Bulletin of High Institute of Public Health
Vol. 40 No. 2 [2010]

Knowledge, Attitude and Practice Regarding Hepatitis C among Patients' Family Caregivers in El Minia Governorate

Doria Hassan Abd Elrahim Mohamed*, Mahmoud Abo Elenin khattab**, Shokria Adly Labeeb***, Fatma Abdel Alim Abdel Ghany****.

ABSTRACT: Hepatitis C is a global disease. Egypt has the largest endemic of hepatitis C virus (HCV) in the world. The aim of this study is to identify knowledge, attitude and practice about hepatitis C among patients' family caregivers in El Minia Governorate. A total of 90 main responsible family caregivers' hepatic C patients and their were included in the study. Data were collected for a period of six months starting from March to August 2009. The study was conducted at the hepatic patients homes where the main family's caregiver are escorting. Data were collected through structured interviewed questionnaire at the patients' homes by five tools. These tools included; socio-demographic data of the study participants', as well as assessment of the patient's environment. The family caregiver participants' were assessed for their knowledge, practice and attitude by structured questionnaire, checklist and likert scale, respectively. As regard patient sociodemographic date, results it showed that half of them lied in age group 35-50 years. The majority were males (73.3%). On side of the family caregivers participants', it was found that slightly more than one third were between 20-30 years (35.4%) and females represented the majority (85.6%). Environmental assessment revealed that nearly three quarters (74.4%) lived in home consisting of more than 3 rooms. As regard knowledge level; it was found that the majority of the study participants between fair and poor knowledge level (44.4% and 34.4%, respectively). While more than three-quarters of the study participants were having fair and poor practices level (43.3% and 34.5%, respectively). Concerning the study participants' attitude; about half of the sample was having agreement responses (54.5%). Statistically significant differences were found ($p<0.05$) between both gender in aspects of knowledge, attitude and practice. It was concluded that the majority of the study participants' were between fair and low level in knowledge and practice as well as positive attitude responses among half of them. It is recommended to increase patients and family caregiver's awareness about HCV transmission and prevention.

Key words: knowledge, practice, attitude, hepatitis C, family caregiver.

INTRODUCTION

Hepatitis C virus (HCV) shows significant genetic variation in worldwide populations, evidence of its frequent rates of mutation and rapid evolution. Statistics reveal that

*Nursing- Clinical Instructor, Institute of Nursing, Minia University.
**Medical Department, Faculty of Medicine - Minia University.
***Community Health Nursing, Faculty of Nursing, Assiut University.
****Community Health Nursing, Faculty of Nursing, Minia University.

about 300 million people are infected with the hepatitis C virus worldwide. However, the number of new hepatitis C cases diagnosed each year in the US has been steadily decreasing. Based on current statistics for hepatitis C, it's estimated that 8,000 to 10,000 people die each year from chronic liver disease caused by this condition. Higher rates have been reported in Southeast Asian countries, including India (1.5%), Malaysia (2.3%), and the Philipines (2.3%). The incidence in Japan was 1.2%. Alarming rates were reported for many African nations, reaching as high as 14.5% in Egypt. [1,2, 3]

Egypt has a very high prevalence of HCV and a high morbidity and mortality from chronic liver disease, cirrhosis, and hepatocellular carcinoma. In Egypt the major route of exposure appears to be due to inadequate infection control practices. In addition to blood transfusion prior to 1994.[4] The most common methods of previous hepatitis C transmission were injection-based treatment for schistosomiasis and blood transfusions.[5] The high risks for HCV are direct blood to blood contact, blood transfusion product, sharing drug using equipment for injection and non injection drugs such as needles and cotton, occupational exposure; healthcare workers coming in contact with blood. The most common causes of transmission occur in needle-stick with large hallow borne needles and 5% of children borne to hepatitis C positive mothers.[6,7,8]

Sexual transmission of HCV is uncommon. Most studies indicate that only a small percentage is acquired through unprotected heterosexual intercourse. Virus can be transmitted by this way if a person has mouth sores, bleeding gums, or throat infection and it may be more efficiently transmitted through anal sex than vaginal sex and more likely to be sexually transmitted when women having menstrual period. In a few cases, people have been infected with hepatitis C by sharing objects that may have a tiny

amount of blood on them, such as a toothbrush, razor, or tools used for manicures. Hepatitis C can also be spread by sexual intercourse, but this is rare.[9,10]

Diagnosis and monitoring can be determined by using various tests when a person is suspected to have HCV infection. Screening test should be requested through assessing HCV antibodies that indicates if a person has been exposed to HCV infection. The most common tests used are ELISA and PCR, in addition to Liver function tests. Raised serum levels of transaminases reflect higher necroinflammatory activity and determine the need for treatment.[11] According to the prevalence of the Ministry of Health about 61 million were spent last month on the anti-viral drug “Interferon” which is used to treat Hepatitis C. Approximately 7.5 million or 9.4 % Egyptians are infected with the virus according to the Ministry of Health.[4]

Family caregivers play a major role in providing caregiving assistance and contact with hepatic patient. Family caregiving assisting clients to meet their basic needs and providing direct care such as personal hygiene, meal preparation, medication administration, and treatments. The assistance also provides a combination of direct care, health education, enhancing self-care and contributing in the prevention of complications in hepatic patients and help in minimizing the transmission of infection.[12]

Comprehensive strategy to prevent and control HCV infection and HCV-related disease include many activities. Primary prevention activities include; screening and testing of blood, plasma, organ, tissue, and semen donors, virus inactivation of plasma-derived products, adequate sterilization of reusable material such as surgical or dental instruments, risk-reduction counseling and services, implementation and maintenance of infection-control practices, needle and syringe exchange

programs. Secondary prevention activities include; identification, counseling, and testing of persons at risk, medical management of infected persons, professional and public education, surveillance and research to monitor disease trends and the effectiveness of prevention activities and to develop improved prevention methods. Prevention of spread of infection should be the main goal at the current time until cost effective therapies become available.[13,14] Therefore the present study was conducted with the aim to identify knowledge, attitude and practice about hepatitis C among patients' family caregivers in El Minia Governorate

SUBJECTS AND METHODS

Subjects

A convenient sample of 90 main responsible family caregivers' of the hepatic C patients as well as their patients were included in the study. The data were collected through six months starting from March to August 2009. A cross sectional descriptive design was utilized in this study. Which was done at the hepatic patient home and where the main family caregiver is escorting to the patient. Considering the first orientation with the study participants, it was done at the outpatient clinics at El Minia University Hospital, then the study was conducted during home visits.

Methods

Five tools were used to collect the pertinent study data which developed based upon comprehensive literature review. I- Structured assessment sheet including; the personal characteristic and socio-demographic data of both patients and their family's caregivers such as age, gender, residence, level of education, marital status, occupation and past and present history of the patient. II- Environmental assessment sheet which included; housing condition such as, number of members at home, number of rooms, source of water supply, electricity,

level of cleanliness, level of ventilation, availability of sewage sanitation, type of toilet and presence of special room and equipment for the patient. III- Structured questionnaire to identify the knowledge of family caregivers about hepatitis C virus. Eight items were included (definition of hepatitis C virus, risk factors, mode of transmission, sign and symptoms, complications, methods of prevention, drugs and side effects of the drugs). IV- Checklist to measure the practices of family caregivers about the different mode of transmissions of the hepatitis C virus, which included 9 items categorized as; " applied and not applied" regarding some practices what can transmit the infection such as: sharing dental brush, tattoo, hegama, beard shaving out door, circumcision by barber, nail trimming by patients' tools, used patients' utensils, delivery at home, and using non sterile syringes. V- Likert scale to measure the attitude of patients' family caregivers about hepatitis C virus. was checked and revised by 3 experts before utilization to assure its content validity. It included 8 items categorized as; "agree, to some extent, and disagree." These items included participant caregivers attitude toward patient dependency on others, importance of screening, taking precautions when dealing with patient's blood, thinking that if patient can live and do daily activity, feeling sympathy with patient with HCV, attitude toward prevention of children to eat with patient with HCV, if they worry when introducing food to patient with HCV, if they think that patient with HCV need special psychological care.

A scoring system was designed for the assessment of knowledge, attitude and practice about HCV. Eight degrees were given to knowledge, eight degrees for attitude, nine degrees for practice and one degree was allocated for right answer. Three scoring levels were determined as following: for knowledge; Poor knowledge

(<3 degrees), fair knowledge (3:5 degrees), and good knowledge (6 or more degrees). For attitude, it was considered as; negative attitude (<5 degrees) and positive attitude (6 or more degrees). As regard practice, it was as follows; poor practice (<4 degrees), fair practice (4:6 degrees) and good practice (7 or more degrees). Pilot study was done on 10% of the study participants to assure clarity and the understanding of the tools. It also helped in the estimation of the time needed to fill the form. Accordingly, some non critical modifications were done for the tools. For Ethical and administrative designs: an official permission and official approval was obtained from director of El Minia University Hospital. An ethical faculty committee approved the protocol of the study. A clear explanation of the nature and the aim of the study was given to the study participants to obtain their informed verbal consent which included the rights for privacy and confidentiality. The orientation of the researcher and the study participants were done at the outpatient clinic. During this orientation session the sociodemographic characteristics of study participants' were obtained that included address and telephone number and management of the home visit interview time. Each home visit was taken about 30:45 minutes to complete tools of data collection. The data collected were tabulated and analyzed using SPSS version16. Descriptive and inferential data were carried out including; frequency, percentage, chi-square and ANOVA test. The level of significance was set at 5%.

RESULTS

Table 1 shows the distribution of patients and family's caregiver according to socio-demographic characteristics. As regard patient sociodemographic data; 50% of the participants lie in age group 35-50 years and 3.3% lie in age group 65-80 years. The percentages of male to female were 73.3% to 26.7% respectively. The majority of

participants (88.9%) were from rural area and (11.1%) from urban. Regarding the level of education: 23.3% were illiterate, 20% were read and write, 45.6% had basic education, and 11.1% had secondary university education. The majority of patients' participants were married 85.6 % and lowest percentages 6.6% were widows. Regarding occupation: around half of the patients' participants were manual/farmer working (47.6%) while 26.7% were professional workers. On the side of the family caregivers participants', it was found that the age groups 20-30 years were 35.6% and age groups 50-60 years were 25.6%. Also 14.4% were males while the females represented 85.6 %. More than three quarters of participants (88.9%) were from rural area and 11.1% from urban areas. Regarding the level of education it was clear that 31.1% were illiterate, 7.8% were read and write, 45.6% had basic education, and 15.6% had secondary and university education. Regarding marital status the largest participants were married (87.7%) and the lowest percentage (2.2%) were widows. Regarding occupation, the highest percent (71.1%) of participants were not worker/housewives and the lowest of participants were professional workes 2.2%. Regarding the relation with patients; the highest percentage (68.9%) were wives and the lowest percentage (1.1%) were son's wives.

Table 2 illustrates the environmental assessment which reveals that more than half (59%) of the samples were categorized in 2-4 of family size and 7.8% in >8 persons of family size. Regarding number of rooms there were 24.4% were lived in home consisted of 2 rooms and 74.4% were lived in home consisting of more than 3 rooms. Regarding special rooms for patients 76.7% had not special rooms while 23.3% had special ones. For special utensils, 68.9% had special utensils and 31.1% had not special ones. Moreover 73.3% of participants had accepted home cleanliness whereas 26.7% were unaccepted. Regarding

ventilation, the majority (91.1%) were accepted while (8.9%) were unaccepted. The entire participants had available water source and electricity. and, the majority (92.2%) had available sewage disposable. The table also illustrated that a high percentage (55.6%) had land toilet and 44.4% had chair toilet.

Table 3 indicates that the majority of study participants (70%) don't know what is HCV. Regarding knowledge about people at risk, a high percent (33.3%) didn't know the high risk group for HCV, 28.9% addressed persons receiving blood transfusion, 22.2% for persons who had schistosomiasis, and 15.6% for others as "drug addict, tattoo and during surgical procedure". For the mode of transmission, half of participants (51.1%) knew that the blood transfusion is the main mode of transmission, while 22.2% did not know any modes of transmission, 21.1% and 5.6% knew that the sharing utensils and the sexual intercourse. are among the modes of transmission, respectively. High percentages (33.3%), and (45.5%) didn't know neither the signs and symptoms nor the complications of HCV. concerning the prevention of HCV, 44.4% answered that they can prevent it by avoiding the use of patient's utensils whereas 24.4%, 22.2% and 9.0% didn't know how, mentioned the use of sterile syringe, and other protective precaution, by avoiding dealing with blood contaminated with HCV, treating persons with schistosomiasis, and shaving outdoor), respectively. The table also shows that, more than half (54.4%) of participant caregivers said that interferon is the most commonly effective drug for HCV, 34.4% of them knew that liver support drugs, and 11.1% didn't know what drugs to be used. Regarding the side effects of the drugs the highest percentage (38.9%) stated joint pain.

Table 4 describes the distribution of participants' caregivers according to practices transmitting HCV in which more

than two thirds (68.9%) of participants did not share the dental brush. More than three quarters (74.4%) of participants did not do tattooing while 25.6% did it. Regarding hegama more than three quarters (87.8%) of participants applied this practice for beard shaving outdoor, it was done by 71.1%. Additionally, for the circumcision by barber, above than three quarter (80%) did the practice whereas, above half of participants (53.3%) trimmed nails using potient's tools and 65.6% didn't use potient's utensils. Regarding delivery at home, 50.0% did this practice, while about two thirds of participants (64.4%) did not use non sterile syringe. There were highly statistically significant differences in all items (P<0.01) except for delivery at home (P<0.05).

Table 5 demonstrates the distribution of participant caregiver's attitude toward patients with HCV in which 70% of family caregivers agreed with feeling sympathy for HCV patients, and the majority (96.7%) of them disagreed toward preventing children from eating HCV patients. Moreover, there were statistically significant differences towards patient dependency on others, importance of screening, normal liveing and activity, and feeling sympathy for HCV patient (p<0.05) while there were highly statistical significant differences for taking precautions during dealing with patients' blood, preventing children from eating with HCV patients, worrying while introducing food to them, and patients need for special psychological support (P<0.001).

Table 6 shows the distribution of participants' family caregivers according to their knowledge, practice and attitude scores towards HCV patients. As regard knowledge level; it was found that the majority of the study participants were fallen between fair and poor knowledge level (44.4% and 34.4%, respectively) and 21.2% for good level with statistically significant difference (p<0.05) between both gender. While more than three-

quarters of the study participants were having fair and poor practices level (43.3% and 34.5%, respectively) and 22.3% for good practices level with statistically significant difference ($p<0.05$) between both gender. Concerning the study participants' attitude; about half of the sample agreed (54.5%). Statistical significant differences were found ($p<0.05$) between both gender in aspects of knowledge, attitude and practice.

Table 7 reveals positive association between knowledge, attitude and practice level.

DISCUSSION

Regarding the sociodemographic characteristics of the study participants in the present study, about two thirds (70%) of them were in age group (20-40) years and more than three quarter (85.6%) were females while 14.4% were males. This agrees with a study reporting that about 69.9% of cases had age ranging between 20-40 years and 71.2% were females while only 28.8% were males[8]. In addition, more than three quarter (88.9%) of participant caregivers were from rural area whereas 11.1% of them were from urban area. This disagree with another study which reported that about 95.7% of participants were from urban areas while 4.3% of cases were from rural areas[15]. The study showed that about third of participants were illiterate (31.1%) and about half (45.6%) of participant caregivers had basic education. This agreed with medhot *et al.,* (2005) who reported that about 35.5% of participant cases were illiterate and 41.9% had basic education[8]. Regarding marital status the present study showed that the majority of caregivers participants were married (87.8%) which disagreed with talpur *et al*., (2007) who reported that the majority of cases (above than half of participants; 53.2%) were unmarried and 46.8% were married[14].

The present study showed also that the majority (78.8%) of participant caregivers had fair (44.4%) and poor (34.4%) knowledge while 21% had good knowledge. Females had significantly better score of knowledge than males

(P<0.05). This agreed with stan hope *et al.,*(2008) who reported that female spouses represent the largest group of family caregivers. Primary care giving is usually a women's work. Wives and daughters are often caregivers but female relatives and female friends also take great responsibility[12].

Although the study showed slightly better total practices score for family caregivers being about 22.2% had good practices, 43.3% had fair practices and 34.5% had poor practices scores. Negligence or practicing some of these activities increases the exposure to HCV and rises HCV incidence rates and so increasing disease burden.

Concerning family caregivers' attitudes towards patients with HCV a high percentage (54.4%) of participant caregivers agreed that patients need screening. It was reported that diagnosis and monitoring can be determined by the use of various tests[11]. If a person is suspected to have HCV infection, screening test should be requested through assessing HCV antibodies. Regarding the similarly, a high percentage (58.8%) agreed with taking precautions while dealing with patients' blood HCV is transmitted through infected blood[13,14]. If someone with intact skin comes into direct contact with this blood He/she will not become infected in most cases because the skin acts as the first line of defense and stops the virus from entering their bloodstream. This is supported by weinstock *et al.*(2008), who reported that the risk of infection becomes greater if there are open wounds on the skin which sometimes cannot be seen and should be avoided once high risk behavior as sharing needles or syringes is done. All open wounds Should be/covered[15]. There was statistically significant difference (p<0.05) in the item of sympathy for HCV patients. The majority (70%) agreed. Regarding preventing children for sharing food with HCV patients, the majority (96.7%) disagreed. concerning worrying while introducing the food for patients with HCV, the

majority (94.4%) disagreed. This is in accordance with reporting that the working with the family the study caregiver in providing care to an individual client at home is essential.[12] Moreover, that patients, 66.7% of participants disagreed. With HCV need psychological care. This contradicted the report stating that a caregiver is defined as the individual responsible for the majority of care giving tasks, including emotional support and supervision of the family member.[12]

CONCLUSION

The majority of the study participants were located between fair and low level in knowledge and practice as well as positive attitude responses among half of them.

RECOMMENDATION

- Improving knowledge and practices of the community regarding HCV through health education that should be disseminated by mass media and health campaigns.
- Providing health education about HCV in health centers of the community, especially regarding poor practices that can enhance trans-mission of infection.

Table 1: Sociodemographic characteristics of the patients and family caregivers

Demographic characteristics		Patient		Family's caregivers	
		No.=90	%	No.=90	%
Age	• 20<35	25	27.8%	32	35.6%
	• 35<50	45	50%	31	34.4%
	• 50<65	17	18.9%	23	25.6%
	• 65-80	3	3.3%	4	4.4%
Sex	• Males	66	73.3%	13	14.4%
	• Females	24	26.7%	77	85.6%
Residence	• Urban	10	11.1%	10	11.1%
	• Rural	80	88.9%	80	88.9%
Educational level	• Illiterate	21	23.3%	28	31.1%
	• Read and write	18	20%	7	7.8%
	• Basic education	41	45.6%	41	45.6%
	• Secondary and more	10	11.1%	14	15.6%
Marital status	• Single	7	7.8%	9	10.0%
	• Married	77	85.6%	79	87.8%
	• Widow	6	6.6%	2	2.2%
Occupation	• Not working/ Housewives	24	26.7%	64	71.1%
	• Manual/farmers	42	47.6%	24	26.7%
	• Professional	24	26.7%	2	2.2%
Family caregiver relation to the patient	• Wife			62	68.9%
	• Daughter			14	15.6%
	• Husband			7	7.8%
	• Son			6	6.6%
	• Son's wife			1	1.1%

Table 2: Distribution of home environment of patient and family's caregivers

Item		No.	%
Family size	• 2-4	53	59%
	• 5-8	30	33.3%
	• >8	7	7.7%
Number of rooms	• 2	22	24.4%
	• 3	67	74.4%
	• 4	1	1.1%
Special room for patient	• No	69	76.7%
	• Yes	21	23.3%
Special utensils for the patient	• No	28	31.1%
	• Yes	62	68.9%
Level of cleanliness	• Accepted	66	73.3%
	• Unaccepted	24	26.7%
Home ventilation condition	• Accepted	82	91.1%
	• Unaccepted	8	8.9%
Source of water	• Tab water	90	100%
Electricity	• Available	90	100%
Sewage disposable	• Available	7	7.8%
	• Unavailable	83	92.2%
Toilet type	• land	50	55.6%
	• Chair	40	44.4%

Table 3: Distribution of participant caregivers regarding their knowledge about hepatitis C virus

Items	No.=90	%
1.Definition		
a. Unknown	63	70%
b. Incorrect answer	18	20.0%
c. Correct answer	9	10.0%
2. People at risk		
a. Unknown	30	33.3%
b. Persons receiving blood transfusion	26	28.9%
c. Old bilharzias	20	22.2%
d. others	14	15.6%
3. Mode of transmission		
a. Unknown	20	22.2%
b. Blood transfusion	46	51.1%
c. Sexual intercourse	5	5.6%
d. Sharing utensils	19	21.1%
4. Sign and symptoms		
a. unknown	30	33.3%
b. Joint pain	19	21.1%
c. Nausea and lack of appetite	26	28.9%
d. Eye jaundice	15	16.7%
5. Complication		
a. unknown	41	45.5%
b. Liver cirrhosis	28	31.2%
c. Ascites	21	23.3%
6. Modes of prevention		
a. unknown	22	24.4%
b. Avoid using patient utensils	40	44.4%
c. Using sterile syringe	20	22.2%
d. Others	8	9%
7. Drugs the patient received		
a. Unknown	10	11.2%
b. Interferon	49	54.4%
c. Liver support	31	34.4%
8. Side effect of the drugs		
a. Joint pain	35	38.9%
b. Nausea and vomiting	21	23.3%
c. Problems in urination	10	11.1%
d. d. Headache	24	26.7%

Table 4: Distribution of participants' caregivers according to practices transmitting HCV

Practice	Applied		Not applied		Z	P
	No	(%)	No	(%)		
Sharing dental brush	28	(31.1%)	62	(68.9%)	5.07	0.001**
Tattooing	23	(25.6%)	67	(74.4%)	6.5	0.002**
Hegama	11	(12.2%)	79	(87.8%)	10.1	0.001**
Beard Shaving outdoor	26	(28.9%)	64	(71.1%)	5.6	0.007**
Circumcision by barber	72	(80%)	18	(20%)	8.05	0.004**
Nail trimming by patient's tools	48	(53.3%)	42	(46.7%)	0.8	0.001**
Using patients utensils	31	(34.4%)	59	(65.6%)	4.1	0.001**
Delivery at home	45	(50.0%)	45	(50.0%)	0.0001	0.05*
Using non-sterile syringe	32	(35.6%)	58	(64.4%)	3.8	0.0004**

*significant or P<0.05.
**highly significant or P<0.01.

Table 5: Distribution of participant caregiver's attitude toward patients with HCV

Attitude	**Agree**		**To some extent**		**Disagree**		**Z**	**P**
	No	**(%)**	**No**	**(%)**	**No**	**(%)**		
1-Patient dependent on others.	15	(16.7%)		(0.0%)	75	(83.3%)	16.8	0.003**
2- Screening can detect liver cancer early.	52	(57.8%)	35	(38.9%)	3	(3.3%)	50.4	0.001**
3- Dealing with patient's blood carefully.	53	(58.9%)	33	(36.7%)	4	(4.4%)	52.2	0.007**
4- Living and doing daily activity normally.	49	(54.4%)	13	(14.4%)	28	(31.2%)	47.6	0.02*
5- Feeling Sympathy for patients with HCV.	63	(70%)	1	(1.1%)	26	(28.9%)	45	0.04*
6- Preventing children from eating with HCV patient.	3	(3.3%)		(0.0%)	87	(96.7%)	17.6	0.003**
7-worrying while introducing food to HCV patient.	4	(4.4%)	1	(1.1%)	85	(94.5%)	60.3	0.001**
8-Patients need special psychological support.	15	(16.7%)	15	(16.7%)	60	(66.6%)	85.7	0.000**

*significant or P<0.05.
**highly significant or P<0.01.

Table 6: Classification of participant's family caregivers according to their knowledge, practice & attitude scores towards HCV patients.

Category	gender		Total (n=90)	P
	Male (n=13)	Female (n=77)		
Knowledge				
Good	1(7.6%)	18(23.4%)	19(21.2%)	
Fair	10(77.0%)	30(39.0%)	40(44.4%)	
Poor	2(15.4%)	29(37.6%)	31(34.4%)	
Total	13(100.0%)	77(100.0%)	90(100.0%)	0.03*
Practice				
Good	3(23.1%)	17(22.0 %)	20(22.2%)	
Fair	8(61.5%)	31(40.3%)	39(43.3%)	
Poor	2(15.4%)	29(37.7%)	31(34.5%)	
Total	13(100.0%)	77(100.0%)	90(100.0)	0.2
Attitude				
Agree	9(69.3%)	40(52.0%)	49(54.4%)	
To some extent	3(23.0%)	27(35.0%)	30(33.3%)	
Disagree	1(7.7%)	10(13.0%)	11(12.3%)	
Total	13(100.0%)	77(100.0%)	90(100.0%)	0.5

*significant or P<0.05.

Table 7: Correlation between Knowledge, Attitude and Practice Scores

		Attitude	Practice
Knowledge	r	0.25	0.62
	P	0.01	0.0001

REFERENCES

1. Romeo R, Tommasini MA, Rumi MG. Genotypes in the progression of hepatitis C related cirrhosis and development of hepatocellular carcinoma. Hepatology. 2006; 24:153A.
2. Alaviian SM. Networking for out coming on Viral Hepatitis in Middle East and Central Asia: Asia Hep Net work. Hep 2009; 7(4): 182-2.
3. Alter MJ. Epidemiology of Hepatitis C Virus infection. World Journal Gastroenterology 2007; 13(17):2436–41.
4. Ministry of Health of Egypt. Strategic Directions for Hepatitis C; improving access to and uptake of Hepatitis C treatment services. Unpublished document. Wellington: Ministry of Health, 2009.
5. National survey on the prevalence of the Hepatitis C Virus (HCV) in Egypt. Poor Hygiene, Ignorance Blamed for Prevalence of Hepatitis C, 2008.
6. El-Zanaty F, Ann W. Egypt Demographic and Health Survey 2008.

Cairo, Egypt: Ministry of Health, El-Zanaty and Associates, and Macro International, 2008.
7. Farghaly AG, Barakat RM. Prevalence, impact and risk factors of Hepatitis C infection. J Egypt Public Health Assoc. 2008; 68:63–79.
8. Medhat A, Shehata M, Magder LS, Mikhail N, Abdel-Baki L, Nafeh M, Abdel-Hamid M, Strickland G.T, Fix AD. Hepatitis C in a community in Upper Egypt: risk, factors for infection. American journal of tropical medicine and hygiene. 2005 May; 66(5):633–8.
9. Centers for Diseases Control and Prevention. Health Information for International Travel Prevention of Specific Infectious Diseases: Chapter 4 Hepatitis virus, Type C; 2008.
10. David HL. Control of Communicable Diseases Manual .18th ed .Amazon com CDC website. 2008.
11. El-Raziky MS, El-Hawary M E G, Abouzied AM, El-Koofy N M N, Mansour S, Shaheen A, Abdel Hamid M, El-Karaksy; H. Prevalence and risk factors of asymptomatic Hepatitis C Virus infection. in Egyptian children World Journal of Gastroenterology. 2007 March 28; 13(12): 1828-32.
12. Stanhope M, Lancaster J Community and Public Nursing. Chapter: 7 Epidemiology in community health nursing. 6th ed. Mosby 2008. Pages: 150-173.
13. Saleh DA. Incidence and risk factors for hepatitis C infection in a cohort of women in rural Egypt. Transactions of the Royal Society of Tropical Medicine and Hygiene, 2008.
14. Talpur AA, Memon NA, Solangi RA, Ghumro AA. Knowledge and attitude of patients towards Hepatitis B and C. Pakistan Journal of Surgery. 2007; 23: 162-5.
15. Weinstock HS, Bolan G, Reingold AL, Polish LB. Hepatitis C Virus infection among patients attending a clinic for sexually transmitted diseases.. JAMA. 2008; 269:392-4.