Acute hepatitis C patient knowledge and practices regarding their self-care management directed for prevention of complications

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ABSTRACT

Background: Hepatitis C virus (HCV) infection is a major cause of liver cirrhosis. Globally, 177.5 million people are infected with HCV. The aim of this study was to assess acute hepatitis C patient knowledge and practices regarding their self-care management directed for prevention of complications.

Research design: A descriptive research design was used.

Setting: this study was conducted in medical departments, Erada complex and mental health, Taif, Saudi Arabia.

Sample: A purposive sample of 120 acute hepatitis C patients admitted in the previous mentioned setting.

Tool: Patients' interviewing questionnaire that included the following parts; socio demographic characteristics, knowledge and self-reported practice assessment regarding self-care management.

Results: More than half of studied subjects had unsatisfactory knowledge score and adequate practice score regarding self-care management. There was no statistically significant relation between patients' knowledge and their demographic data. There were statisticallysignificant relations between patients' practice and their demographic data; marital status, educational level and gender. While, there were no statistically significant relation betweenpatients' practice and age, residence, occupation, monthlyincome P>0.05.

Conclusion: Nearly two thirds of the studied subjects had unsatisfactory knowledge score regarding HCV and self-care management for complications prevention. However, more than half of them had adequate self-care management practice. The study recommended that development of health education program for HCV patients and their families to teach them how to apply self-care management practices for complications prevention is very important.

Keywords: A cute hepatitis C, Knowledge, Practice, Self-care Management, Complications Prevention.

INTRODUCTION

Hepatitis C virus (HCV) infection is a major cause of liver cirrhosis. Globally, 177.5 million people are infected with HCV. Hepatitis C is a contagious liver disease that ranges in severity from a mild illness lasting a few weeks to a serious lifelong illness that attacks the liver, it results from infection with the hepatitis C virus (HCV), which is spread primarily through contact with the blood of an infected person. Hepatitis C can be either "acute" or "chronic". Acute HCV infection is a short-term illness that occurs within the first 6 months after someone is exposed to the HCV, formost people, acute infection leads to chronic infection. Chronic HCV infection is a long-term illness that occurs when the HCV remains in a person's body, HCV infection can last a lifetime and lead to serious liver problems, including cirrhosis (scarring of the liver) or liver cancer (Thomas, 2015).

Prevention of hepatitis C transmission requires a combination of harm-reduction strategies with health promotion activities such as education and communication. Effective engagement with priority populations is necessary to ensure that these strategies are tailored to best meet the needsof these groups and reach the priority populations adequately (Disease control and prevention, 2012).

Reducing the burden of HCV infection and HCV-related disease requires implementation of primary prevention activities that reduce risks for contracting HCV infection and secondary prevention activities that reduce risks for liver and other chronic diseases in HCV-infected persons. In addition, surveillance and evaluation activities

are required to determine the effectiveness of prevention programs in reducing incidence of disease, identifying persons infected with HCV, providing appropriate medical follow- up, and promoting healthy lifestyles and behaviors (Nettleman, 2014).

The theory of self-care was developed by Orem in 1956. She pointed out that self-care activities can help individuals maintain and promote their own health. Orem understands human and environment as a unity which has mutual effect on each other. She believes that humansshouldcarethemselvesindependently and be responsible for their own care. For Orem, individuals can learn self-care and dependent care behaviors within a socio culture context (Dorothea, 2011).

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 effect, discuss medical regimen and teach about all aspects of self-care which include maintaining physical activity, recognizing activity limitations, conserving energy, following dietary modifications and adhering to medications schedule with attention to side effects. Nursing care for patients withhepatitis C requires a holistic approach through which nurses help their patients meet their physical, psychological, emotional, spiritual and socioeconomic needs. Care across continuum; continuity is an essential component of all care within holistic framework (Smeltzer, et al., 2009).

Significance of the study

Hepatitis C virus (HCV) infection is a major public health issue. An estimated 58 million individuals worldwide are chronically infected with HCV, with 1.5 million new infections occurring each year. According to the World Health Organization, over 290,000 individuals died from hepatitis C in 2019. It is estimated that around 3% of the world population has a HCV infection, with higher prevalence in some groups such as injected drug users (IDUs) and HIV positive populations. HCV patients remain asymptomatic for year with the possibility of developing cirrhosis or hepatocarcinoma.

In Saudi Arabia, HCV varies by province, with the western and southern provinces having the highest rates. HCV prevalence is reportedly declining among blood donors due to increased awareness and improved socioeconomic position. The seroprevalence rate of HCV was estimated to be 1.1% based on data from Saudi blood donors. HCV is still a significant public health issue in Saudi Arabia, especially among intravenous drug users and hemodialysis patients (Alzahrani et al., 2023).

Subject and Method Research design

A descriptive research design was used to conduct the aim of this study Setting

This study was conducted in hepatic department at medical departments, Erada complex and mental health, Taif, Saudi Arabia.

Sample

A purposive sample of 120 patients admitted in the previous mentioned setting within three months and meeting the following criteria were recruited.

Inclusion criteria

Patients with confirmed diagnosis of acute HCV.

Exclusion criteria

Patients with other associated disorders rather than acute HCV,e.g. (hypertension, diabetis mellitus, cardiovascular disorders, renal disorders, etc……).

Tools of data collection

Patients' interviewing questionnaire

It was developed by the investigator based on recent literature review as; Abd El Rahman, (2018),Ghazy,(2018), AbdEl Salaam,(2016),Al-Metyazidy,(2014),Shata,(2014),Baghdad,(2013),Mahmoud,(2013),Ibrahim,(2012), Rizk, (2012) and in a simple Arabic language and included the following parts:

The first part: Patient's socio-demographic characteristics; it concerned with six items related to (age, gender, level of education, occupation, marital status, residence and monthly income).

These condpart

Patients' knowledge assessment; it was developed by the investigator. It was constructed and reviewing utilizing the most recent and relevant literature which included series of questions to elicit patients' knowledgeregardingHCVandself-care management for complications prevention including the following:

1. Anatomy and physiology of the liver (2 questions) (2 grades).
2. HCV(2questions)(2grades).

3. AcuteHCV (5questions)(5grades).
4. Diagnostic studies and laboratory investigations (3 questions) (3 grades).
5. Self-care management including the following components;
   - Healthy nutrition/ dietary modifications (1 question) (1 grade).
   - Exercises/ daily living activities (1 question) (1 grade).
   - Prevention and healthy habits (2 questions) (2 grades).
   - Therapeutic regimen and follow up (2 question) (2 grades).
6. ComplicationsofAHCV(15questions) (15 grades).

Scoring system
All knowledge variables were closed ended questions. The total numbers were 33 questions; they were scored as the following.
   - Each correct answer was given one grade.
   - The incorrect answer was given zero. Totalscoreofknowledgewas33which classified as the following:
   - ≥ 70% satisfactory knowledge level- scores ≥ 23.
   - < 70% unsatisfactory knowledge level- scores < 23.

The fourth part: Patients' self-reported practice assessment; it was developed by the investigator. It was constructedand reviewing utilizingthemostrecentandrelevant literature which included series of items to elicit patients self-reported practice regarding self-care management for complications prevention including the following components:
1. Healthynutrition/dietarymodifications(10items)(10grades).
2. Exercises/ daily living activities (7 items) (7 grades).
3. Healthyhabits (8 items) (8grades).
4. Therapeutic regimen and follow up (6 items) (6 grades).

Scoring system
   - If the patient's response to the item wasyes, this item assigned a score of (1)which means adequate practice level.
   - If the patients response to the item was no, this item assigned a score of (0) which means inadequate practice level.
   - Total score of practice was 31 whichclassified as the following:
   - ≥70%adequatepracticelevel scores≥22.
   - <70%inadequatepracticelevelscores<22.

Pilot study
Before performing the actual study, apilot study was carried out on 10% of the study subjects to test the clarity, objectivity, feasibility and applicability of tool, as well as to estimate the time needed for datacollection. It was applied on 12 patients with acute HCV. Some modifications weredone to the tool based on the pilot study and opinion of experts.

Validity and Reliability
Testfaceandcontentvalidityofthesuggested tool by a jury of five experts in the field and necessary modification was done.
Testing reliability of proposed tool was done by Cronbach alpha test which was (0.606).

Ethical considerations
Anonymity, confidentiality and privacy of the studied sample were assured. Voluntary participation and right to refuse to participate in the study was emphasized to the subjects.

Field work and Data collection
All patients (n= 120) with acute HCV who met the inclusion and exclusion criteria ofdatacollection withinthe periodfrom January 2023 up to the end of May2023 included in this study. The purpose of the study was explained by the investigator to the studied patients who agreed to participate in this study. At the beginning of data collection,they were assured that the information collected would be treated confidentially and that it would be used only for the purpose of the study. The researcher visited medical department in the selected Hospital in the morning shift from 10 am to 1 pm for three days weekly. Each patient was interviewed individually by the researcher using the data collection tool (Interview questionnairesheet). The time required for filling the tool was 30 minutes for each patient, about 3 0r 4 patients interviewed in each visit.

Statistical analysis

All data collected were organized, entered and analyzed using appropriate statistical significance test. The data were collected, coded and entered to personnel computer (PC).ThedatawereanalyzedbyusingSPSS, (Statistical Package for Social Sciences), soft –ware program version 20, which wasapplied to frequency tables, statistical significance and associations were assessed usingchi-squaretestandcoefficient correlation to detect the relation between the variables (P value),alpha Cronbach test was used to test reliability of the tool and factor analysis to test its validity ,number and percentage, mean, range and standard deviation (SD) were also used

RESULTS

Table 1: shows that 81.7% of them were married, 72.5% of them were from rural area and 68.3% of study subjects had no enough monthly income. Around half of the studied subjects'53.3%,51.7%,51.7%,50.0%, respectively their age were more than 45years old with mean 44.2±7.86, females and secondary educated and working at governmental sectors.

Item		No=120	(%)
Age			
-23-35		11	9.2
->35		45	37.5
-45-59		64	53.3
Mean±SD	44.2±7.86 SD		
Gender			
-Male		58	48.3
-Female		62	51.7
Marital status			
-Single		4	3.3
-Married		98	81.7
-Divorced		16	13.3
-Widow		2	1.7
Educationallevel			
-Illiterate		19	15.8
-Read &write		31	25.8
-Secondary		62	51.7
-Highlyeducated		8	6.7
Job			
-Governmentalsector		60	50.0
-Private sector		15	12.5
-Farmer		12	10.0
-Housewife		28	23.3
-Not work		5	4.2
Residence			
- Urban		33	27.5
- Rural		87	72.5
Monthlyincome			
- **Enough**		38	31.7
- **Not enough**		82	68.3

Table 2: shows that regarding anatomy and physiology of liver, 80.0%, 69.2% of the studied **s**ubjects' had incorrect knowledge about functions of liver and structure of liver. Regarding HCV, 78.3%, 71.7%, and 61.7%, of the studied **s**ubjects' had incorrect knowledge about meaning of acute HCV, types of HCV, and mode of transmission of acute HCV, respectively. Regarding laboratory investigations and self-care management, 80.0%, 73.3%, 60.8% and 60.0%, respectively of them had correct knowledge about therapeutic regimen, prevention and health habits, Periodical investigations to be done and diagnostic studies to confirm acute HCV.

Item	Correct		Incorrect	
	No	%	No	%
Structureofliver	37	30.8	83	69.2
Meaningofliver	24	20.0	96	80.0
MeaningofHCV	49	40.8	71	59.2
TypesofHCV	34	28.3	86	71.7
Definitionofacute HCV	26	21.7	94	78.3
CausesofacuteHCV	59	49.2	61	50.8
Highrisk groupofacute HCV	66	55.0	54	45.0
Modeoftransmissionof acute HCV	46	38.3	74	61.7
Signs&Symptoms ofacute HCV	61	50.8	59	49.2
DiagnosticstudiestoconfirmacuteHCV	72	60.0	48	40.0
Laboratoryinvestigationsto confirmacute HCV	49	40.8	71	59.2
Periodicalinvestigationstobedone	73	60.8	47	39.2
Self-caremanagement				
Healthynutrition/ dietary modifications	56	46.7	64	53.3
Exercise/ dailyliving activities	41	34.2	79	65.8
Preventionandhealth habits	88	73.3	32	26.7
Therapeuticregimen	96	80.0	24	20.0

Table 3: shows that about half of studied **s**ubjects' (52.5% and 50.0%) had correct knowledge regarding high risk factors forliver cancer and complications of acute HCV. While 80.0%, 75.8% of them had incorrect knowledgeregardingpreventionofliver cirrhosis and extra hepatic complication and more than half of them (69.2%, 68.3%,66.7%,65.8%,65,0%,61.7%,60.8%,57.5%, 55.0%and50.8%,respectively)hadincorrect knowledge regarding the following items; signs and symptoms of liver cirrhosis, symptoms of liver cancer, causes of liver cancer, causes of liver failure, prevention of liver cancer, meaning of liver cancer, causes of liver cirrhosis, meaning of liver cirrhosis, prevention of liver failure, signs and symptoms of liver failure and definition of liver failure, respectively.

Item	Correct		Incorrect	
	No	%	No	%
Complicationsofacute HCV	60	50.0	60	50.0
Meaningoflivercirrhosis	47	39.2	73	60.8
Causesofliver cirrhosis	46	38.3	74	61.7
Signs&symptoms ofliver cirrhosis	36	30.0	84	70.0
Preventionoflivercirrhosis	24	20.0	96	80.0
Meaningoflivercancer	42	35.0	78	65.0
Causesofliver cancer	38	31.7	82	68.3
Highriskfactorforliver cancer	63	52.5	57	47.5
Symptomsoflivercancer	37	30.8	83	69.2
Preventionoflivercancer	41	34.2	79	65.8
Meaningofliverfailure	59	49.2	61	50.8
Causesofliver failure	40	33.3	80	66.7
Signs&symptoms ofliver failure	54	45.0	66	55.0
Preventionofliverfailure	51	42.5	69	57.5
Extrahepaticcomplications	29	24.2	91	75.8
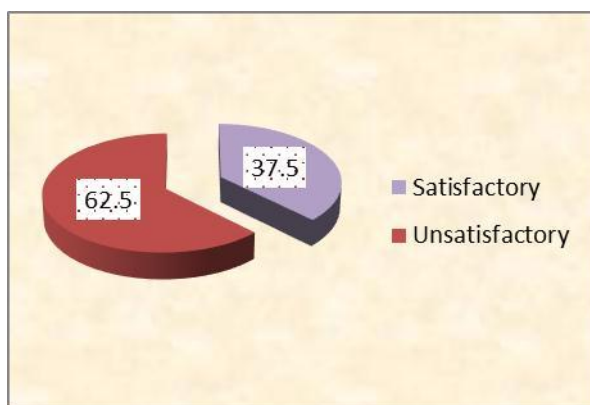
Figure 1: illustrates that (62.5%) of the studied patients had unsatisfactory knowledge score, where only (37.5%) of them had satisfactory knowledge score.
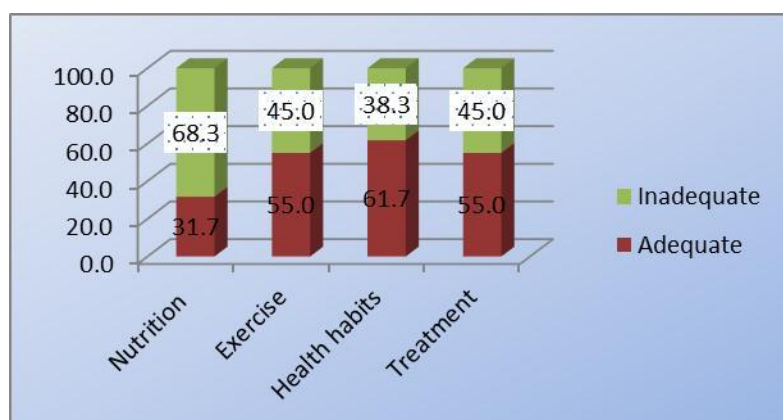
Figure 2: shows that 68.3% of studied patients did not practice the healthy nutrition component related to self-care management, meanwhile, more than half of them performed other self-care components (healthy habits 61.7%, exercise/ dailyliving activities 55.0%, and therapeutic regimen/ follow up 55.0%).
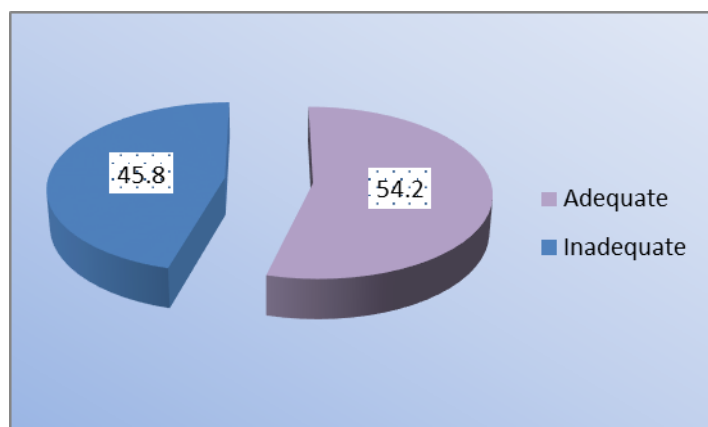
Figure 3: shows that 54.2% of the studied subjectshadadequatepracticeregardingself- care management components, while 45.8% of them had inadequate practice.

Table 4: shows that there were statistically significant relations between the studied subjects' total practice score regarding self- care management and their sociodemographiccharacteristics;genderP<0.001, marital status and educational level P ▢ 0.05.

Item	Inadequate N= 55		Adequate N= 65		x^2	P Value
	No	%	No	%		
Age						
- 23-35	8	14.5	3	4.6	3.58	0.16
- >35	20	36.4	25	38.5		

- 45-59	27	49.1	37	56.9		
Gender						
- Male	38	69.1	20	30.8	17.5	0.000**
- Female	17	30.9	45	69.2		
Marital status						
- Single	4	7.3	0	0.0	11.86	0.008*
- Married	46	83.6	52	80.0		
- Widow	3	5.5	13	20.0		
- Divorced	2	3.6	0	0.0		
Levelof education						
- Illiterate	3	5.5	16	24.6		
- Read& write	18	32.7	13	20.0	9.43	0.024*
- Secondary	31	56.4	31	47.7		
-Highlyeducated	3	5.5	5	7.7		
Job						
- Governmental	30	54.5	30	46.2		
- Private sector	10	18.2	5	7.7		
- Farmer	6	10.9	6	9.2	7.83	0.09
- Housewife	8	14.5	20	30.8		
- Notwork	1	1.8	4	6.2		
Residence						
- Urban	14	25.5	19	29.2	0.21	0.64
- Rural	41	74.5	46	70.8		
Monthlyincome						
- Enough	20	36.4	18	27.7	1.03	0.30
- Not enough	35	63.6	47	72.3		

Table 5: shows that there is statistically significant correlation between subjects' total knowledge and their total practice regarding self-care management with R= o.56 and P<0.05.

	Total knowledge	
	R	p-value
Total practice	0.56	0.024*

DISCUSSION

The finding of present study revealedthat, more than half ofstudied subjects were aged more than 45 years old with mean 44.2±7.86years, this could be due to HCV is chronic disease and had decrease rate of disease progression. This finding is in accordance with Ghazy, (2018) who stated that the majority of her studied sample was at age more than 41 years, also this finding is in accordance with Mohsen, (2009) that used a purposeful sample of 60 hepatitis C clients of both sexes and found that the mean age of her studied group was 41.06± 9.31 years.

However; this result is lower than those of Heneedy, (2009) who mentioned that the mean age of her study sample was 49.8± 8.3 for the study group. But this finding is not accordance with Younossi, (2008) who found that about two fifth of the studied sample were aged between 26 and 35 years old and only one fourth of the patients were aged between the ages of 46 and 55 years.

As regards to gender, the result of the present study showed that, more than half of studied patients were females, this could be due to most of caregivers for family members infected by any disease are the females specially the wives who dealing with their blood and body fluids infected with HCV without following infection control measures, thisfinding is in agreement with El lebodi, (2014) who mentioned that more than two thirds of study group were females. but this finding is not in accordance with the resultsofShata,(2014)whofound that morethan three fourth of her studied group were male.Alsothecurrentfindingisdisagreement with Rizk, (2012) who stated that more than two third of patients were male.

In relation to marital status, the results of this study revealed that most of the studied patients were married, this may be due to more than half of studied sample were at age

>45 years, this finding is compatible withAbd El Rahman, (2018) who reported that most of the sample were married, this findingmight bedueto the same age group of the studied sample.

Regarding the overall knowledge about acute hepatitis C in Saudi Arabia, Alzahrani et al., 2023 study a total of 689 participants. While most participants (88%) have heard of HCV infection, less than half (47.3%) understood that HCV is curable with medications. More than half of the participants (53.7%) have low knowledge about HCV infection. Testing for HCV was reported by 123 respondents (17.8%), and the odds of testing for HCV were significantly lower among residents of the Makkah region (OR = 0.59 [95% CI: 0.36–0.97]) and those with low knowledge level (OR = 0.47 [95% CI: 0.29–0.74]). HCV diagnosis was reported by nine respondents (1.3%), of whom only four reported receiving treatment (44%). They reported that the study indicates inadequate knowledge levels and relatively low testing rate. These findings underscore the need for national awareness campaigns and more effective strategies for HCV screening.

Respecting structure of liver, the finding of present study showed that more than two thirds of studied subjects had incorrect knowledge score, which is in agreement with Ibrahim, (2012) who found that most ofwhose study sample had incorrect answer regard structure of liver.Regarding function of the liver, the finding of present study showed that most of studied subjects had incorrect knowledge score, this study finding is in accordance with Mahmoud, (2013) who mentioned that the highest percentage of the study subjects did not know the importance of the liver, also it is in line with Hussein, (2013) who saidthatpatients knowledgeaboutthe importanceofliverwasnotcompleteinthe majority of the study sample.

Concerning meaning of hepatitis C virus, the finding of present studyshowed that more than half of the studied patients had incorrect knowledge score, this finding is inconsistent with Ali, (2015) who mentioned that approximately all the study subjectsknow what is HCV. Regardingtypes of HCV, the finding of present study showed that most of studied sample had incorrect knowledge about types of HCV, this finding is congruent withAl-zafrany,(2013)whostated that majority of study sample did not know types of HCV.Pertaining meaning of acute hepatitis C, the finding of present studyshowed that more than three quarters of studied subjects had incorrect knowledge score, this finding is in harmony with Al-zafrany, (2013) who mentioned that majority of study sample did not know meaning of acute HCV. Respecting causes of acute hepatitis C, the finding of present study showed that more than half of studied subjects had incorrect knowledge aboutcausesofacutehepatitisC.Thisfinding is inconsistent with El banna, (2016) who entioned that half of study sample know causes of acute hepatitis C.

In relation to high risk group of acute hepatitis C, the finding of present study showed that more than half of studied subjects had correct knowledge score, this finding isin accordance with Abuamer,(2016)who mentioned that more than half of study sample had information about high risk group of acute hepatitis C.Asregardingtomodeoftransmission,the finding of present study showed that nearly two thirds of studied subjects had incorrect knowledge score, this finding is supported by AlAian et al., (2006) who found that the majorityof studied sample had unsatisfied knowledge score about mode of transmission

Pertaining sign and symptoms of disease, the finding of present study revealed thatmore than half of studied subjects had correct knowledge score, this finding is incompatible with Mohamed, (2011) who found that the majority of studied sample had unsatisfactory knowledge score about signand symptoms of disease. This could be dueto most of patients with acute hepatitis C infection are asymptomatic, if symptoms present varies from mild to moderate and severe.

Regarding diagnostic studies and periodical investigations to be done toconfirm the diagnosis, the finding of present study revealed that more than half of studied subjects had correct knowledge score, this finding is contradicted with Kamal, (2008) whofound that more than half of studied sample had unsatisfied knowledge score about diagnostic studies before treatment, also this finding is contradicted with El- Zanaty and way, (2009)who found that most of studied sample had unsatisfied knowledge score about diagnostic studies and periodical investigations.

As regards to prevention of HCV, the finding of present study revealed that more than half of studied subjects had correct knowledge score. This finding is in accordance with Mahmoud, (2013) who mentioned that the majority of study sample knew the prevention of the disease. As regard to exercise to acute HCV patients, the finding ofpresentstudyrevealedthat abouttwothirds of studied subjects had incorrect knowledge about this exercise, this result is agreed with Eldragini, (2016) who showed that most of whose studied sample had unsatisfactory knowledge score about exercise should be doing for HCV patients. This is due to lack of awareness of patients related to their level of education,

Respecting healthy nutrition and dietary modificationforacutehepatitisCpatients,the finding of present study revealed that more than half of the studied patients had incorrect knowledge score, this finding is in line with Elsayed, (2018) who found that the majority of studied sample had unsatisfied knowledge score about nutrition of disease, this could be due to lack of health education from medical and nursing staff and lack of patients' awareness related to health instructions of nutrition.Butthisfindingisincompatible with Baghdad, (2013) who mentioned that more than half of study sample gave the complete answer about healthy nutrition for the patients. Belonging to healthy habits, the findingof present study revealed that nearly three quarters of studied subjects

had correct knowledgescorerelated tosexualintercourse. This finding is disagreed with Abass, (2013) who stated that the majority of studied sample had unsatisfactory knowledge score about combination therapy, nutrition and sexual relation.Regarding therapeutic regimen, the finding of present study revealed that three quarter of studied patients had correct knowledge score about name of the therapy, this finding is contradicted with Awad,(2016) who mentioned that morethan two thirds ofclients had incorrect knowledge about meaning and types of sovaldi combination therapy. Concerning method of treatment, the finding of present study revealed that most of studied subjects had correct knowledge score. This finding is incompatible with El mesery, (2011) who found that most of his study sample did not know the method of treatment.

Concerning complications of acute HCV, the finding of present study revealed that half of studied subjects had correct knowledge score, this finding is in accordance with Mohamed, (2011) who said that most ofstudy sample knew the complications. Belongingtodefinitionoflivercirrhosis,the finding of present study revealed that more than half of studied subjects had incorrect knowledge about the definition of liver cirrhosis. This finding is in line with Radhwan, (2016) who said that about twothirds of study sample did not know liver cirrhosis definition.

Pertaining to causes of liver cirrhosis, the finding of present study revealed that more than half of studied subjects had incorrect knowledge score, this finding is confirmed with AL-Metyazidy, (2014) who mentioned that most of study sample did not know the causes of liver cirrhosis, this is due to nearly three quarter of study sample were from rural area with less attention to acquisition health education and information about the potential complications of their disease.Respecting signs and symptoms of liver cirrhosis, the finding of present study revealed that more than two thirds of studied subjects had incorrect knowledge score, this finding is supported by Al-Metyazidy, (2011) who state that the majority of studied sample gave incomplete answer about symptoms of liver cirrhosis.

Regarding prevention of liver cirrhosis, thefindingofpresentstudyrevealedthatmost of studied subjects had incorrect knowledge score, this finding is agreed with Abdelftah, (2012)whofound that the majority of study sample did not know how to prevent liver cirrhosis, this is due to less attention of patients to acquisition information about the complications of their disease and how to prevent it before occurrence, on another hand due to health team overload and also they neglect to provide the patients with health education and information needed.

Respecting meaning of liver cancer, the finding of present study revealed that about two thirds of studied subjects had incorrect knowledge score, this finding is consistence with Shaker, (2018) who found that most of study sample gave incomplete answer about the definition of hepatocellular carcinoma. Regarding causesof liver cancer, the finding of present study revealed that more than two thirds of studied subjects had incorrect knowledge score about it. This finding is in line with Radhwan, (2016) who found that majority of study sample did not know the causes of livercancer and said that learning needs of patients with hepatitis C should be acceded to control associated health problem and prevent any complication.

Concerning high risk factors for liver cancer, the finding of present study revealed that more than half of studied subjects had correct knowledge score, this finding is consistent with Abd El Rahman, (2012) who mentioned that two fifth of study sample didnotknowthesefactors.Pertainingto symptoms of liver cancer, the finding of present study revealed that more than two thirds of studied subjects had incorrect knowledge about these symptoms. This finding is in line with Ali, (2011) who found that most of whose study sample gave incorrect answer about the question of the symptoms of liver cancer, this is due to lack of awareness of patients about their disease.

Belonging to prevention of liver cancer, the finding of present study revealed that about two thirds of studied subjects had incorrect knowledge score, this is confirmed by Abdel Hamid, (2016) who mentioned that most of whose study sample did not know how to prevent liver cancer.As regardto definition ofliverfailure, the finding of present study revealed that slightlymorethan half ofstudied subjects had incorrect knowledge score. This is not in line with Al- Sayed, (2012) who mentionedthat more than half of his study sample knew the definition of liver failure.

Pertaining to causes of liver failure, the finding of present study revealed that two thirds of studied subjects had incorrect knowledge score. This finding is confirmed with Eid, (2016) who found that more than half of his study sample did not know the causes of liver failure. Concerning signs and symptoms of liver failure,the finding of present study revealed that more than half of studied subjects had incorrect knowledge about these signs and symptoms. This finding is inconsistent with Muhammad, (2012) who said that half of his study sample knew these signs and symptoms and another half did not know.

Regarding prevention of liver failure, the finding of present study revealed that nearly two thirds of studied subjects had incorrect knowledge score. This finding is in accordance with Hassan, et al., (2011) who found that most of study sample did not know how to prevent liver failure. In relation to extra hepatic complication, the finding of present study revealed that slightly more than three quarter of studied subjects had incorrect knowledge about these complications. This finding is confirmed with Ali, (2009) who revealed that majority of his study sample did not know the extra hepatic complication.

Pertaining to practice of the studied patients regarding self-care management for complications prevention, the finding of present study revealed that more than half of studied subjects had adequate practice score regarding total self-care management components. More than half of them had adequate practice score related to their health habits, exercise/daily living activities and therapeutic regimen and follow up respectively, butmorethantwothirdsofthem had inadequate practice score related to healthy nutrition/ dietary modification components. This could be due to the difficulty of this issue.

This is supported by Ghazy, (2018) who found that more than half of her studied patients had moderate total practices score, more than one third of them had moderate self-care practices related social interactions and rest and sleep but the majority of them had poor self-care practice related to exercise and daily physical activity. Also this finding of present study is in line with Abd El- Salaam,(2016)whostate that the majority of sample achieved satisfactory score of life style practice and protection of others from spread of HCV.

Concerning relation between the studied patients' total practice score regarding self- care management and their demographic characteristics, the present study showed that there were statistically significant relations between the total practice score regardingself-care management and their marital status, educational level and gender. While there were no a statistically significant relation between their practice and the rest of demographic characteristics. This mean that demographic characteristics of the studied patients affected regarding positively on their practice score. These findings are going inline with Ali, (2015) who showed that there was statistical significant relation between the studied sample marital status, level of education, and their practice toward HCV while, there were statistical insignificant relation between gender, age, type of their work and their practice toward HCV.

Belonging to correlation between the studied patients' total knowledge and total practice regarding self-care management, the present study revealed that there was statistically significant correlation. This mean that the patients with satisfactory knowledge had adequate self-care management. This result agrees with Ghazy, (2018) who showed that there were very strong positive statistically significant correlation between total patients self-care practices and total patients knowledge level.

CONCLUSION

Based on the results of the present study, the following can be concluded:

Nearlytwothirdsofthestudied subjects had unsatisfactory knowledge score regarding HCV and self-care management for complications prevention. While more than half of them had adequate self-care management practice. There was no statistically significant relation between the studied subjects' total knowledge regarding HCV and self-care management and their sociodemographiccharacteristics.However, there was statistically significant relation between the studied subjects' total practice regarding self-care management and their socio demographic characteristics; gender, marital status andeducational level. There is a statistically significant correlation between the studied patients' total knowledge and their total practice regarding self-care management for complications prevention.

Recommendations

- The importance of developing of health education programs for acute HCV to improve their performance (knowledge& practice) regarding self-care management.
- The essential of conducting regular counseling sessions for meeting the patients' needs regarding self-care management practice and solving their problems by providing them with clear, full and accurate information in both verbal and written form in health care settings as hospitals, clinic and so on ,in rural areas.

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