

Effectiveness of an Educational Program on Nurses Knowledge's Regarding Prevention and Precautions for Patients with Hepatitis Type (C) in AL-Suwairah General Hospital, Iraq

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Abstract

Objectives: the study aimed at assess nurses' knowledge Prevention and Precautions for Patients with Hepatitis Type C; and determine the effectiveness of the educational program on nurses' knowledge Prevention and Precautions for Patients with Hepatitis Type C.

Methodology: Quantitative research quasi-experimental design study conducted on two groups of nurses in order to identify and improve their awareness about this disease by using a questionnaire form and educational program in AL-Suwairah General Hospital. By a non probability purposive sample consists of 60 nurses .

Results: Findings illustrated there is a non-significant difference between the study and control groups in the pre-test at p-value more than 0.05, while there is a high significant difference between the study and control groups at the post-test with p-value less than 0.01. With respect to the statistical mean the study results indicate that there is an improvement in the study group responses after the application of the program compared with the control group.

Conclusion: Knowledge in terms of prevention and precautions for patients with hepatitis type C, nurses were deficit knowledge. There is no differences between the knowledge in both study and control groups in the pretest. There were improving in nurses' knowledge after post-test among study group for educational program concerning prevention and precautions for patients with hepatitis type C.

Recommendations: Encouraging nurses to be enrolled in training sessions to improve their knowledge to keep them up to date toward prevention and precautions for patients with hepatitis type C. Reassessment and follow-up for nurses need to be applied after education session to monitor, evaluate and to promote their knowledge to ensure their application in job.

Keywords: Effectiveness, Educational Program, Knowledge's, Hepatitis type C.

INTRODUCTION

Hepatitis C virus (HCV) infection is considered a major cause of liver-related mortality and morbidity worldwide, rendering it an important public health problem. It is estimated by the World Health Organization (WHO) that 71 million people are infected with HCV globally, which represents approximately 1% of the population. The prevalence of HCV infection in children aged 1-year-old to 19-years-old is 0.15%, corresponding to 3.5 million people (Indolfi , et al., 2019)

Viral hepatitis as a consequence of a chronic infection with the hepatitis C virus (HCV) is one of the leading causes of liver inflammation worldwide ,Approximately 130 to 150 million people worldwide have chronic hepatitis C infection (WHO, 2017). according to Centers for Disease

Control (**Hassan, et al., 2020**) Then 500,000 individuals die from hepatitis C–related diseases every year. Evidence indicates that the antiviral treatment for hepatitis C virus infection has been successful. However, many side effects, including discomfort symptoms of oral ulcers, will induce discontinued treatment. Inappropriate oral hygiene may worsen the side effects and increase the risk of dropping out of the treatment.

Chronic hepatitis C virus (HCV) infection is a public health problem, with about 71 million people infected worldwide. It is a leading cause of liver related morbidity and mortality through its predisposition to liver, fibrosis cirrhosis, and liver cancer. Each year, hepatitis C causes approximately 399,000 deaths worldwide, mostly from cirrhosis and hepatocellular carcinoma (**WHO, 2017**).

METHODOLOGY

Quantitative research quasi-experimental design study conducted on two groups of nurses in order to identify and improve their awareness about this disease by using a questionnaire form and educational program in AL-Suwairah General Hospital. A non probability purposive sample consists of 60 nurses has been chosen, all of them working in AL-Suwairah General Hospital, this sample was divided into two groups, 30 nurses as a study group, and other 30 nurses as a control group. This sample was selected from hospital departments randomly and determine the place of study group and place of control group as following:

- The sample of study group has been chosen from hospital wards, operation room , emergency department and Surgical internists department.
- The number of nurses who are opted to study according to their availability at this department
- Nurses work in AL-Suwairah General Hospital regardless their job title.
- Nurses who is work duration in hospital is more than one year.

Method of data collection: After completing the required approvals, data was collection through the use of a questionnaire "self-administrative" nurses. The researcher gathered the questionnaire from the participants after distributed it's for each nurses staff on individual bases.

Methods of Statistical: The used SPSS-ver.20 in order to analyze and evaluate the study data is used for "Methodology of statistical data used descriptive analysis to describe the study variables: frequencies and percentages; inferential statistic include t-test and one way ANOVA test".

Mean <1.5 considered suffers of Challenges, Mean \geq 1.5 considered without of Challenges

RESULTS

Table 1:Descriptive Statistic of Socio-Demographic Characteristic of the Study Sample in both (Study and Control)

Demographic Data	Groups	Study Group		Control Group	
		Freq.	%	Freq.	%
Age / Years	20 – 24 years	12	40.0	8	26.7
	25 - 29 years	5	16.7	11	36.7
	30 - 34 years	5	16.7	8	26.7
	35 - 39 years	1	3.3	0	0.0
	40 - 44 years	3	10.0	2	6.7

	45 and older	4	13.3	1	3.3
Gender	Male	12	40.0	11	36.7
	Female	18	60.0	19	63.3
Monthly income	Sufficient	13	43.3	12	40.0
	Sufficient to some extent	14	46.7	12	40.0
	Insufficient	3	10.0	6	20.0
Education level	Nursing School	2	6.7	1	3.3
	Nursing secondary	14	46.7	5	16.7
	Nursing Institute	9	30.0	14	46.7
	College of Nursing	4	13.3	10	33.3
	Postgraduate	1	3.3	0	0.0
Marital Status	Single	19	63.3	21	70.0
	Married	10	33.3	8	26.7
	Widow	1	3.3	1	3.3
Years of experience	<5 years	17	56.7	12	40.0
	5-10 years	8	26.7	10	33.7
	>10 years	5	16.7	8	26.3
Workplace	Operations	10	33.3	10	33.3
	Emergency	10	33.3	10	33.3
	Surgical	10	33.3	10	33.3

(Freq.): Frequency, (%): percentage,

Table 2: Statistical distribution of the Study Group by their overall responses with Significant Difference between Pre-Test and Post-Test Scores

Overall Assessment Study Group	Pre-test				Post-test				t-value=10.770 d.f. =29 p-value=0.000 HS
	F.	%	M.s	S.d	F.	%	M.s	S.d	
Fail	27	90	1.16	0.346	3	10	1.87	0.32	
Pass	3	10			27	90			
Total	30	100			30	100			

(M.s) mean of score 1.5 , (S.d) stander deviation ,(Ns): Non-significant (S): significant , (T value): t-test, (D f): degree of freedom

Findings illustrated that there is a high-significant difference between the study group overall responses in two periods of measurements (pre-test and post-test) at p-value less than 0.01, with respect to the statistical mean, the study results indicate that there is an improvement in the nurses knowledge at the post-test compared with pre-test scores.

Table 3: Statistical distribution of the Control Group by their overall responses with Significant Difference between Pre-Test and Post-Test Scores

Overall Assessment for Control Group	Pre-test				Post-test				t-value=0.000 d.f. =29 p-value=1.000 NS
	Freq.	%	M.s	S.d	Freq.	%	M.s	S.d	
Fail	29	96.7	1.12	0.297	29	96.7	1.10	0.235	
Pass	1	3.3			1	3.3			
Total	30	100.0			30	100.0			

(M.s) mean of score 1.5 , (S.d) stander deviation ,(Ns): Non-significant (S): significant , (T value): t-test, (D f): degree of freedom

Findings illustrated that there is a no significant difference between the control group overall responses in two periods of measurements (pre-test and post-test) at p-value more than 0.05, with respect to the statistical mean, the study results indicate that there is an not improvement in the nurses knowledge at the post-test compared with pre-test scores.

Table 4: Mean Difference (Independent Sample t-test) between the Study and Control Group responses at pre-test and post -test

Periods of measurements	Groups	N	Mean	S.d.	t-value	d.f.	p-value
Pre-test	Study	30	1.16	0.346	1.027	58	0.309 NS
	Control	30	1.12	0.297			
Post-test	Study	30	1.87	0.320	13.350	58	0.000 HS
	Control	30	1.10	0.235			

This table shows that there is a non-significant difference between the study and control groups in the pre-test at p-value more than 0.05, while there is a high significant difference between the study and control groups at the post-test with p-value less than 0.01. With respect to the statistical mean the study results indicate that there is an improvement in the study group responses after the application of the program compared with the control group.

DISCUSSION

Nurse's knowledge questionnaire items towards prevention and precautions for patients with hepatitis type C, which classified in five axis (main domains), such that "knowledge of hepatitis C disease, knowledge of hepatitis C transmission methods, knowledge of precautions regarding giving injections to patients with hepatitis C virus, knowledge of the measures and treatment of patients with hepatitis C virus and knowledge of prevention and precautions with hepatitis C virus", using questionnaire's items technique which were classify in to two categories responses, such as "correct and incorrect" along studied (Pre, and Post) periods due to application an educational program for study group, as well as controlled group are chooses for comparisons significant.

Demographic Factors of Descriptive Statistic

Findings demonstrated the distribution of the nurses their demographic characteristics in term of frequencies and percentage (control versus study). Age of the nurses ranged from 20 years and above, revealed that the majority (40%) of nurses in the study group are within the age 20-24 years, while (36.7%) of nurses in the control group their age 25-29 years. Due to the nature of work, the

operation, emergency and surgical wards need to be young nurses. As well as, this age group which can provide and perfect nursing intervention efficiently and 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. These results are consistent with the study conducted by **(Abdulla and Abdulla, 2014)** who show that the largest proportion of the study samples were among age group (20-29). Also, results come with results of study conducted in Diwaniya Teaching Hospital and deals with prevention of hepatitis.

Findings related to gender, demonstrated the female nurses were predominate in both groups study-control, it constituted (60% and 63.3%) respectively. As being the female more responses to participants in the study. Our findings agree with study conducted in Nigeria, deals with hepatitis precautions among nurses. The majority of the respondents 96 (60%) are female while 64 (40%) are male **(Abubakar, et al., 2015)**

The majority of nurses make sufficient to certain limit of monthly income and secondary nursing graduated in study group, which composed (46.7%), while control group make sufficient to a certain limit sufficient of monthly income. The monthly income is determined according to the needs, so most of the income of these groups is known and those come with variables were analyzed with hepatitis infection by calculating means and standard deviations. They declared that nurses had a monthly sufficient income **(Khan, , et al., 2016)**.

Among our findings the percentage of diploma degree was higher among nurses, it recorded (46.7) out total number in control group. While, the study group the percentage of secondary nursing graduated was higher among nurses, because most of the nurses in hospitals are with the secondary certificates and diploma and the nursing colleges in Iraq during the past time was very few and most of them were established lately, therefore the number of nurses who graduated from nursing collage is a little if compared with the other nurses. This result agreed with that of the study of **(Joukar. et al., 2017)**, they illustrated that graduated with diploma were more than other graduated nurses.

In terms of marital status, both study-control groups were single and constituted (63.3% and 70%) respectively. This was agreed with a study of **(Adekanle . et al., 2015)**, who found that percentage of single nurses was higher than those who are married. In contrast to the results that emerged in Diwaniyah Hospital which conducted by **(Hassan and Muhbes , 2020)**. Most of nurses were married because most of these age groups are the age of marriage, especially after the completion of the study and appointment in the field of nursing, the differences due to different gender, in our finding female nurses, while the results from Diwaniyah Hospital was male and married.

Most of study participants were have less than 5 years of employment and work 1-5 years in operation, emergency and surgical wards with one session of training. The few years of nursing experience in selected wards could be explained by the fact that have a frequent rotating from one unit to another within the hospital. Findings come with results from health care workers in Saudi Arabia. They found that most of nurses work in specialist areas of hospital (work load) were have less years of employment due to frequent transportation among wards from period to period **(Alrowaily. et al., 2016)**.

Overall knowledge responses in study and control with Significant Difference between Pre-Test and Post-Test Scores

Findings illustrated that there is a high-significant difference between the study group overall responses in two periods of measurements (pre-test and post-test) at p-value less than 0.01, with

respect to the statistical mean, the study results indicate that there is an improvement in the nurses knowledge at the post-test compared with pre-test scores.

In comparison, the findings illustrated that there is a no significant difference between the control group overall responses in two periods of measurements (pre-test and post-test) at p-value more than 0.05, with respect to the statistical mean, the study results indicate that there is an not improvement in the nurses knowledge at the post-test compared with pre-test scores.

The deficit knowledge pretest in both study and control groups regarding hepatitis C virus might be due to several reasons; the nurses do not develop and update their knowledge continuously, most of nurses who work in health institutions quit book reading so they do not follow up and only indulge in nursing practices, consequently they became unable to remember some information particularly the knowledge that related to hepatitis infection.

Our findings come in the same line with a pretest and posttest quasi-experimental design. The results of this study emphasized that scores of knowledge among studied subjects were increased after participation in the education program. While the control group did not see any improvements in knowledge. Therefore, the study recommends continuing training programs, utilizing young energies and providing health resources at the workplace, which is important in the workplace (Mohamed, et al., 2011).

In South Africa, the overall, knowledge on notification of viral hepatitis was poor among health care professionals especially nurses and need to be educational program and adequate training to referrals to increase linkage to care (Mathatha, et al., 2011)

In Iraq, study of (Hassan and Muhbes, 2020) mentioned that nurses with moderate level of knowledge regarding hepatitis were in medical or surgical ward and hemodialysis unit to involve in educational courses to raise their knowledge regarding general information and the main principles regarding precautions and prevention with patients hepatitis. As well as, as the country went through a war crisis and medical equipment and training courses were not available, which led to limitation of knowledge (an health resources play an important roles in knowledge aspects) (Al-Jubouri, 2014). In Mosul City 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 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 (Khalid, et al., 2020)

It is important to note the importance of the nurses' knowledge in the workplace which is confirmed study deals with nursing implications from the hemodialysis to discharge: therapy following prevention of infections. Its confirmed that nurses, who have a unique knowledge of safe handling and patient care, can improve staff safety and patient outcomes in several areas of healthcare organizations, as well as reduce the mortality and morbidity of hepatitis by learning more about the disease (Washburn, 2017).

Mean Difference (Independent Sample t-test) between the Study and Control Group responses at pre-test and post -test

Findings shows that there is a non-significant difference between the study and control groups in the pre-test at p-value more than 0.05, while there is a high significant difference between the study and control groups at the post-test with p-value less than 0.01. With respect to the statistical mean the study results indicate that there is an improvement in the study group responses after the application of the program compared with the control group, which assigned effectiveness of the studied educational program through raising knowledge grades regarding nurse staff in study group, and that be enable to confirms importance or successfulness of applying the suggested program.

In the same directory there are results of study that confirmed that knowledge of nurses about hepatitis and uses of preventive measures was inadequate before the educational program, and improved after participation in the program. This indicates a positive effect and high compliance with the education program, and this means that the education program was effective on improving the nurses' knowledge (**Abdulla, et al., 2014**)

Also, findings consisting with findings from Nin

avah Governorate Hospitals. The results of the study showed that the effect of educational program regarding nurses' knowledge toward hepatitis is positive, The results also showed the differences of statistically highly significant differences in the knowledge of nurses after implementation of the educational program about HBV compared to their knowledge in the period preceding the implementation of the program in study group (**Mustafa, et al., 2016**).

CONCLUSIONS

Knowledge in terms of prevention and precautions for patients with hepatitis type C, nurses were deficit knowledge. There is no differences between the knowledge in both study and control groups in the pretest. There were improving in nurses' knowledge after post-test among study group for educational program concerning prevention and precautions for patients with hepatitis type C.

RCOMMENDATION

Encouraging nurses to be enrolled in training sessions to improve their knowledge to keep them up to date toward prevention and precautions for patients with hepatitis type C. Reassessment and follow-up for nurses need to be applied after education session to monitor, evaluate and to promote their knowledge to ensure their application in job.

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