Suggested Nursing Guidelines for Patients with Hepatitis C Virus to live Healthy

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Abstract

Background: Hepatitis C virus (HCV) is an illness where changes happen slowly, so it is possible for patients to live healthily. **The aim of the study:** was to suggest nursing guidelines for patients with HCV based on their identified needs through: Assessing patients level of knowledge regarding HCV disease, tips that promote healthy living with HCV disease as well in relation to the preventive measures to avoid the spread of HCV infection, assessing patients informational health needs, medical and supportive needs. **Study design:** descriptive research design utilized to conduct this study. **Subjects and Methods:** a purposive sample of 200 adult patients newly diagnosed with HCV within 6 months, the study was conducted at Hepatitis viruses' outpatient clinic at Assiut University Hospital. **Tools**: "Interview questionnaire sheet". **Results**: the majority of patients had unsatisfactory knowledge about HCV, healthy living with HCV and prevention of the spread of infection (97.5%, 91.5%, 63.5% respectively). Patients newly diagnosed with HCV need information regarding HCV and healthy living. **Conclusion:** Patients newly diagnosed with HCV had unsatisfactory level of knowledge about HCV and healthy living with it. **Recommendation:** Provision of guidelines booklet is of great importance for the patients.

Keywords: Suggested Nursing Guidelines, Hepatitis C Virus & Healthy Living.

Introduction

Hepatitis C virus (HCV) infection continues to be an important global health problem and is one of the main causes of chronic liver disease worldwide. It is a hepatotropic viral infection caused by hepatitis C virus (HCV), which is a major cause of cirrhosis, liver failure and hepatocellular carcinoma and the most common indication for liver transplantation **(Mutimer et al., 2014).**

The World Health Organization (WHO) estimates that about 170 million people, 3% of the world's population, are infected with HCV and 3-4 million persons are newly infected each year. Egypt has the highest HCV prevalence worldwide with an estimate of 14.7% of the population are infected and 9.8 % are chronically ill. In addition, more than 500,000 new HCV infections occur each year. This is ten times greater than any other country in the world. And it is the most significant public health problem facing Egypt today. Liver disease is a top cause of mortality in Egypt **(Yaghi et al., 2012) & (WHO, 2015).**

Hepatitis C causes a form of liver inflammation and is a highly infectious blood borne disease. Acute HCV infection refers to the first six months of HCV infection following presumed HCV exposure. It is usually asymptomatic and is only very rarely associated with the life-threatening disease. About 15-45% of infected persons spontaneously clear the virus within 6 months of infection without any treatment.The remaining 55–85% of persons will

develop chronic HCV infection .This is defined as the presence of detectable viral replication for at least six months. It is generally a slowly progressive disease characterized by persistent hepatic inflammation **(Westbrook & Dusheiko, 2014).**

Hepatitis C is spread primarily by direct contact with human blood. Transmission through blood transfusions that are not screened for HCV infection, through the reuse of inadequately sterilized needles, syringes or other medical equipment especially in dental treatment, or through needle-sharing among drug-users, is well documented. Other modes of transmission through social, cultural, and behavioral practices using percutaneous procedures (e.g. ear and body piercing, circumcision, tattooing) can occur if inadequately sterilized equipment are used. Sexual and prenatal transmission may also occur, although less frequently. HCV is not spread by sneezing, hugging, coughing, food or water, sharing eating utensils or casual contact, although there are household contacts with unexplained HCV infection **(Kabir et al., 2010).**

Nurses have a crucial role to play in helping hepatitis C patients live safely and in optimal health. Through their holistic approach and professional expertise, nurses address patients' physical, psychological, emotional, spiritual and socioeconomic needs. They are also key educators in the effort to reduce the risk

of spreading hepatitis C (**Canadian Nurses Association, 2016).**

Nurses are in a key position to carry out health education since they are the health care providers who have continuous contact with patients and their families and have the best opportunities to assess potential problems or side effects, discuss medical regimen and give teaching about all aspects of care which includes maintaining physical activity, recognizing activity limitations, conserving energy, following dietary modifications and adhering to medication schedule with attending to side effects(**Black et al., 2009).**

According to WHO, Health is a state of complete physical, mental, and social well-being. Interestingly enough, health is not simply defined as just the absence of disease. The actual definition of Healthy Living is the steps, actions and strategies one puts in place to achieve optimum health. Healthy Living is about taking responsibility and making smart health choices for today and for the future. Eating right, getting physically fit, emotional wellness, spiritual wellness and prevention are all a part of creating a healthy lifestyle (**Housman & Odum, 2015).**

In most cases, hepatitis C is an illness where changes happen slowly, and the patient may not have symptoms for a long time, if ever. It is possible for people with HCV to live healthily. The patient can take steps to keep himself and those around him healthy (**American Liver Foundation, 2011).**

Making healthy choices is key to living well and managing Hepatitis C. Making lifestyle changes can reduce symptoms and slow down the development of liver disease. These changes may include reducing alcohol consumption, eating a healthy diet, drinking plenty of water, exercising, healthy sleep, managing stress, vaccination against hepatitis A and B and getting enough rest (**Morris and Harris, 2015).**

Significance of the study

In 2014 about 3631 cases diagnosed with HCV infection at Assuit University Hospital (at the Hepatitis viruses' outpatient clinic) from those cases about 800 continue for follow up. During the researcher's clinical experience it has been observed that the patients with hepatitis C have a lack of knowledge about how to live healthy with this liver disease. This study conducted to provide patients with nursing guidelines that provide information on how to stay as healthy as possible.

Aim of the study

- Suggest nursing guidelines for patients with HCV based on their identified needs through assessing patient's level of knowledge regarding HCV disease, tips that promote healthy living with HCV

disease as well in relation to the preventive measures to avoid the spread of HCV infection.
- Assessing patients informational health needs, medical and supportive needs.

Research questions
- What is the patients' knowledge about healthy living with HCV?
- What are the patients' health needs?

Subjects & methods

Research design:

Descriptive research design was utilized to conduct this study.

Technical design

Setting

This study was carried out in Hepatitis viruses' outpatient clinic at Assuit University Hospital.

Subjects

- A purposive sample of two hundred adult patients newly diagnosed with HCV within six months was selected according to the following inclusion criteria (age ranges from 18 to 65 years, both sexes males and females) and willing to participate in the study. Patients with liver cirrhosis, hepatocellular carcinoma (HCC) and chronic diseases as a chronic obstructive pulmonary disease (COPD), diabetes mellitus and heart diseases were excluded from the study.

Note: Flow of patients with hepatitis C during the previous year (2014) about 3631 cases. Sample size was determined according to this equation

$$ss = \frac{Z^2 p(1-p)}{c^2}$$

Where: Z = Z value (1.96 for 95% confidence level).

p = percentage picking a choice, expressed as decimal (0.5 used for sample size needed).
c = confidence interval, expressed as decimal (0.07)

$$new\ ss = \frac{ss}{\left(1 + \frac{ss-1}{pop}\right)}$$

Where :pop = population (3631)
New ss = 186
Minimal required sample = 186

Tools for data collection

One tool for data collection was used to achieve the purpose of the current study.

Tool I: An interview questionnaire sheet for patient

This tool was developed and modified by the researcher based on the related current literature to assess patient's knowledge about healthy living with HCV and as well health needs for such group of

patients. It was concerned with the following five parts

Part I: Patients' demographic characteristics: as name, age, gender, marital status, occupation, the level of education, residence, height, weight, body mass index, discover of the disease and smoking habits.

Part II: Patients' knowledge about HCV disease: as (definition, modes of transmission, signs, and symptoms, complications, diagnostic studies, pharmaceutical treatment available for HCV, most common side effects of treatment and availability of vaccination.

Part III: **Patients' knowledge about some tips that promote healthy living with HCV disease:** as (nutrition, physical fitness, sleep pattern, the balance of rest and activity, follow-up, illegal substance use, sexual precautions and others tips as immunization against hepatitis A and hepatitis B and taking medications exactly as prescribed).

Part IV: Patients' knowledge related to the preventive measures to avoid spread of HCV infection: as (Hand washing, safe disposal of blood-stained items, avoidance of sharing the patients' personal equipment's with family members, cover of wounds, avoidance of donation of blood or organs to others , stoppage of breastfeeding in case of cracked nipple, safe dealing with blood spills, avoidance of tattooing or acupuncture where the equipment is not known to be adequately sterilized , informing the health care personnel about their illness when going to any clinic/hospital).

Part V: To assess patient's health needs. This part constructed by the researcher based on some questions from a survey conducted in 2014 by CATIE (Canadian AIDS Treatment Information Exchange) to assess national needs of patients engaged in hepatitis C care.

This part assesses the following

- **Patients' informational health needs:** in this part patient rate importance of information as regarding HCV and its treatment and tips of healthy living with the disease as (Not at all Important, somewhat Important, important, very important).This part constructed by the researcher based on some questions from a survey conducted in 2014 by CATIE (Canadian AIDS Treatment Information Exchange) to assess national needs of patients engaged in hepatitis C care.
- **Medical and Supportive needs**: in this part patient rate importance of this information (Medical treatment for HCV, Support for family/partner, Psychological counseling, Access to support groups Access to HCV drug plans, Access to a nutritionist) as (Not at all Important, somewhat Important, important, very important).

Scoring system for patient's knowledge of this tool (Part II &III & IV)
Part II: Total numbers of questions (18).Total numbers of marks were (42).
Part III: Total numbers of questions (37).Total numbers of marks were (45).
Part IV: Total numbers of questions (9).Total numbers of marks were (9).
Total knowledge: Total numbers of questions (64).Total numbers of marks were (96).
Each right answer was given one mark. Patients who obtained less than 60 % were considered having unsatisfactory level of knowledge. While those who obtained $\geq$ 60 % were considered having a satisfactory level of knowledge.

Suggested nursing guidelines for patients with HCV to live healthy based on identified needs
The content of nursing guidelines was developed by the researchers after passing through an extensive and relevant literature review and according to the patient's health needs. These guidelines aimed to enable patients who had hepatitis C to be more knowledgeable about healthy living with HCV .The contents of the suggested nursing guidelines were developed by researcher and revised by experts in the medical and nursing fields.

It provides information about
- Anatomy of liver.
- Functions of liver.
- Hepatitis C Virus (definition, signs, and symptoms, modes of transmission, diagnosis, complications and treatment).
- **Guidelines about** (nutrition, physical fitness, sleep, weight management, the balance of rest and activity , cessation of drug abuse and smoking , follow-up, sexual precautions, prevention of transmission of infection and how to manage side effects of antiviral treatment).

Methods
The study was conducted through:
Phase (I): Preparatory phase
- The study tool was formulated after a review of the current and past, local and international relevant literature in the various aspects using books, articles, periodicals and magazines about HCV. The researcher took about six months to fulfill the used tool.
- The tools were tested for content validity by 5 experts of (2 academic Tropical Medicine and gastroenterology staff and 3 nursing staff from the faculty of Nursing) at Assiut University who reviewed the tools for clarity, relevance, comprehensiveness and understanding. Minor modifications were required and correction was carried out accordingly. Then the final form of the

tool was designed and tested for reliability by using internal consistency for the tools measured using Cronbach test, the tools proved to be reliable (0.73).

- A pilot study was conducted on 10% (20) of patients to examine the applicability and clarity of the study tool. Analysis of the pilot study revealed that minimal modifications are required. These modifications were done. Those patients who were involved in the pilot study were included in the actual study. The pilot study also estimates the time needed for each patient to answers the tool of data collection.

- **Phase (II): Implementation phase**
- Data were collected at the Hepatitis Viruses Outpatient Clinic at Assiut University Hospital during the period from August 2015 until January 2016.
- An official permission to conduct this study was obtained from the head of Tropical Medicine and gastroenterology Department.
- **Ethical consideration:** An oral permission for voluntary participation was obtained from the patients and the nature and purpose of the study were explained. The researcher initially introduced herself to patients to initiate a line of communication and they were assured that the collected data would be absolutely confidential. Confidentiality of the patient's data was ascertained.
- After taking the patient oral agreement for voluntary participation in the study, each patient was contacted personally by the researcher, and then the purpose and the nature of the study were explained, and then the researcher fill the patient's interview questionnaire sheet to assess patient's knowledge about disease, healthy living, preventive measures to avoid spread of HCV infection and assessment of patients health needs.
- Patient's names were coded for data entry so that their names could not be identified.

Difficulties of the study
- The time of attendance of patients in the Hepatitis Viruses outpatient clinic was so limited which was not suitable for data collection.

Statistical design
The data were tested for normality using the Anderson-Darling test and for homogeneity variances prior to further statistical analysis. Categorical variables were described by number and percent (N, %), where continuous variables described by mean and standard deviation (Mean, SD). Chi-square test and fisher exact test used to compare between categorical variables where compare between continuous variables by unpaired t-test. A two-tailed $p < 0.05$ was considered statistically significant. All analyses were performed with the IBM SPSS 20.0 software.

Results

Table (1): Frequency distribution of the demographic characteristics of the studied patients (n=200).

Characteristics	Frequency n=200	
	No.	**%**
Age(Year)		
• 18 <30	34	17.0
• 30 <50	66	33.0
• 50 ≤65	100	50.0
Mean±SD	45.9±11.4	
Gender		
• Male	122	61.0
• Female	78	39.0
Residence		
• Urban	13	6.5
• Rural	187	93.5
Marital status		
• Single	19	9.5
• Married	168	84.0
• Divorced/ widow	13	6.5
Education level		
• High education	13	6.5
• secondary education	42	21.0
• Read and write	31	15.5
• Illiterate	114	57.0
Occupation		
• Office / professional work	16	8.0
• Machinery / Manual work	86	43.0
• Not-working	98	49.0
Weight	**Mean±SD**	72.3±13.4
Height	**Mean±SD**	165.3±6.8
Body mass index(BMI) score		
• Underweight = <18.5	2	1.0
• Normal weight =18.5-24.9	71	35.5
• Over weight =25-29.9	94	47.0
• Obesity = BMI of 30 or greater	33	16.5
Mean+SD	26.4+4.4	
Discover of the disease		
• Less than 3 months	130	
• From 3 months to six months	70	
Smoking		
• Yes	36	
• No	164	
Types of smoke		
• Cigarettes	20	
• Shisha	16	

Table (2): Frequency distribution of the studied patients as regarding to their knowledge about HCV (n=200).

	Satisfactory		Unsatisfactory	
	No.	**%**	**No.**	**%**
Knowledge about HCV disease				
• Definition	73	36.5	127	63.5
• Mode of transmission	53	26.5	147	73.5
• Signs and symptoms	0	0.0	200	100.0
• Diagnostic tests	17	8.5	183	91.5
• Complications	10	5.0	190	95.0
• Treatment	140	70.0	60	30.0
• Side effects of treatment	0	0.0	200	100.0
• Vaccination	27	13.5	173	86.5
• **Total**	5	2.5	195	97.5
Mean±SD	6.4±5.8			
Knowledge about tips that promote healthy living with HCV disease				
• Nutrition	96	48.0	104	52.0
• Physical fitness	1	0.5	199	99.5
• Sleep	111	55.5	89	44.5
• Balance of rest & activity	78	39.0	122	61.0
• Follow up	162	81.0	38	19.0
• Illegal substance use	67	33.5	133	66.5
• sexual precautions	7	3.5	193	96.5
• Others	25	12.5	175	87.5
• **Total**	17	8.5	183	91.5
Mean±SD	19.5±4.7			
Knowledge about preventive measures to avoid spread of HCV infection				
	73	36.5	127	63.5
Mean±SD	5.0±1.8			
Total knowledge	**7**	3.5	193	96.5
Mean±SD	30.5±9.6			

Table (3): Frequency distribution of studied patients as regarding to their informational health needs (n=200).

HCV informational health needs	Frequency n=200	
	No	**%**
Need of information about hepatitis C disease		
I don't need any information.	1	0.5
I need some information.	49	24.5
I need a lot of information.	150	75.0
Need of information about healthy living with hepatitis C		
I don't need any information.	4	2.0
I need some information.	78	39.0
I need a lot of information.	118	59.0
Importance of hepatitis C information		
Not at all important.	23	11.5
Somewhat important.	31	15.5
Important.	79	39.5
Very important.	67	33.5
Importance of information about tips that promote healthy living with HCV		
Not at all important	10	5
Somewhat important	37	18.5
Important	111	55.5
Very important	42	21

Table (4): Frequency distribution of studied sample as regarding to medical and supportive needs (n=200).

Medical and supportive needs	Not at all important		Somewhat important		Important		Very important	
	No.	%	No.	%	No.	%	No.	%
Medical treatment for HCV	1	0.5	5	2.55	180	90	14	7
Support for family/ partner	159	79.5	37	18.5	4	2	0	0
Psychological counseling	148	74	46	23	6	3	0	0
Access to support group	134	67	60	30	6	3	0	0
Access to HCV drug plans	5	2.5	2	1.0	184	92	9	4.5
Access to a nutritionist	14	7.0	40	20.0	107	53.5	39	19.5
Total level of importance	77	38.5	32	16.0	81	40.5	10	5

Table (5): Relation between total Knowledge of studied patients and demographic characteristics (n=200).

Item	Knowledge				P. value
	Satisfactory (n= 7)		Unsatisfactory(n= 193)		
	No.	%	No.	%	
Age					
18<30	1	14.3	33	17.1	
30< 50	2	28.6	64	33.1	0.997^{ns}
50 $\leq$ 65	4	57.1	96	49.8	
Gender					
Male	4	57.1	118	61.1	
Female	3	42.9	75	38.9	0.831^{ns}
Residence					
Urban	0	0.0	13	6.7	
Rural	7	100.0	180	93.3	0.478^{ns}
Marital status					
Single	1	14.3	18	9.3	
Married	4	57.1	164	85.0	
Divorced	0	0.0	1	0.5	0.072^{ns}
widow or widower	2	28.6	10	5.2	
Education level					
High education	2	28.6	11	5.7	
secondary education	1	14.3	41	21.2	
Read and write	2	28.6	29	15.0	0.060^{ns}
Illiterate	2	28.6	112	58.0	
Occupation					
Office / Professional work	1	14.3	15	7.8	
Machinery work/ Manual work	2	28.6	84	43.5	0.347^{ns}
Non-working	4	57.1	94	48.7	
Discover of the disease					
Less than 3 months	3	42.9	127	65.8	
From 3 months to six months	4	57.1	66	34.2	0.211^{ns}

* =Significant difference   **= highly significance ^{Ns}= Non significant difference

Table (6): Relation between needs of patients to information regarding hepatitis C disease and their demographic characteristics.

	Needs of information about hepatitis C						P. value
	I don't need any information (n= 1)		I need some information (n= 49)		I need a lot of information (n= 150)		
	No.	%	No.	%	No.	%	
Age							
18<30	0	0.0	6	3.0	28	14.0	
30<50	1	0.5	16	8.0	49	24.5	0.517^{ns}
50<65	0	0.0	27	13.5	73	36.5	
Gender							
Male	1	0.5	30	15.0	91	45.5	0.723^{ns}
Female	0	0.0	19	9.5	59	29.5	
Residence							
Urban	0	0.0	2	1.0	11	5.5	0.700^{ns}
Rural	1	0.5	47	23.5	139	69.5	
Marital status							
Single	0	0.0	4	2.0	15	7.5	
Married	1	0.5	42	21.0	125	62.5	0.995^{ns}
Divorced/widow	0	0.0	3	1.5	10	5.0	
Education level							
High education	0	0.0	2	1.0	11	5.5	
Secondary education	0	0.0	10	5.0	32	16.0	
Read and write	0	0.0	10	5.0	21	10.5	0.881^{ns}
Illiterate	1	0.5	27	13.5	86	43.0	
Occupation							
Office / professional work	0	0.0	3	1.5	13	6.5	
Machinery/ manual work	1	0.5	22	11.0	63	31.5	0.955^{ns}
Not working	0	0.0	24	12.0	74	37.0	
Discover of the disease							
Less than three months	1	0.5	31	15.5	98	49.0	0.737^{ns}
From 3 to 6 months	0	0.0	18	9.0	52	26.0	

* =Significant difference   **= highly significance ^{Ns}= Non significant difference

Table (7): Relation between needs of patients to information regarding tips that promote healthy living with hepatitis C and their demographic characteristics.

	Needs to information regarding tips that promote healthy living with hepatitis C						P. value
	I don't need any information (n= 4)		I need some information (n= 78)		I need a lot of information (n= 118)		
	No.	%	No.	%	No.	%	
Age							
18<30	0	0.0	16	8.0	18	9.0	
30<50	4	2.0	24	12.0	38	19.0	0.002^{**}
50≤65	0	0.0	38	19.0	62	31.0	
Gender							
Male	4	2.0	45	22.5	73	36.5	0.228^{ns}
Female	0	0.0	33	16.5	45	22.5	
Residence							
Urban	0	0.0	6	3.0	7	3.5	0.770ns
Rural	4	2.0	72	36.0	111	55.5	

	Needs to information regarding tips that promote healthy living with hepatitis C						P. value
	I don't need any information (n= 4)		I need some information (n= 78)		I need a lot of information (n= 118)		
	No.	%	No.	%	No.	%	
Marital status							
Single	0	0.0	8	4.0	11	5.5	
Married	4	2.0	65	32.5	99	49.5	0.859^{ns}
Divorced/widow	0	0.0	5	2.5	8	4.0	
Education level							
High education	0	0.0	4	2.0	9	4.5	
Secondary education	0	0.0	13	6.5	29	14.5	0.337^{ns}
Read and write	0	0.0	16	8.0	15	7.5	
Illiterate	4	2.0	45	22.5	65	32.5	
Occupation							
Office / Professional work	0	0.0	8	4.0	8	4.0	
Machinery/ Manual work	0	0.0	32	16.0	54	27.0	0.674^{ns}
Not working	4	2.0	38	19.0	56	28.0	
Discover of the disease							
Less than 3 months	4	2.0	54	27.0	72	36.0	0.166^{ns}
From 3 to 6 months	0	0.0	24	12.0	46	23.0	

* =Significant difference   **= highly significance ^{Ns}= Non significant difference

Table (8) Relation between importance rate of information and total knowledge scores.

	Total knowledge				P. value
	Satisfactory (n= 7)		Unsatisfactory (n= 193)		
	No.	%	No.	%	
Importance of hepatitis C information					
Not at all important.	4	2.0	19	9.5	
Somewhat important.	2	1.0	29	14.5	0.001^{**}
Important.	1	0.5	78	39.0	
Very important.	0	0.0	67	33.5	
Importance of information about tips that promote healthy living with HCV					
Not at all important.	0	0.0	10	5.0	
Somewhat important.	3	1.5	34	17.0	0.239^{ns}
Important.	4	2.0	107	53.5	
Very important.	0	0.0	42	21.0	

* =Significant difference   **= highly significance ^{Ns}= Non significant difference
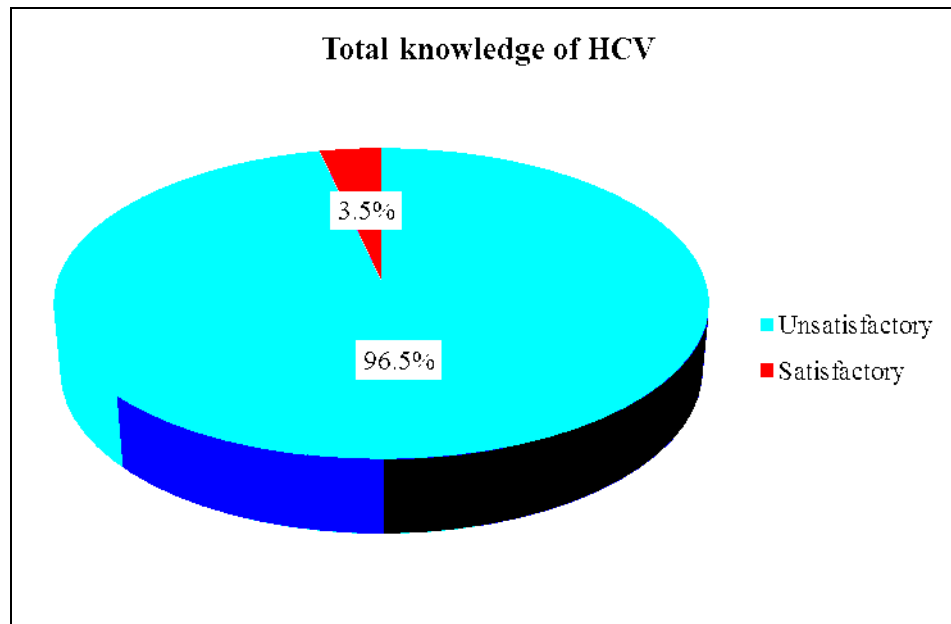
Figure (1): Percentage distribution of studied patients as regarding total knowledge.

Table (1): shows that; half of the studied patients (50%) their age ranging between fifty to less than sixty-five, with a mean of 45.9±11.4 years. The majority of patients were male, living in rural area, married and non-smokers (61%, 93.5%, 84%, 82% respectively). Regarding the level of education, more than half (57%) of patients were illiterate. Regarding occupation nearly half (49%) of patients were not-working. Mean weight was 72±13.4 kg. Mean height was 165.3±6.8 cm. Regarding BMI the highest percent of patients (47%) were overweight with a mean BMI of (26.4±4.4 kg/ m². As regarding discover of HCV infection more than two-thirds (65%) of patients discovered HCV infection within a period less than three months.

Table (2): illustrates that all patients (100%) have unsatisfactory level of knowledge regarding signs and symptoms and side effects of antiviral treatment of HCV. On the other hand, more than two-thirds (70%) of patients were satisfactory as regarding knowledge of the treatment of HCV. Also, this table shows the total knowledge score obtained by patients about HCV disease were unsatisfactory with a mean of (6.4±5.8). As regarding knowledge of patients about tips that promote healthy living with HCV this table illustrates that the majority of patients had unsatisfactory knowledge as regarding physical fitness and sexual precautions (99.5 %, 96.5%) respectively. On the other hand, more than half of patients (55.5%) had satisfactory knowledge regarding healthy sleep. Also, more than three-quarters of patients (81%) of patients had satisfactory knowledge regarding follow up. also, this table shows the majority of patients (91.55%) their total

knowledge score about tips of healthy living with HCV were unsatisfactory with a mean of (19.5±4.7).As regarding knowledge of patients about preventive measures to avoid the spread of infection this table shows that more than two-thirds of patients (63.5%) their total knowledge score regarding prevention spread of HCV infection were unsatisfactory with mean of (5.0 ± 1.8).Finally, this table shows that the great majority(96.5%) of patients newly diagnosed with HCV had unsatisfactory level of knowledge in the total knowledge.

Table (3): shows that three-quarters (75.0%) of the studied patients need a lot of information about hepatitis C, more than half (59%) of the studied patients need a lot of information about healthy living with HCV. Nearly two-fifths (39.5%) reported that hepatitis C information is important for them. More than half (55.5%) of patients reported that the information about tips that promote healthy living with HCV is important for them.

Table (4): Illustrates that the majority of patients reported that medical treatment for HCV, access to HCV drug plans is important for them (90%. 92%) respectively. More than half (53.5%) of the studied patients reported that access to a nutritionist is important for them. While more than two-thirds of studied patients reported that support for family and partner, psychological counseling and access to support group is not at all important (79.5%, 74%, 67%) respectively.

Table (5): shows that there was no statistically significant relation were documented between patient's demographic characteristics and their total

knowledge (Knowledge about the disease, tips that promote healthy living with HCV and knowledge about preventive measures to avoid the spread of HCV infection).

Table (6): shows that there was no statistically significant relation were documented between needs of patients to information regarding hepatitis C disease and their demographic characteristics**.**

Table (7): shows that there was highly statistically significant relation were documented between needs of patients to information regarding tips that promote healthy living with HCV and age. As patients who their age range between fifty to less than sixty-five need a lot of information than the other patients.

Table (8): this table shows that there was highly statistically significant relation were documented between total knowledge scores of patients and importance rate of information regarding hepatitis C disease As patients who have unsatisfactory knowledge reported that this information was important for them.

Figure (1): This figure illustrates that the great majority of patients (96.5%) their total knowledge score were unsatisfactory.

Discussion

Based on the results of the present study; more than half of patients their age ranged between fifty to less than sixty-five, mean age was 45.9 ± 11.4 years, male and married. Regarding the level of education, it was found that more than half of the studied patients were illiterate. this finding was supported by a study conducted at Community Health Nursing Department, faculty of Nursing, Helwan University by **El-Maksoud et al., (2015)** entitled as "Nursing Intervention for Changing the Lifestyle of Chronic Hepatitis C" Which revealed that; the majority of studied patients their age were fifty-one to less than sixty, mean age was 48.2±7.5 years, nearly two-thirds were male, more than two-thirds were married. However, he disagrees with our findings as he stated that more than half of patients were high educated.However, **Ali et al., (2015)** weren't in the same line with the current study finding where they stated that majority of the HCV positive respondents belonged to younger age group of 21- 30 years and the frequency of HCV was significantly more in the females.

The higher frequency of HCV infection was found to be more common in persons living in rural area. These findings are consistent with **Mohamed et al., (2016)** who stated that more than three-quarters of patients were from rural area.

Regarding the occupation, the results of the present study showed that nearly half of patients were not-

working. This finding was in line with **Fikry et al., (2015)** who stated that the highest percentages of patients were not working. From the researcher point of view, these findings can be attributed to the effect of hepatitis C as most patients complain of fatigability which makes them unable to work.

As regarding BMI, the results of the present study showed that more than two-fifths of studied patients were overweight, mean BMI was 26.4±4.4 kg/m2. These findings are consistent with **Zimmermann et al., (2016)** who stated that the majority of patients were overweight and reported that mean BMI was 26.6 ± 5.0kg/m2.

Concerning discover of the disease the results of the present study revealed that more than two-thirds of patients were diagnosed with HCV infection within a period less than three months. These results disagree with **Hassan et al., (2011)** who reported that more than two-thirds of the patients were diagnosed since a maximum of five years. From the researcher opinion this contradiction may be due to the study sample were purposive (patients newly diagnosed within six months).

In the current study, more than two-thirds of patients were nonsmokers while less than one fifth were current smokers. These findings are consistent with **Elhawary et al., (2011)** and **El Khoury et al., (2014)** who reported that the minority of the studied patients were currently smokers.

The results of the present study revealed that the majority of patients had unsatisfactory knowledge regarding HCV.These findings are congruent with the study of **Ibrahim and Madian, (2011)** who reported that the great majority of patients gave unsatisfactory level of knowledge about HCV. Also **Girgis et al., (2012)** in the same line of these findings as they stated that the majority of patients had poor knowledge in all items as regards the disease itself as the meaning of hepatitis C, modes of transmission, signs and symptoms, complications, and investigations of HCV.

Likewise **Essa et al., (2007)** who conducted a study entitled as "Prevalence of Hepatitis C Virus Infection and Evaluation of a Health Education Program in El-Ghar Village in Zagazig, Egypt" reported that Less than one-quarter had correct knowledge about the infectivity, sources of infection, symptoms, curability, complication, prevention and vaccination.

Concerning knowledge of patients about healthy living with HCV, the current study revealed that the majority of studied patients have unsatisfactory knowledge regarding healthy living with HCV. From the researcher opinion this impairment of knowledge in the present study may be attributed to two reasons; first, lack of health educational mass campaigns about the HCV and the way of living healthy with it.

Secondary, it is obvious that lower educational level in the studied sample (nearly more than half were illiterate) may be associated with a weaker awareness of the seriousness of the disease and a worse ability of the infected patients to cope with the challenges of the disease.

The findings of the study showed that more than half of the studied patients had unsatisfactory knowledge regarding healthy nutrition of HCV. More than two-thirds of the patients had unsatisfactory knowledge regarding protection from hepatitis A&B. **Ibrahim and Madian, (2011)** agreed with these finding as they reported that the majority of the studied patients had poor knowledge about a healthy diet for persons infected with HCV and protection from hepatitis A & B.

The result of the present study illustrated that more than three-quarters of the studied patients had satisfactory knowledge about follows up with health care team. More than three-fifth of studied patients didn't balance between activity and rest and had unsatisfactory knowledge regarding illegal substance use. These findings are consistent with **Girgis et al., (2012)** who reported that more than half of the studied patients had good knowledge about follow-up; also he stated that the great majority of patients had poor knowledge about the use of substances that can harm the liver**.** But he disagrees with the current study in the point of balance of rest and activity; as he reported that the majority of the studied patients were arranging their works, using suitable tools while cleaning the house and keeping on taking periods of rest and relax during the day.

As regarding patient pattern of sleep and their knowledge about its importance for them, the present study showed that more than half of the study sample had satisfactory knowledge as regarding healthy sleep and its importance for their condition. This finding is not in the same line with **Heeren et al., (2014)** who stated that sleep problems were reported by more than half of patients and were among the top 10 most prevalent symptoms endorsed.

The present study revealed that the majority of patients had unsatisfactory knowledge regarding the importance of physical activity and didn't perform the exercise. This finding is congruent with **Hassan et al., (2011)** and **El Khoury et al., (2014**) who reported that the majority of studied patients didn't perform any exercise. From the researcher opinion, this may be due to that more than half of patients their age from fifty to less than sixty-five which may be a barrier to performing physical activity.

The present study showed that the majority of patients have unsatisfactory knowledge regarding preventive sexual practices. This finding is consistent with **El-Wahab et al ., (2014)** who stated that at least

three identifiable risk factors were reported by each participant that entail several risky behaviors particularly unsafe sexual practices were exclusively established. From the researcher opinion, this impairment of knowledge may be due to fear from stigmatization, imparrasement and shame experienced by the patients to ask about this information.

Regarding knowledge of patients about prevention spread of infection to others, the present study revealed that more than three-fifth of the studied patients had unsatisfactory knowledge regarding prevention spread of HCV infection. These results agree with **Essa et al., (2007)** who mentioned that less than one-quarter of the patients gave right answer about methods of prevention of HCV infection. Also **Ali et al., (2015)** in the same line with these findings as they mentioned that in spite of having consulted with the doctors, HCV-infected respondents have deficit knowledge of the spread of disease. The majority of the suggestions provided by respondents were not practical to reduce further transmission of the disease. These findings may be due to lack of knowledge about hepatitis C disease and modes of transmission.

As regarding HCV informational health needs; more than two-thirds of the studied patients' needs a lot of information about hepatitis C. As regarding informational health needs about tips that promote healthy living with HCV the current study represented that more than half of patients needing a lot of information. The highest percentage of patients reported that this information is important & very important for them. **This was confirmed by Canadian AIDS Treatment Information Exchange (CATIE) (2015)** which conducted survey to assess national needs of patients engaged in hepatitis C care and reported that the highest percentage of patients' needs a lot of information regarding hepatitis C and it also reported that the majority of the patients reported that the information about staying healthy with hepatitis C is important & very important for them.

From the researcher point of view, this may be due to lack of patients knowledge regarding hepatitis C they need this information to protect themselves from the development of complications and also fear to transmit infections to others who are in contact with them. The need for more HCV-specific education is a prerequisite for behavioral harm reduction. Furthermore, a lack of knowledge regarding HCV transmission risk factors has been shown to increase rates of HCV infection.

As regarding medical and supportive needs, the present study showed that the majority of patients reported that medical treatment for HCV, access to HCV drug plans is important for them. More than

half of the study sample reported that access to a nutritionist is important for them. While more than two-thirds of study sample reported that support for family and partner, psychological counseling and access to a support group is not at all important.

Balfour et al., (2004) supported these findings as they reported that the majority of patients rated the need for quality HCV medical care as "important" or "very important". More than two-thirds of the study sample reported that assistance with obtaining drug coverage plans for HCV antiviral therapy as "important" or "very important". More than three-fifth of the study sample reported that access to a nutritionist as "important" or "very important". While disagreeing with us to the point of counseling for psychological issues as he identified these point as "important" or "very important" needs by most respondents.

The current study reported that there was no statistically significant relation was documented between patient's needs to information regarding hepatitis C disease and their demographic characteristics**.** This may be explained as all patients without regard to their characteristics needs this information.

The current study showed that there was highly statistically significant relation were documented between needs of patients to information regarding tips that promote healthy living with HCV and age. As patients who their age range between fifty to less than sixty-five need a lot of information than the other patients. This may be due that this information for patients is a starting point to inspire a lifelong commitment to health and to make tomorrow a little better than it might otherwise be.

The current study that showed that there was highly statistically significant relation were documented between total knowledge scores of patients and importance rate of information regarding hepatitis C disease As patients who have unsatisfactory knowledge reported that this information was important for them. This may due to the fact that when a person hasn't knowledge regarding something he is in a great need to acquire this information.

Conclusion

Based upon the results of the current study, it could be concluded that
The researcher found that patients newly diagnosed with HCV had unsatisfactory level of knowledge about HCV, prevention spread of HCV infection and healthy living with the disease. **Moreover** The findings of this study give a clear picture of the need of patients with HCV to information regarding HCV and how to live healthy with the disease.

Recommendations

- The action plan to educate patients newly diagnosed with HCV infection about this disease.
- Providing a written instruction booklet about healthy living with HCV is of great importance for the patients.
- Organize regular counseling sessions for meeting the patients' health needs and solving their problems by providing them with clear, full and accurate information in both verbal and written form.
- Encourage the patients to participate in group teaching and supply them with information about the disease and healthy living.
- Provision of seminars to raise nurse's awareness about hepatitis C for their provision of care.
- Use of suggested nursing guidelines as a routine care for patients newly diagnosed with HCV in Hepatitis Viruses Outpatient Clinic.
- Replication of the study on a larger probability sample selected from different geographical areas in Egypt is recommended to figure out the main aspects of this problem.

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