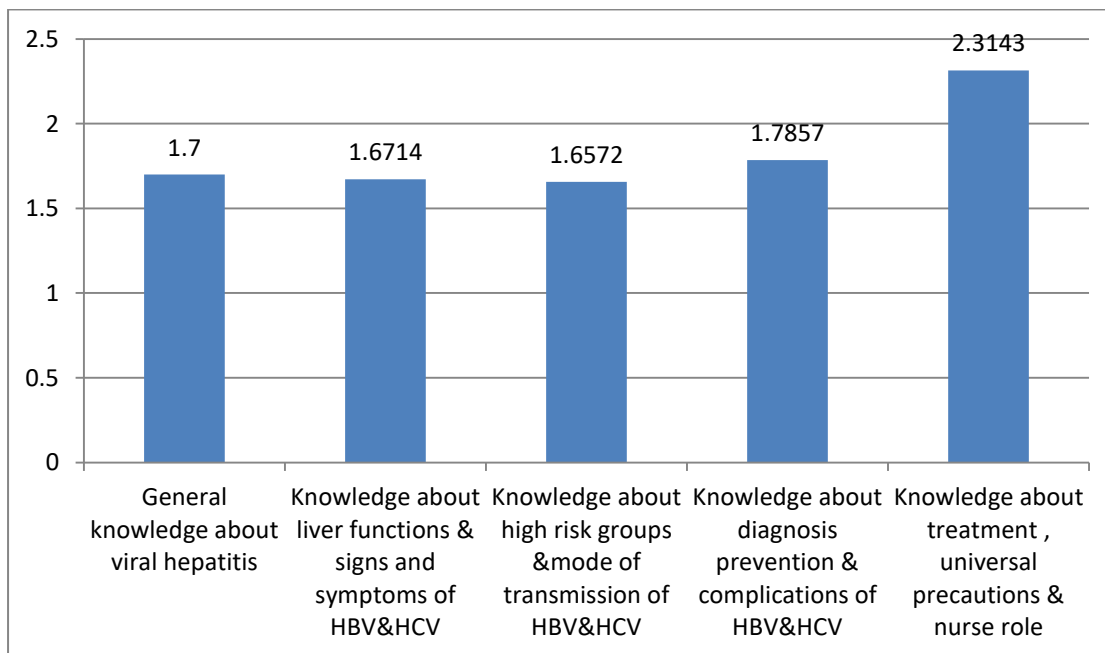


Figure 1 show the Mean Enhancement of Knowledge scores of Pre-test & Post tests
Discussion

Throughout the course of data analysis the total number of study samples was 70 nurses , it depicted that higher participated of male was 40 (57%) than female participate 30 (43%), (Table 1). This result is in an agreement with study done by (Mohamed , 2009) who found that (63%) of his study sample were male (higher), because of, keeping females away from this job(may reflect a social background). The age group of (28-37yr) accounted a highest proportion (44%), (Table 1). This age group is considered as an adult youth, which can provide & perform nursing intervention efficiently & correctly, since most of the nurses who have many years of service period move away to the primary health sector, the younger nurses could stay in the hospital care. This is in agreement with the study conducted by (Abdulla & Abdulla, 2014), who show that the largest proportion of the study samples were among age group (20-29yr). After the implementation of the information booklet on the study group, post-test was administered for both groups two weeks after the program. Results indicated that there is a significant difference in the post-test for study group (Table2). The knowledge respondents in the pretest assessment of the education program indicates that there were low score findings in study group (M =11.1571) as shown in (Table 2), this means that nurses have had inadequate knowledge in concerning to HBV & HCV while the knowledge respondents in post- test assessment of educational program that were high score findings in study group (M =20.2857) with the enhancement in the

knowledge by (9.1286). as shown in (Figure 3).

This indicates the impact of Information Booklet on nurses knowledge regard HBV & HCV. The results of paired t-test founded the significant result in enhancing of the pre- test & post- test knowledge scores between all the aspects under study (highly significant improvement effect on knowledge respondents). This result agrees with (Mustafa Wahab & Taha, 2016), this study founded that nurse's knowledge regard hepatitis B virus(HBV) was insufficient before the educational program (pre- test 22.2667) & improved after participation in the program (post- test 42.1000).

This result agrees with (Abdulla & Abdulla, 2014), which concluded that nurse's knowledge regard hepatitis B virus (HBV) & uses of protective measures was insufficient before the educational course, & enhanced after involvement in the course. This study revealed high statistical significant differences among knowledge around comprehensive precautions related blood & bodily fluids from pre & post education.

Conclusions

- Inadequate nurses' knowledge regarding general information to hepatitis B & C virus before the implementation of information booklet in pre-test.
- Efficiency of instruction booklet to improve the mean nurse's knowledge regarding Hepatitis B & C.

- There is statistically significant difference in mean knowledge score of pre-test & post-test among each demographic characteristics variable.
- Hospitals, age, & gender variables have Significant statistical differences regarding hepatitis B & C virus knowledge in post – test scores.

Recommendations

- Ministry of health is recommended to prepare a comprehensive guide book on hepatitis B virus(HBV) & hepatitis C virus(HCV) in order to raise nurse's knowledge of this disease at all hospitals.
- Repeatedly regular courses of training on HBV & HCV are recommended in order to ensure nurse's knowledge & efficiency in this regard, & confidence of dealing with patients having this disease.
- It is recommended to have a booklet about the instructions & the rules to prevent the spread of HBV & HCV in all departments of the hospitals.
- Conducting periodic laboratory examinations of all midwives & nurses within the hospital for the early detection of the hepatitis B virus & hepatitis C virus to prevent its spread.

References

Abdulla, S., Abdulla, Z. (2014). Effect of an educational program on nurses' knowledge & practices toward Hepatitis B virus in emergency hospitals in Erbil. Zanco J. Med. Sci. 18 (1): PP.618-624.

AL-Simady,A.(2006). Assessment of Nursing

Knowledge & Practice concerning Cardiogenic Shock. University of Mosul, Unpublished MSc Thesis. p. 74.

Bhat, M., Ghali, P., Deschenes, M., Wong, P. (2012). Hepatitis B & the infected health care worker: public safety at what cost? *C&ian journal of Journal Gastroenterology*. 26(5):pp.257-260.

Chan, R., Molassiotis, A., Chan, E., Chan, V.,Ho, B., Lai, C. Y., Lam, P., Shit, F. & Yiu, I. (2002). Nurse knowledge of & compliance with universal precaution in an acute care hospital. *International Journal of Nursing Studies*. 39(2):pp.157-163.

Coile, R. (2005). Assessing Health Care Market Capital Trends & Capital Need. *Health Care Finance Manage*. 49(8). P. 60.

Demsiss, W., Seid, A., & Fiseha, T. (2018). Hepatitis B & C: Seroprevalence, knowledge, practice & associated factors among medicine & health science students in Northeast Ethiopia. *PLoS ONE*, 13(5), 1–12. <https://doi.org/10.1371/journal.pone.0196539>.

Ghahramani, F., Mohammad bergi, A., Mohammad Salehi, N.(2006). Survey of the Students' Knowledge about Hepatitis in Shiraz University of Medical Sciences. *Hepatitis Monthly*. 6(2): pp.59-62.

Goldstein, S. T., Zhou, F., Hadler, S. C., Bell, B. P., Mast, E. E., & Margolis, H. S. (2005). A mathematical model to estimate global hepatitis B disease burden & vaccination impact. *International journal of epidemiology*, 34(6), 1329-1339.

Lok AS, McMahon BJ, Brown RS Jr, et al. (2016). Antiviral Therapy for Chronic Hepatitis B Viral Infection in Adults: A Systematic Review & Meta Analysis. *Hepatology*.;63:284-306.

Mohamed,S.(2009). Effectiveness of Educational Program on Nurses Knowledge & Practices Toward Skin Care & Prevention of

Pressure Ulcer for Spinal Cord Injured Persons; ph, D dissertation, college of nursing. University of Baghdad. P.118.

Mustafa Wahab, M. M., & Taha, T. H. (2016). The Effect of an Educational Program on Nurses' Knowledge about Hepatitis B Virus (HBV) in Ninawah Governorate Hospitals. *Mosul Journal of Nursing*, 2(1), 1–1. <https://doi.org/10.33899/mjn.2016.160041>.

Najem, S. (2004). Nursing Role During Magnetic Resonance Imaging. College of Nursing-University of Mosul, Unpublished MSc Thesis. p. 60.

Smith, D., Ae- Choe,M., Jeong,J., Jeon, M.,Chae, Y., Ju An,G. (2006). Epidemiology of Needle stick & Sharps Injuries Among Professional Korean Nurses. *Journal of*

Professional Nursing. 22(6): pp.359-366.

Sreedharan, J., Muttappallymyalil, J., Venkatramana, M. (2010). Knowledge & practice of standard measures in occupational exposure to blood & body fluids among nurses in a University Hospital in the United Arab Emirates, *Italian Journal of Public Health*.7 (1):P.90.

WHO, Factsheet No 164, July (2016). <http://www.who.int/mediacentre/factsheets/fs164/en/>, accessed December 26, 2016.

World health organization (2012). Hepatitis B Fact sheet No 204 Revised July 2012 <http://www.who.int/mediacentre/factsheets/fs204/en/>