

Effect of an educational program on chronic viral hepatitis C patients' knowledge related to Hepatitis C Virus disease

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ABSTRACT

Background: Hepatitis C virus infection is the major etiological agent of chronic hepatitis and liver disease worldwide. It is estimated that approximately 130-210 million individuals of the world population are chronically infected with HCV. Egypt has the highest prevalence of HCV worldwide, representing 15% of the general population in Egypt. HCV is responsible for almost 90% of infections that cause chronic liver disease and death in the country. **Objective.:** The aim of this study was to evaluate the effect of an educational program on chronic viral hepatitis C patients' knowledge related to Hepatitis C Virus disease treated by pegylated alpha interferon and ribavirin combination therapy. **Subject and methods:** the research design: was quasi experimental. The sample constituted of 216 hepatic C patients was classified into two equal groups: control and study, treated by alpha pegylated interferon and ribavirin combination therapy in El-Tadamon hospital in Port -Said city. The tool that is used for data collection was hepatitis C virus patient's knowledge structured interview sheet. **The results:** revealed that there was an improvement in the level of knowledge in the study group rather than the control group with a statistically significant difference, immediately, and after three and six months of the program. **conclusion:** The study concluded that implementation of the designed health education program was successful in improving patients' knowledge. **Recommendations:** The study recommended development of a health education unit in each specialized liver center with the availability of qualified and trained nurses. Nurses should hold sessions to provide health education and counseling for these patients.

Key Words: Education program, Patients' Knowledge, Viral Hepatitis C.

INTRODUCTION

Hepatitis C is a disease with a significant global impact. According to the World Health Organization there are about 130-210 million people chronically infected with the hepatitis C virus (HCV), corresponding to 2- 2.5% of the world's total population (*CDC, 2015*). Hepatitis C is classified into acute and chronic hepatitis C. Acute hepatitis C refers to the first 6 months after infection with HCV; between 60% to 70% of people infected by acute HCV develop no symptoms during this phase, only a minority of patients who experience acute phase have symptoms, they are generally mild and nonspecific, and rarely lead to a specific diagnosis of hepatitis C. Symptoms of acute hepatitis C infection include decreased appetite, fatigue, abdominal pain, jaundice, itching, and flu-like symptoms (*Medrano et al., 2010*).

Knowledge play an important role for patients by helping them feel more in control of diseases, obtain information from variety of sources including print and on line materials, support groups, educational programs, nurses and other health care providers. Nurses should help patients to identify reputable sources of high quality health information. Patients with hepatitis C usually want information about HCV infection including risk factors, mode of transmission, disease progression, treatment and side effects of treatment. Sometimes they want specific technique information such as techniques for giving themselves antiviral injection (*Herring, 2010*).

Nurses can offer people information about ways to maintain their health and minimize further damage of the liver such as eating well balanced diet, low fat, high fiber diet, unless advised to follow a special diet because of other health problems, maintaining normal weight and avoiding obesity, exercising regularly, avoiding intake of alcohol, trying to maintain normal work and recreation activities, checking with physician before starting any new medicines including over the counter medications and herbal or homeopathic preparations, seeking advice on getting immunized against hepatitis A and hepatitis B and being monitored regularly by a health care team(*Lewis et al., 2009*).

Nurses help patients to access sources of support from family, friends and health care providers through meeting support groups, telephone contacts and online chat group. Also nurses help family and friends to support patients with hepatitis C. Therefore, there

is a need to provide those patients with health education to cope with their disease and improve their knowledge related HCV to enhance their quality of life.

Significance of the Study

Hepatitis C virus is a significant nursing problem because of the high prevalence of the population affected and the serious consequences of uncontrolled chronic hepatitis C (CHC). In Egypt, HCV infection rates are increasing at an alarming rate leading to a burden disease. Prevalence rates are ten to twenty folds higher than those reported in most countries worldwide. Many studies as *El- Berdan, (2013)* revealed that CHC patients haven't knowledge about their disease so, there was an important need to conduct this study to identify unhealthy behaviors to develop a health education program for them. This study will contribute to improving conditions of those patients, as well as helping in preventing and controlling infection to other people through health education.

AIM OF STUDY:

To evaluate the effect of an educational program on chronic viral hepatitis C patients' knowledge related to hepatitis C virus disease treated by pegylated alpha interferon and ribavirin combination therapy. This was achieved through:

Objectives

1. To assess CHC patients' knowledge related to their disease.
2. To develop the education program on chronic viral hepatitis C.
3. To implement an education program on the patients' treated by pegylated alpha interferon and ribavirin combination therapy.
4. To evaluate the effect of the education program on chronic viral hepatitis C patients' knowledge related to their disease treated by pegylated alpha interferon and ribavirin combination therapy.

Research Hypotheses

H1: After completion of the education program, patient's knowledge scores about their disease would be higher than before implementation of the program.

H2: Patients who receive the education program will have higher knowledge scores than those who don't.

SUBJECT AND METHOUD :

Research Design:

A quasi experimental research design (non-equivalent group design).

Subjects:

The estimated sample size was 196 chronic hepatitis C (CHC) patients. After adjustment for a dropout rate of 10%, the sample size was increased to 216 patients.

Those patients were classified randomly into two equal groups: control and study each group 108 patients for each.

Setting:

The study was conducted in the interferon unit at El-Tadamon Hospital in Port Said city; it is a health insurance hospital that services all patients in Canals' cities, Damietta and Sinai.

Tools for data collection:**Patient's Knowledge about Hepatitis C Virus Structured Interview Sheet:**

Structured interview sheet was designed based on the master thesis El- *Berdan* (2013) to assess patient's knowledge related to viral hepatitis C infection. It was consisted of three parts:

Part (I): Socio-demographic data :(included; gender, age, level of education, occupation, marital status, residence, crowding index and family income)

Part (II): Medical background data: *This part included data related to the following areas:*

A- Past family history of patients.

B- Past Medical History : Included onset, symptoms and duration of disease, presence of other chronic diseases, drug history, past hospitalization , prescribed treatment and history of surgeries , blood transfusion, previous dental procedures , anti-bilharzias (tartar) therapy, history of needle stick injuries and sharing infected equipment with HCV.

C- Present Medical History: Included the present signs and symptoms related to HCV patient complaints and the adverse effects of interferon therapy.

Part (III): Included items related to patients' knowledge about hepatitis C : It was composed of 12 items addressed knowledge of patients enrolled in the study about hepatitis C virus infection. It was used to measure patients' knowledge in relation to the following items : definition , signs, symptoms , risk factors , mode of transmission , diagnostic procedures needed for HCV diagnosis, complications and treatment of CHC patients that included contraindication , follow up , duration of treatment and side effects of Pegylated alpha interferon and Ribavirin combination therapy. This part was used as pre/post test for the study and the control group.

Patient's knowledge scoring system:

Patient's total knowledge score was calculated to be 36 points that answers were scored on 3 point - likert scale ; a score of 3 was given to correct and complete answer while 2 scores was given to partially correct answer, and one score was given to wrong answer.

The total score was and converted to percentage, patient knowledge was calculated as following:

- A total score $\geq 60\%$ was considered as a satisfactory level of knowledge.
- A total score $< 60\%$ of the maximum score was considered an unsatisfactory level of knowledge.
- Content Validity: The tools were tested for their content validity by ten medical experts in hepato-pancreato-biliary surgery and internal medicine and eleven nursing academic experts in Med-Surgical Nursing then appropriate modification was done accordingly.

Methods of study:

- An official permission was obtained from the directors of the interferon unit at El-tadamon Hospital in Port-Said city, through an official formal letter from the dean of The Faculty of Nursing Port Said University.
- Informed consent was obtained from each CHC patient in the study after explaining its purpose and importance. Confidentiality of the information was assured by the researcher.
- A pilot study was carried out after the development of the tools. It was carried out on 10% of participants (22 patients with chronic hepatitis C virus) to test the reliability and applicability of the tools of the study. The necessary modification was done based on the results of the pilot study. Those CHC patients were excluded from the subjects of research.
- The actual study was conducted through four phases: assessment phase, program development phase, implementation phase and evaluation phase.

I. Assessment phase:

- In this stage, the researcher assessed CHC patients' learning needs using patient's knowledge assessment part. The researcher distributed the sheet to each patient and asked them to complete it. The tool was filled in about 30 minutes to an hour. Also, Red Cross organization in Port-Said city assisted the researcher in organization of the class of sessions, equipment and supplies as (Computer-data show, Posters, flannel board and camera).

II. Educational program development phase:

- The training program was developed based on the identified needs and demands of CHC patients gathered in phase I. In the light of the most recent pertinent literature and based on *El-Berdan* master thesis (2013). This phase included the following:

A -Objectives:- Improving CHC patients' knowledge related to HCV disease

B-Contents: Covered all areas about hepatitis C virus infection which include: definition, signs & symptoms, risk factors, mode of transmission, diagnostic procedures needed for HCV diagnosis, complications and treatment of CHC patients that included contraindication, follow up, duration of treatment and side effects of Pegylated alpha interferon and Ribavirin combination therapy.

C-Planning: In this step the researcher designed a plan for a training program implementation. This plan included visiting the interferon unit in El – Tadamon hospital in Port- Said city twice weekly (Saturday and Sunday) in the morning and afternoon shifts that applied the program in four sessions for one month that every session was

repeated twice weekly, one on Saturday for females in the morning shift and on males in afternoon shift. Every session lasted for 30 to 45 minutes and the second session for non-educated CHC patients at Sunday where females in morning shift while males in afternoon shift and every session lasted for 45 to 90 minutes.

C- Clinical area preparation:

- A written permission was obtained from the director of El- Tadamen Hospital and the head of interferon unit in Port- Said city, to carry out the study after introducing the objectives and significance of the study aim.
- CHC patients were informed to participate in the study according to their needs. The study was carried out only on patients who participated in all sessions of the education program.
- Many copies of the questionnaire and the education program were prepared by the researcher to facilitate learning and evaluation CHC patients' knowledge related their disease.

III-Program implementation:

- The study group was divided into four subgroups to achieve the best results through homogeneity regarding gender and level of education (27 patients each).
- A copy of HCV illustrated booklet and film about knowledge of HCV infection on a copy – right disk CD was given to educated CHC patients while HCV illustrated brochures was given to uneducated CHC patients to facilitate remembering the knowledge .
- The education program was given to patients of the study group only, in a clear and concise manner. The researcher used selected adult teaching methods as role playing and discussion, and teaching media as films, videos, data show and brochures. CHC patients had opportunity to discuss their own experience and the researcher was clarified any queries and explained the unknown issues.

IV- Evaluation phase:

To evaluate the effect of the program, pre/post test was given to both study and control groups, immediately after program implementation, three months and six months after program implementation. At the end of the program evaluation, the educational booklets, brochures and videos on copy- right disk CD were given to the control group to provide the same educational opportunity for all subjects. To collect data in the above mentioned duration, this necessitated visiting the interferon unit in El – Tadamon hospital in Port- Said city twice weekly (Saturday and Sunday) in the morning and afternoon shifts twice weekly, one on Saturday for females in the morning shift and on males in afternoon shift. Every session lasted for 30 to 45 minutes and the second session for non-educated CHC patients at Sunday where females in morning shift while males in afternoon shift and every session lasted for 45 to 90 minutes.

Statistical analysis of data:

Up completion of data collection, variables included in the structured interview sheet, were coded prior to computerizing data entry. The raw data were coded and transformed into coding sheets. The results were checked. Then, the data were entered using SPSS 20.0 statistical software package. Output drafts were checked against the revised coded data for typing and spelling mistakes. Finally, analysis and interpretation of data were conducted.

RESULTS:

Table (1): reveals a non significant difference between study and control groups. It is noticed that, slightly more than half of the study and the control groups are males (55.6% & 58.3%). In addition, the same table illustrates that, the age of patients under study ranges between 20 – 50 years.

Regarding the level of education , it reveals that, an equal percentage (15.7%) of the study and the control groups are illiterate, slightly more than one third of the study and the control groups can read and write (39.8% & 37.0%) respectively, while the minority of the study and the control groups have postgraduate (0.9 & 3.7) respectively.

Concerning occupation, it is found that, majority of the patients in the study and the control groups are workers (80.6% & 77.8%) respectively, while, the rest of them are not working. As regards to marital status, the same table manifests that, 79.6% & 48.1% of the study and the control groups are married. Regarding place of residence, it is found that, about two thirds of the study group and three quarters of the control group lived in urban areas (63.9% & 76.9%) respectively.

Regarding the number of family members at home, it is ranged between 1-15 members in both groups. It is noticed that, three quarters of the study group (75.9%) have less than four members in the family compared to 96.3% in the control group. Moreover, family income, it is clear from table that, half of the study group and around three quarters of the control group haven't enough monthly income (50.0% & 75.9) respectively.

Table (2): shows the level of knowledge about HCV among the study and control groups at different times of the study. The result reveals that, the study group has unsatisfactory knowledge before program implementation with a mean of (11.1±2.9). It is noticed that, this total mean score increased immediately, after three and six months throughout the program implementation to 22.3±5.8, 19.1±6.7 & 20.5±5.9 respectively with highly statistical significances at (p= 0.0001). On the other hand, the control group had unsatisfactory knowledge before program, immediately after program, after three months and after six months with a mean of 11.1±2.9, 11.1±2.9, 8.9±4.3, 8.9±4.3 respectively.

There are highly statistically significant difference between the study and the control groups related to all items of patient's knowledge and the total score immediately, after three and six months after program intervention ($p < 0.0001$).

Table (3): illustrates total knowledge score about HCV between the study and control groups at different times of the study. It is noticed that, in pre-test evaluation, all of participants had unsatisfactory level of knowledge about HCV. There was an improvement in the level of knowledge in the study group rather than the control group with a statistically significant differences ($p = 0.000$) immediately, and after three and six months of the program implementation, it is noticed that 28.7%, 24.1%, & 16.7% respectively of the study group have satisfactory level of knowledge compared to none of the control group.

Table (1): Socio-demographic characteristics of CHC patients in the study and control groups (N= 216)

Socio-demographic characteristics	Study group (n=108)		Control group (n=108)		Significance
	No.	%	No.	%	
Gender					
Male	60	55.6	63	58.3	X ² =0.62 P=0.891
Female	48	44.4	45	41.7	
Age					
20-	24	22.2	22	20.4	X ² =0.17 P=0.68
30-	40	37.0	45	41.7	
40-	24	22.2	24	22.2	
50-	20	18.5	17	15.7	
Educational level					
Illiterate	17	15.7	17	15.7	X ² =0.62 P=0.891
Read and write	43	39.8	40	37.0	
Basic education	8	7.5	9	8.3	
Secondary education	34	31.5	19	17.6	
Technical education	0	0.0	6	5.6	
University education	5	4.6	13	12.1	
Postgraduate studies	1	0.9	4	3.7	
Occupation					
Not working/housewife/retired	21	19.4	24	22.2	X ² =0.25 P=0.615
Employee	30	27.8	22	20.4	
Free work	57	52.8	62	57.4	
Marital status					
Single	7	6.5	49	45.4	X ² =1.24 P=0.266
Married	86	79.6	52	48.1	
Divorced/widow	15	13.9	7	6.5	
Residence					
Urban	69	63.9	83	76.9	X ² =0.25 P=0.615
Rural	39	36.1	25	23.1	
Number of family members at home					
1-5	82	75.9	104	96.3	X ² =0.62 P=0.891
6-10	25	23.1	0	0.0	
11-15	1	0.9	4	3.7	
Family income					
Insufficient	54	50.0	82	75.9	X ² =0.62 P=0.891
Sufficient	50	46.3	22	20.4	
More than enough	4	3.7	4	3.7	

Table (2): Knowledge about HCV among the study and control groups at different timing of the study (N=216)

Knowledge	Range	Study group (n=108)			Sig (P)	Control group (n=108)			Sig (P)	Sig (1)	Sig (2)	Sig (3)	Sig (4)
		Before	Immediately after	After 3 months		After 6 months	Before	Immediately after					
Definition of HCV disease	0-2	0.6±0.7	1.3±0.8	1.1±0.9	1.4±0.7	<0.0001*	0.7±0.7	0.7±0.7	0.7±0.7	0.7±0.7	<0.0001*	<0.0001*	<0.0001*
Signs & symptoms of HCV disease	0-2	0.9±0.7	1.4±0.7	1.2±0.8	1.3±0.7	<0.0001*	1.0±0.7	1.0±0.7	0.7±0.7	0.7±0.7	<0.0001*	<0.0001*	<0.0001*
Risk factors for HCV infection	0-12	4.7±1.3	9.8±2.8	8.0±2.7	8.0±2.5	<0.0001*	4.7±1.3	4.7±1.3	3.9±1.9	3.9±1.9	<0.0001*	<0.0001*	<0.0001*
Mode of transmission HCV disease	0-2	0.1±0.3	1.2±0.8	1.1±0.8	1.1±0.8	<0.0001*	0.1±0.3	0.1±0.3	0.1±0.3	0.1±0.3	<0.0001*	<0.0001*	<0.0001*
Diagnosis of HCV	0-2	0.9±0.8	1.4±0.7	1.3±0.8	1.3±0.8	0.001*	1.0±0.8	1.0±0.8	1.0±0.8	1.0±0.8	<0.0001*	<0.0001*	<0.0001*
Treatment of HCV disease	0-2	0.9±0.8	1.5±0.6	1.3±0.7	1.7±0.6	<0.0001*	1.0±0.8	1.0±0.8	0.6±0.8	0.6±0.8	<0.0001*	<0.0001*	<0.0001*
Contraindication of interferon treatment	0-2	0.8±0.8	1.4±0.7	1.3±0.8	1.4±0.7	<0.0001*	0.8±0.8	0.8±0.8	0.2±0.4	0.2±0.4	<0.0001*	<0.0001*	<0.0001*
Follow up of HCV patients receiving interferon	0-2	0.6±0.6	1.5±0.6	1.3±0.7	1.3±0.7	<0.0001*	0.6±0.6	0.6±0.6	0.6±0.6	0.6±0.6	<0.0001*	<0.0001*	<0.0001*
Side effects of interferon	0-4	1.4±0.7	2.9±0.9	2.6±0.9	2.9±0.9	<0.0001*	1.4±0.7	1.4±0.7	1.1±0.8	1.1±0.8	<0.0001*	<0.0001*	<0.0001*
Side effects of ribavirin	0-2	0.6±0.6	1.5±0.6	1.3±0.7	1.3±0.7	<0.0001*	0.6±0.6	0.6±0.6	0.6±0.6	0.6±0.6	<0.0001*	<0.0001*	<0.0001*
Follow up of HCV patients	0-2	0.6±0.6	1.3±0.8	1.2±0.8	1.3±0.8	<0.0001*	0.6±0.6	0.6±0.6	0.6±0.6	0.6±0.6	<0.0001*	<0.0001*	<0.0001*
Complications of HCV	0-2	0.9±0.8	1.5±0.7	1.3±0.8	1.7±0.6	<0.0001*	1.0±0.8	1.0±0.8	0.4±0.8	0.4±0.8	<0.0001*	<0.0001*	<0.0001*
Total knowledge	0-34	11.1±2.9	23.3±5.8	19.1±6.7	20.5±6.9	<0.0001*	11.1±2.9	11.1±2.9	8.9±4.3	8.9±4.3	<0.0001*	<0.0001*	<0.0001*

#Categories are not mutually exclusive

Sig: P for Friedman test Sig 1, 2, 3, 4: P for t-test *significant at P<0.05

Sig(1): significant between the study and control groups before program implementation

Sig(2): significant between the study and control groups immediately after program implementation

Sig(3): significant between the study and control groups after 3 months from program implementation

Sig(4): significant between the study and control groups after 6 months from program implementation

DISCUSSION:

Hepatitis virus C infection is now a major health problem both in developed and developing countries. It is the most common cause of chronic liver disease, and cirrhosis all over the world (*Kamal & Nasser, 2008*). Egypt is one of the highest prevalence Country of HCV in the world. Ten to twenty percent of the general population is infected and HCV is the leading cause of hepatocellular carcinoma and chronic liver disease (*Doss et al., 2012*). Furthermore, (*WHO, 2013*) reported that; HCV cause an inflammatory reaction that is localized within the liver, allowing the virus to gradually infect and destroy liver tissue.

HCV patients need information about their illness and its care, side effects of medications and health related behaviors. This could assist them to cope or live with HCV disease without complications and without transmitting HCV to others (*Stoove & Mitchell, 2010 ; Quine ,2012*).Therefore; this study is aimed to evaluate the effect of an educational program on chronic viral hepatitis C patients' knowledge related to hepatitis C virus disease treated by pegylated alpha interferon and ribavirin combination therapy

As regard to gender the findings of the present study represented that more than half of the participated patients in both groups were males. This might be related to that males are more exposed to many factors than females, such as daily shaving with shared razors, unsafe sexual practices, abuse of alcohol or drugs. This result is in the same line with *Abd-Elrasol (2011)*, who found that most of the studied patients were males. This finding is also supported by(*CDC 2015*), which mentioned that HCV affect males than females. On the other hand, contradicting to this result. (*Abo-Elmatay2014*), found that females constituted half of the study and control group as well.

Regarding age, the present study findings revealed that more than one quarter of the study and control groups were among the age group 30 to 40 years. This might be related to many factors among them; visiting dentistry clinics, beauty centers, barbers and tattooing as well as unsafe sexual behaviors that may increase the risk of hepatitis C infection. Moreover, the blood donors are the highest at that age group with a reason of getting money.

This result is in agreement with (*National institutes of health 2012*). which reported that, many HCV infected persons are in the age group of 30 to 39 and who may become affected by complications of the disease over the following years. The *International Conference on Emerging Infectious Disease (2012)*, added that there is an increased incidence of hepatitis C infections in people 15 to 34 years of age. This result is in contrast to *Roberts (2010)*, who mentioned that, liver disease affects men, women, and children regardless of age, nationality, lifestyle or economic circumstances.

Concerning education level, the results of the present study showed that approximately half of participated patients were uneducated. This might be related to the study setting which is a governmental non paid health care clinic that receive poor patients who are not covered with health insurance so, this setting offer health care to patients who are most probably non educated. Being not educated might have played a role in getting such infection as the higher the educational level the higher the awareness to the health care aspects including transmission of infection as well as health related behaviors. This result is in congruent with *Demographic and Health Survey EDHS(2014)*, which reported that individual's with poor education were markedly more likely to be infected with HCV infection than more highly educated population. This is supported by *Rajesh,(2012)* who reported that, the prevalence of HCV was more in illiterate subjects.

In relation to the marital status, results of the present study clarified that most of study group and about half of control group were married. It may be due to our social and Arabic cultural issues related to early marriage at that age group. The higher infection rate between married might be related to many variables such as unawareness of infection with HCV, or the partner is denying that the partner is infected or may be un confrontation to the partner, moreover sharing of personnel utilities may be some of the factors.

This is in agreement with(*Mohamed et al.2010*) who reported that marriage is a risk factor for HCV sero-positively. In the same point *Abo-Elmatay (2014)* stated that, the relationship between HCV infection and marriage provided evidence for sexual transmission of HCV. Their data suggest that this is somewhat rare. In addition

potential sexual transmission, married couples share many exposures that could be risks for HCV transmission, both for transmission from one to the other, as well as transmission from a common source.

Concerning residence, the finding of the present study showed that the highest percentage of the participated patients were among those from urban areas, it could be explained that the study was conducted in Port Said city which is an urban area. The result of the present study was in line with *Abd El-Shahed(2008)* who reported that most of sample was from urban areas. These findings disagree with *Eissia(2010)* who estimated that 8-10 millions of Egyptian people have serological evidence of HCV infection, with higher rate among residents of rural areas in lower and middle Egypt.

In relation to occupation, the finding of the present study revealed that about of half of both groups were had free work. This might be related to study setting as Port Said is a free zone, that most of the citizen are most employed. These results in harmony with *Abo-Elmatay (2014)* who illustrated that the majority of the female wheres participated patients were housewives.

In relation to family income, results of the present study showed that half of study group and three quarters of control group hadn't enough monthly income. This might be due to unstability of economic status all over the world. This finding is in congruent with *Mohamed (2011)* who reported that the majority of his subjects had monthly income less than 100 Egyptian pounds. However, *Karyn (2013)* mentioned that, rich countries prepare for a hepatitis C virus treatment revolution, people in low and middle income countries remain without access to information ,prevention tools, diagnostics, care and treatment . In contrast to *El-Metwaly (2009)* who found that the majority of the patients had sufficient income.

As regards total knowledge about HCV infection disease, the present study revealed that the participated patients had unsatisfactory level of the total knowledge related to the disease. The worst area of knowledge was the risk factors. This might be related to limited recourses of gaining knowledge related to the disease risk factors among participated patients. This result is in congruent with *Besraet al.,(2009)* who illustrated that the majority of patient's knowledge score was low.

On the contrary **Mohammed,(2011)** found that the majority of the studied subjects had satisfactory knowledge level related to HCV. She attributed the high knowledge level to the availability of health educational programs about HCV infection in outpatient clinics of hepatology center at Alexandria, or may be related to awareness focused to HCV in mass media, as well as the educational programs done by **Egyptian National control strategy for viral hepatitis (2012)**.

On the other hand, the study group' knowledge increased significantly immediately after program, while the control group knowledge remained unsatisfactory. The importance of education as an essential aspect for hepatitis C prevention and treatment has been demonstrated in many studies aimed to teach patients about healthy habits, side effects of the treatment, prevention and control complication .In this sense, effective education about HCV as a chronic disease requires knowledge, skills, listening abilities, understanding and negotiation skills from multi-professional team .Information is a relatively cheap intervention that could and should be a part of standard care (**Poroeh,2008**).

In conclusion, the results of the present study revealed significant improvement of CHC patients' knowledge regarding HCV disease following the educational intervention. Based on these findings, the research hypotheses were fulfilled. So the role of nurse should be to teach those patients and their families not only about what will happen, what they will see, feel, and hear, but it should be about assessment, management of symptoms, coordination of care, correction of wrong knowledge of HCV, providing emotional support, side effect of the treatment, complication of the disease, and follow –up care (**Mossman et al., 2014**).

CONCLUSION:

Based on the findings of the present study, it can be concluded that:

Patients with chronic hepatitis C virus have unsatisfactory level knowledge about their disease, and how to prevent infection transmission to others. The implementation of the designed health education program improved patient's knowledge; Moreover, Results of study revealed a statistically significant difference between control and study groups related to patient's knowledge of HCV before and after program intervention.

RECOMMENDATIONS:

The study recommended the following:

- Developing a health education unit in each specialized liver centers with qualified and trained nurses available all time .In addition.
- Weekly meeting should be organized for patients counseling, health education and problem solving.

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تأثير برنامج تعليمي على معلومات مرضى التهاب الكبدى الوبائى الفيروسي المزمن سى الخاصة بمرضهم

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الخلاصة

أجريت دراسة شبه تجريبية تهدف الى تقييم تأثير برنامج تعليمي على معلومات مرضى التهاب الكبدى الوبائى الفيروسي المزمن سى الخاصة بمرضهم ،حيث إن التهاب الكبدى الوبائى الفيروسي سى يعتبر من أهم المشاكل الصحية فى كل بلدان العالم النامية والمتقدمة ومصر لديها أعلى معدل انتشار للفيروس سى (15%) وهو المسئول عن ما يقرب من 90% من حالات العدوى فى جميع أنحاء العالم والجدير بالذكر بأنه هو السبب الرئيسى في للموت بسبب أمراض الكبد المزمنة فى البلاد. يمكن لتشخيص التهاب الكبدى سى أن يؤثر على السلوكيات الصحية للشخص، والمالية، والإنتاجية، والحالة النفسية وأجريت هذه الدراسة فى وحدة الإنترفيرون بمستشفى التضامن التابعة للتأمين الصحى ببورسعيد على 216 مريضا بفيروس سى ويعالجون بالإنترفيرون انقسمت عينة البحث بالتساوى إلى مجموعتين مجموعة الدراسة وتم تطبيق البرنامج عليها ومجموعة ضابطة تم تقييمها فقط.استنادا إلى نتائج الدراسة ، فقد تم استنتاج ما يلى :زيادة معلومات مرضى الإلتهاب الكبدى الوبائى الفيروسي المزمن سى عن مرضهم الذين شاركوا فى البرنامج التعليمي ، وان للبرنامج التعليمي الصحى تأثير إيجابى على معلومات مرضى الإلتهاب الكبدى الوبائى الفيروسي المزمن سى ، بالإضافة الى قلة شكوى مرضى الإلتهاب الكبدى الوبائى الفيروسي المزمن سى الذين شاركوا فى البرنامج التعليمي من الأعراض الجانبية التى يشكون منها خلال فترة علاجهم بالعلاج المركب بيلاجيتد الفا إنترفيرون وربافيرين لذلك أوصت الدراسة بضرورة تطوير وحدات التنقيف الصحى فى كل المراكز المتخصصة للكبد مع تواجد تمريض مؤهل ومدرب طوال الوقت مع تنظيم جلسات منتظمة لتقديم التنقيف الصحى و المشورة لمرضى الالتهاب الكبدى المزمن سى.

الكلمات الاسترشادية: البرنامج التعليمي- معلومات المرض – الالتهاب الكبدى الفيروسي سى