# Awareness of Guidelines in Families Living in Contact with Infective Hepatitis C Virus Patients in a Rural Community

**Aml Sabri Badawi** (1), **Eman Shokry Abd Allah** (2)**& Reda El-Sayed El-Badawy** (3)

(1) *B.SC. - Nursing, Zagazig University,* (2) *prof. of Community Health Nursing& Geriatric Nursing- Faculty of Nursing- Zagazig University*(3) *Lecturer of Community health Nursing- Faculty of Nursing -Zagazig University.*

## Abstract

**Background:** Hepatitis C virus (HCV) infection is becoming a global public health problem facing Egypt today where the highest hepatitis C virus prevalence of infection increases steadily with age and the rural populations show a higher prevalence than urban ones. **Aim of the study:** was to assess the awareness of guidelines in families living in contact with infective HCV patients in a rural community. **Subjects and Methods: Research design:** A descriptive design was used. **Setting:** The study was conducted at Al-Fawaksa and Al-Tal Al-Ahmer villages in Sharkia governorate. **Subjects:** 70 clients with HCV disease, and 140 of their family caregivers. **Tools of data collection:** Two interview questionnaires were used for data collection, one for each category, covering demographic and disease characteristics, health habits and risky practices, as well as knowledge of HCV. It also included a practical guidelines tool. **Results:** Only 45.7% of HCV clients had satisfactory knowledge related to HCV, and 28.6% had adequate practices. For caregivers, 20.7% had satisfactory knowledge, and 27.9% had adequate practices. **Conclusion:** HCV clients and their family caregivers have deficient knowledge and inadequate practice of HCV preventive guidelines; these scores are significantly and positively correlated. **Recommendations:** Intensive client and family caregivers' education by community health nurses in Primary Health Care (PHC) settings and mass screening is needed, especially in rural areas are recommended.

**Keywords:** Hepatitis C virus, Awareness, Guidelines, Knowledge, Family caregivers, Community nurses.

## Introduction:

Viral hepatitis is a global public health problem affecting millions of people every year, causing disability and death. About 80% of countries, including all countries in the African region, have recognized this infection to be an urgent public health issue [1]. Viral hepatitis is caused by infection with any of at least five distinct viruses: hepatitis A virus (HAV), hepatitis B virus (HBV), hepatitis C virus (HCV), hepatitis D virus (HDV), and hepatitis E virus (HEV) [2].

HCV is a hepatotropic RNA virus of the genus Hepacivirus in the Flaviviridae family. The virus exists as an enveloped, positive-stranded RNA virus which is ~50 nm in size [3]. Transmission of HCV infection is mainly by exposure to infected devices and tools despite rigid hygienic control, infected blood or blood products, hemodialysis, intravenous (IV) drug abuse, and organ transplantation [4].

HCV currently infects nearly 2% of the world's population. In Egypt the situation is very critical. Hepatitis C virus constitutes an epidemic in Egypt which is having the highest prevalence in the world? In Egypt however, the prevalence of HCV is 14.7%. Just about every family in Egypt is touched by hepatitis C [5].

In the Nile Delta and Upper Egypt, infection rates can be much higher at around 26% and 28%, respectively. With incidence rates between 2 and 6 per 1000 every year, this leads to an estimated 170,000 new cases every year to add to the 11.5 million patients suffering from the disease [6].

Acute HCV infection is rarely diagnosed due to the lack of definitive symptoms. It is often referred to as a silent epidemic. The average time from exposure to symptom onset is 4-15 week. During this "acute infection period" - if symptoms are present - they are not considerably different to

any other viral syndrome. Usually experienced is abdominal discomfort, nausea, fever, joint pain, fatigue, and infrequently jaundice (yellow tinge to skin and eyes) or clay colored stools. Most people have no physical complaints with chronic infection [7].

However, hepatitis can slowly progress to cirrhosis will go on to develop liver failure or other complications of cirrhosis, including liver cancer or life threatening esophageal varices and gastric varices. Hepatitis C is becoming a bigger and more dangerous problem than hepatitis B [8].

Community nurses can play an important role in being aware of the type of patients who are at risk of hepatitis C and can increase awareness and health promotion strategies to reduce the risk of HCV infection, especially in high risk population groups. Community nurses can help patients avoid infecting others by listening to their concerns and giving reassurance where needed, as well as increasing awareness of potential routes of transmission [9].

**Significance of the study:**

Hepatitis C virus is a significant public health problem of international scope and the most significant public health problem facing Egypt today where the highest hepatitis C virus prevalence of infection increases steadily with age and the rural populations show a higher prevalence than urban ones. So that the client and his family need to increase awareness to enhance knowledge about the mode of transmission and methods of prevention and to enhance infection control at homes and they also need specific guidelines about diet, rest, follow up as well as unsafe situations at home environment and health habits and lifestyle patterns that promote health and improve quality of life for clients and their family.

**Aim of the study:**

The aim of study was to assess the awareness of guidelines in families living in contact with infective HCV patients in a rural community.

**Research Questions:**

1 - Do clients with HCV and their family caregivers have satisfactory knowledge about HCV?
2 - Are clients with HCV and their family caregivers aware to the practice of HCV preventive guidelines?
3 - What are the factors influencing their knowledge and practice awareness to guidelines about HCV?

**Subjects and methods:**

*Research design:*

A descriptive design was used

*Study setting:*

The study was conducted at Al-Fawaksa and Al-Tal Al-Ahmer villages in Hehia district, Sharkia governorate.

*Study subjects:*

*Sample size and sampling technique:*

A cluster sampling was the most appropriate method for the selection of the clients and their caregivers. All clients fulfilling the eligibility criteria in the two selected villages were included in the study. Their number was 70 clients. For each client, the two main family caregivers were included in the sample, i.e. 140 caregivers. No sample size calculation or sampling technique was applied since all eligible subjects were included in the study sample.

*Inclusion criteria:*

HCV clients:

• With confirmed diagnosis of HCV.
• At least 6-month duration of illness.
• Permanently residing in the study settings.

Family caregivers:

• Adult (age 18 or older).
• Living permanently with the client.
• Providing direct care to the client.

*Tools of data collection:*

The researcher prepared two different tools for data collection, one for the HCV clients and another for the caregivers.

• *Client form:*

This consisted of two main sections, namely an interview

questionnaire sheet, and a practical guideline tool.

***Interview questionnaire sheet:*** This included the following parts:

***Part I:*** Socio-demographic characteristics of the client such as age, gender, education, marital status, occupation, crowding index, etc. It also included the new socioeconomic status scale El-Gilany[10]. It covers 7 domains, namely education and culture, occupation, family possession, family, home sanitation, economic, and health care domains. The scale has a total score of 84.

***Part II:*** History of HCV illness including the mode of discovery, transmission, duration, complications, treatment types, fees and any improvement. It also asked about the presence of any concomitant chronic diseases.

***Part III:*** This elicited data concerning the client's health habits and risky practices that could have been the cause of the HCV illness such- as sharing the presence of an infected person in the household, history of invasive interventions, as well as the shared use of personal equipment such as toothbrushes and shavers, etc. It also asked about the smoking habits.

***Part IV:*** This assessed client's knowledge of HCV as regards its nature, incubation period, transmission, symptoms/signs, investigations, treatment, complications, and prevention.

***Practical guidelines tool:*** was done by the investigator. This included a list of the main hygienic and lifestyle of client's practices according to guidelines aimed at promoting health, preventing infection and protecting others. It covered five main areas:
- Skin and wound precautions.
- Personal hygiene precautions.
- Cleaning spills.
- Compliance.
- Avoiding transmission.

**Scoring:** Each item checked to be done was scored 1 and the "not done" zero.

***Family caregiver form:*** This similarly had two main sections, namely an interview questionnaire sheet, and a practical guideline tool.

*Interview questionnaire sheet:* This included the following parts:
- ***Part I:*** Socio-demographic characteristics of the caregiver such as age, gender, education, marital status, job, and relationship to HCV client.
- **Part II:** This assessed caregiver's knowledge of HCV questions. It consisted of the same questions as in the client's form, and had the same scoring.
- ***Practical guidelines tool:*** The same form of the HCV client was used, with the same scoring.

**Content validity Reliability:**

The preliminary form of the tool was presented to a group of three experts: two in Community Health Nursing and one in Community Medicine for face and content validation. They reviewed the tools assessing their clarity, relevance, and comprehensiveness. Necessary modifications were done according to their recommendations and suggestions.

The reliability of this tool was tested through measuring its internal consistency. It demonstrated a good level of reliability with Cronbach's Alpha based on knowledge 0.92 and practical guidelines 0.89.

**Fieldwork**

Official approvals to conduct the study were secured. The researcher met with eligible HCV clients in their households to explain the aim and process of the study and to invite them to participate. Those who consented orally were interviewed using the data collection forms. Each subject, either HCV client or family caregiver, was interviewed individually and privately to avoid any influential effects on their responses.

Data were collected along a period of four months from the end of May to the first of September 2016. The researcher visited the clients and their family caregivers in their home

weekly on Fridays to guarantee their presence. This was usually from 4.00 pm to 10.00 pm. The interview lasted for about 45 minutes for each respondent.

**Pilot study**:

A pilot study was carried out before starting the data collection to test the- clarity and applicability of the developed tools, and the time needed to fill them out. It was done on a sample representing about 10% of the main study sample. The results of the pilot helped to make necessary modifications in the tools to improve their clarity and accuracy. The final forms of the tools were then obtained and the time needed for completing them was determined. The subjects who shared in the pilot study were not included in the main study sample.

**Administrative and ethical considerations:**

The researcher obtained all needed official permissions through letters addressed from the Faculty of Nursing explaining the study objectives and procedures. Approval of the study protocol was secured from the research ethics committee in the Faculty of Nursing, Zagazig University. An informed oral consent was obtained from each participant before collecting any data and after explanation of the study aim in a simple and clear manner to be understood by lay people. Participants were informed about their rights to refuse or withdraw from the study at any time without giving any reason. Data were confidential and not used outside this study without participant's approval.

**Statistical analysis:**

Data entry and statistical analysis were done using SPSS 20.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations and medians for quantitative variables. Qualitative categorical variables were compared using chi-square test. Whenever the expected values in one or more of the cells in a 2x2 tables was less than 5, Fisher exact test was used instead. In larger than 2x2 cross-tables, no test could be applied whenever the expected value in 10% or more of the cells was less than 5. McNemar chi-square test was used for the comparison of dependent samples. Spearman rank correlation was used for assessment of the inter-relationships among quantitative variables and ranked ones. In order to identify the independent predictors of the knowledge and practice score, multiple linear regression analysis was used, and analysis of variance for the full regression models done. Statistical significance was considered at p-value <0.05.

**Results:**

**Table 1** illustrated that the study sample of HCV clients had their age ranging between 24 and 68 years, with median 45.5 years, with a majority of males (81.4%). More than half of them had basic/intermediate education (57.1%), and only 5.7% had a university degree. The majority were married (90.0%), employed as workers (61.4%), and lived in houses with crowding index less than two persons per room (72.9%).

**Table 2** indicates that two-fifth of the HCV clients had an infected person in the household (40.0%), mostly siblings (35.7%). As regards the possible risk factors, the most commonly reported were history of previous IV set (94.3%), circumcision by non-physician (90.0%), hospitalization (74.3%), and dental care (70.0%). On the other hand, the least possible risk factors were repeated injections (8.6%), and tattoo (1.4%). For women, 76.9% reported labor assisted by Dayas, while for men, 80.7% reported use of a common shaver.

Overall, **Figure 1** indicates that slightly less than a half of the HCV clients (45.7%) had satisfactory knowledge related to HCV compared to only 20.7% of their caregivers. The difference was statistically significant (p<0.001).

In total, **Figure 2** illustrates that slightly more than one-fourth the HCV clients (28.6%) and of their caregivers (27.9%) had adequate practices related to HCV. The difference was not statistically significant (p=0.91).

**Table 3** points to statistically significant relations between HCV clients' knowledge and their jobs and socioeconomic level (p<0.05). It is evident that the percentages of clients with satisfactory knowledge were higher among those in employee clients, and those with higher (intermediate) socio-economic level. Although the satisfactory knowledge was higher among male clients, the difference did not reach statistical significance (p=0.07).

**Table 4** shows a statistically significant moderate positive correlation between HCV clients' scores of knowledge and practice (r=0.475). Their knowledge scores had also statistically significant weak positive correlations with their education, socioeconomic level, and the duration of HCV. Meanwhile, their practice scores had statistically significant weak positive correlations with their age, socioeconomic level, and number of treatments.

**Table 5** reveals that their practice scores had statistically significant moderate positive correlation (r=0.52). In addition, clients' knowledge scores had statistically significant weak positive correlation with caregivers' practice scores (r=0.38).

**Table 6** demonstrates that the statistically significant independent positive predictors of HCV clients' knowledge scores were their socioeconomic level and the duration of HCV. The model explains 14% of the variation in the knowledge score. None of the other characteristics had a significant influence on this score.

As regards HCV clients' practice scores, **Table 7** shows that the statistically significant independent positive predictors were their age, socioeconomic level and knowledge score. Conversely, the duration of

HCV was a negative predictor, although of borderline significance. As the standardized coefficients values indicate, the knowledge score was the most influential. The model explains 41% of the variation in the practice score. None of the other clients' characteristics had a significant influence on this score.

**Discussion:**

The potential importance of hepatitis C virus infection, as a cause of liver disease among Egyptians has been recently noticed, and there is increasing evidence that many of most serious problems of health are associated with specific behaviors of life style. For this reason there is a great potential for individuals to change their behaviors and avoid risks to health Osama [11].

The findings generally indicate that HCV clients and their family caregivers have low percentages of satisfactory knowledge about HCV, and low awareness of the practice of HCV preventive guidelines. The duration of the disease as well as the age and socioeconomic level seem to be the main factors influencing their knowledge and practice. These answered the three research questions.

The characteristics of HCV clients in the present study sample indicate mostly middle-age predominantly male clients with generally low socioeconomic level and high risks for HCV infection. Thus, the majority had no or basic/intermediate education, and were of low socioeconomic class, factors that should influence their knowledge and practice. Similar characteristics were reported in a study carried by Abd El-Maksoud et al[12] in El-Nasr Hospital, Helwan in Egypt regarding age, in a study in Zagazig University regarding education Amer et al[5]. As for gender, and in congruence with the current study, previous studies reported higher prevalence of HCV among males such as Ibrahim and Madian[13] in Damanhour University, and El-Adly and Wardany[14] in Al-Azhar University

in Egypt. This male preponderance is explained by higher exposure to risk factors of HCV transmission due to their lifestyle.

Moreover, approximately a half of them had an infected person in the household. A majority gave history of previous IV set use, circumcision by non-physician, and dental work, labor assisted by Dayas among women, and use of a common shaver among men. Additionally, more than one-tenth of the HCV clients reported having had the disease from a close relative. Similarly high levels of exposure to various risk factors of HCV infections were reported in a number of studies such as frequent use of IV sets (Mostafa et al[15]; Awadalla et al[16]; Forbi et al)[17], previous surgery Kalil et al[18], circumcision by non-physicians Daw et al[19], and dental work El-Adly and Wardany[14].

According to the present study findings, only less than a half of HCV clients had satisfactory knowledge related to HCV. An even lower percentage of their caregivers, around one-fifth, had satisfactory knowledge. The higher knowledge among the clients is expected given that they are all adults, they know their symptoms and signs, and they are responsible for their own care. In support of this explanation, the areas where HCV clients had significantly better knowledge compared with their caregiver were those related to HCV symptoms and signs, investigations, treatment, as well as the complications.

In agreement with the foregoing current study findings, a study conducted in Damanhour University by Ibrahim and Madian [13] reported that the great majority of the sample had unsatisfactory knowledge about HCV. On the same line, Rashrash et al [20] in a study among African Americans in the United States demonstrated that they had mostly poor knowledge about HCV.

The current study demonstrated that for both HCV clients and their caregivers, the least satisfactory knowledge was related to the HCV incubation period. This is quite plausible given that many of the cases of HCV infections pass without notice due to lack of specific symptoms and signs following exposure to the infective agent. In congruence with this, Gonçalves Rossi et al [21] emphasized that HCV diagnosis is difficult because of the long and widely variant incubation period, in addition to the absence of clinical manifestations during the acute stage of the disease. This deficient knowledge may be attributed to two reasons. The first is the lack of health educational mass campaigns about the HCV and the way of living healthy with it. The second is the low educational level in the studied sample.

The present study also assessed the awareness of HCV clients and their caregivers regarding the practice guidelines through assessing their practice of such guidelines. The study results demonstrated that only slightly more than one-fourth of HCV clients had adequate practices. This very low level of awareness of and practice of preventive guidelines is alarming since it increases the risks of transmission of the infection, in addition to deterioration of the health condition of the client. The finding is in congruence with the results of a study in Damanhour University Ibrahim and Madian [13], which found that nearly half of the sample had inadequate lifestyle practices related to HCV infection.

The present study also searched for the factors influencing the knowledge and practice awareness of HCV clients and their family caregivers. Among HCV clients, knowledge was significantly related to job and socioeconomic level. Thus, employees and those with higher socioeconomic level had significantly more satisfactory knowledge. Moreover, the knowledge scores had a significant positive correlation with the level of education. The findings are quite plausible given the effect of socioeconomic level on health

behaviors in general. This was confirmed in multivariate analysis, where the socioeconomic level was the only personal factor positively predicting the knowledge score. The finding is in agreement with Wu et al [22] who showed in a study among United States and Chinese HCV patients that higher socio-economic characteristics had significant positive effects on their knowledge.

The present study has also demonstrated positive associations between the scores of knowledge and practice both for the HCV clients and their family caregivers. Thus, the percentages of clients and of caregivers having adequate practice were higher among those with satisfactory knowledge. Moreover, significant positive correlations was shown between the scores of knowledge and practice in both groups. This points to the importance of providing good knowledge to clients and caregivers given its positive impact on practice. In congruence with this, a study in the United States found that the clients having good knowledge about HCV had better practice of preventive behaviors, and were more accepting HCV testing Calderon et al [23].

Furthermore, the multivariate analysis showed that the knowledge score of HCV clients was a significant positive predictor of their practice scores. Additionally, the analysis revealed that the knowledge score was the most influential factor affecting the practice score in the regression model. This adds to the importance of patient education in adopting more safe practices. The finding is in agreement with those of Younossi et al [24] whose study in the United States identified knowledge about HCV as the only predictor of compliance with treatment among HCV patients suffering from chronic disease.

Lastly, the present study results indicated that HCV clients and caregivers' practice scores were significantly and positively correlated. Moreover, clients' knowledge had a significant positive correlation with caregivers' practice. The findings indicate the importance of the role of the caregiver in the management of the disease in the HCV client. In congruence with this, an intervention study in Egypt demonstrated that the involvement of the family caregivers in client education programs has a significant positive effect on the health status of HCV clients Mohamed and El-Bahnasawy [25].

**Conclusion:**

The study concludes that HCV clients and their family caregivers in the study settings have deficient knowledge about HCV. Moreover, their awareness of the practice of HCV preventive guidelines is inadequate. Personal factors such as age, education, and socioeconomic level do influence their knowledge and practice. As for the disease factors, the duration of the disease is the main factor independently influencing their knowledge and awareness. Moreover, HCV clients and caregivers' practice scores are significantly and positively correlated, and clients' knowledge has a significant positive correlation with caregivers' practice.

**Recommendations:**

In view of the study findings, the following recommendations are proposed.

- Client education by community health nurses is urgently needed in PHC settings, with emphasis on areas of deficiency such as the disease incubation period.
- Health education program should be targeted to the most elderly of clients and caregivers such as those with lower education, lower socioeconomic level, and with long duration of the disease.
- Further studies are proposed to test the effectiveness of such educational programs on adherence to treatment and on client outcomes.

**Table 1:** Socio-demographic characteristics of clients in the study sample (n=70)

| Socio-demographic characteristics | Frequency | Percent |
|---|---|---|
| **Age:** | | |
| <40 | 17 | 24.3 |
| 40+ | 53 | 75.7 |
| Range | 24.0-68.0 | |
| Mean±SD | 45.6±10.4 | |
| Median | 45.5 | |
| | | |
| **Gender:** | | |
| Male | 57 | 81.4 |
| Female | 13 | 18.6 |
| **Education:** | | |
| None | 26 | 37.1 |
| Basic/intermediate | 40 | 57.1 |
| University | 4 | 5.7 |
| **Marital status**: | | |
| Unmarried (single/divorced/widow) | 7 | 10.0 |
| Married | 63 | 90.0 |
| **Job:** | | |
| Employee | 16 | 22.9 |
| Worker | 43 | 61.4 |
| Unemployed/housewife | 11 | 15.7 |
| **Crowding index:** | | |
| <2 | 51 | 72.9 |
| 2+ | 19 | 27.1 |

**Table 2:** Risk factors of HCV and risk habits among clients in the study sample (n=70)

| Risk factors and habits | Frequency | Percent |
|---|---|---|
| Has infected household person | 28 | 40.0 |
| **Relation (n=28):** [@] | | |
| Siblings | 10 | 35.7 |
| Parents | 9 | 32.1 |
| Spouse | 6 | 21.4 |
| Children | 5 | 17.9 |
| **History of:** | | |
| IV set | 66 | 94.3 |
| Circumcision by non-physician | 63 | 90.0 |
| Hospitalization | 52 | 74.3 |
| Dental work | 49 | 70.0 |
| Bilharziasis | 42 | 60.0 |
| *Had treatment for bilharziasis* | *39* | *92.9* |
| Surgery | 40 | 57.1 |
| Wound suturing | 32 | 45.7 |
| Use of common toothbrush | 9 | 12.9 |
| Repeated injections | 6 | 8.6 |
| Tattoo | 1 | 1.4 |
| Labor by daya (n=13): | 10 | 76.9 |
| Labor in hospital (n=13): | 3 | 23.1 |
| *Use of common shaver (n=57):* | 46 | 80.7 |

*(@) Not mutually exclusive*

**Table 3:** Relations between clients' knowledge related to HCV and their socio-demographic characteristics

| Socio-demographic characteristics | Knowledge | | | | $X^2$ test | p-value |
|---|---|---|---|---|---|---|
| | Satisfactory | | Unsatisfactory | | | |
| | No. | % | No. | % | | |
| **Age:** | | | | | | |
| <40 | 9 | 52.9 | 8 | 47.1 | | |
| 40+ | 23 | 43.4 | 30 | 56.6 | 0.47 | 0.49 |
| **Gender:** | | | | | | |
| Male | 29 | 50.9 | 28 | 49.1 | | |
| Female | 3 | 23.1 | 10 | 76.9 | 3.30 | 0.07 |
| **Education:** | | | | | | |
| None | 7 | 26.9 | 19 | 73.1 | | |
| Basic/intermediate | 21 | 52.5 | 19 | 47.5 | -- | -- |
| University | 4 | 100.0 | 0 | 0.0 | | |
| **Marital status:** | | | | | | |
| Unmarried | 3 | 42.9 | 4 | 57.1 | | |
| Married | 29 | 46.0 | 34 | 54.0 | Fisher | 1.00 |
| **Job:** | | | | | | |
| Employee | 11 | 68.8 | 5 | 31.3 | | |
| Worker | 20 | 46.5 | 23 | 53.5 | 9.38 | 0.01* |
| Unemployed/housewife | 1 | 9.1 | 10 | 90.9 | | |
| **Crowding index:** | | | | | | |
| <2 | 22 | 43.1 | 29 | 56.9 | | |
| 2+ | 10 | 52.6 | 9 | 47.4 | 0.50 | 0.48 |
| **Socio-economic level:** | | | | | | |
| Intermediate | 15 | 65.2 | 8 | 34.8 | | |
| Low | 17 | 36.2 | 30 | 63.8 | 5.25 | 0.02* |

*(\*) Statistically significant at p<0.05      (--) Test result not valid*
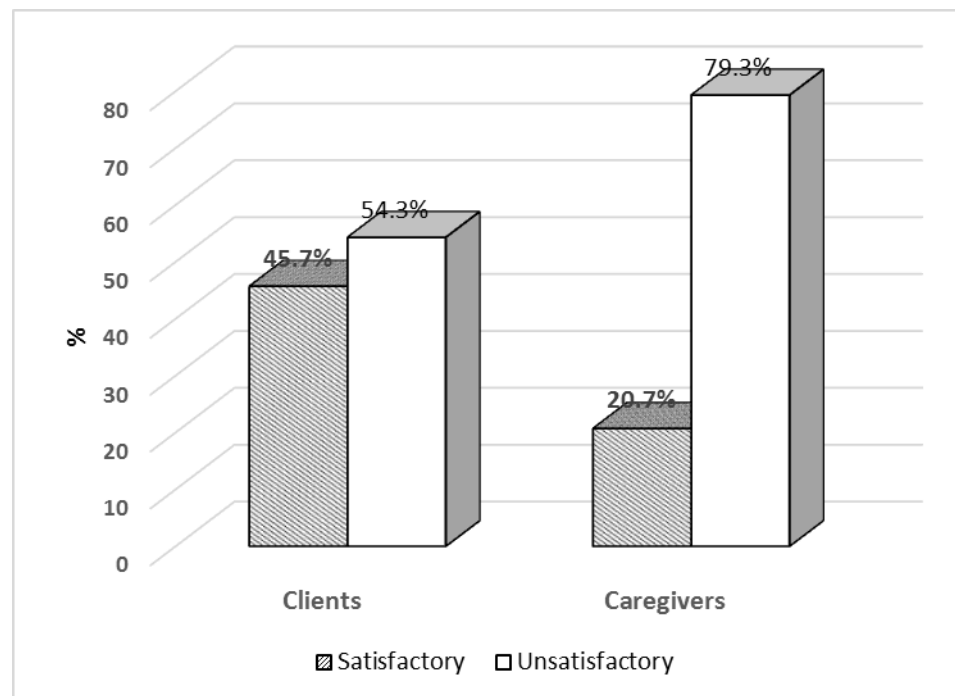


**Figure 1: Comparison of clients and caregiver's total knowledge related to HCV**
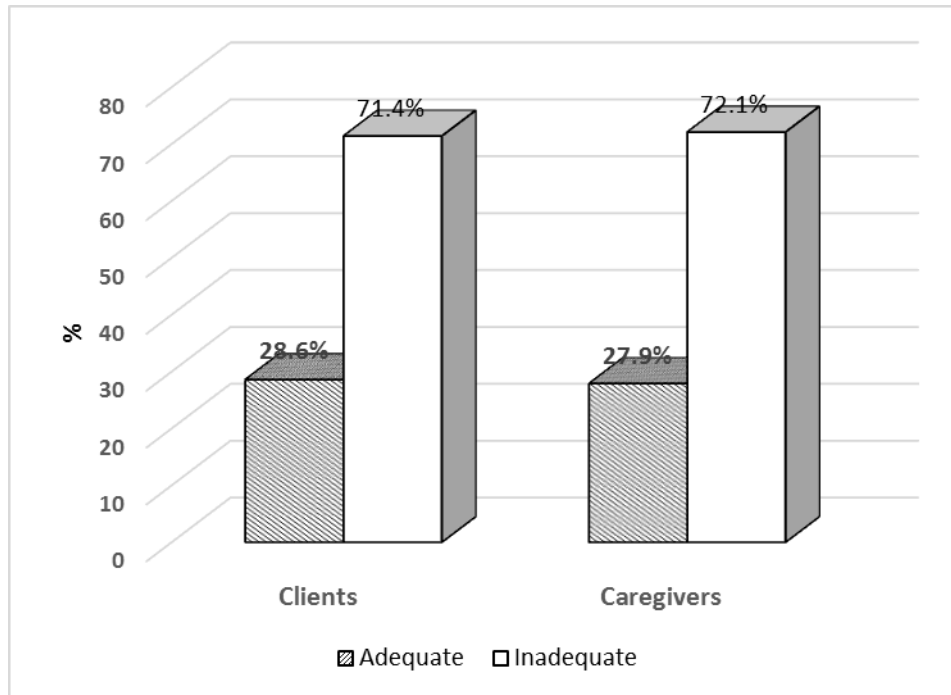
**Figure2:** Comparison of clients and caregiver's total practices related to HCV

**Table 4:** Correlation between clients' knowledge and practice scores and their **characteristics**

| Items | Spearman's rank correlation coefficient | |
|---|---|---|
| | Knowledge scores | Practice scores |
| Practice score | .475** | |
| Age | -0.10 | .264* |
| Education | .389** | 0.10 |
| Crowding index | 0.03 | 0.17 |
| Socioeconomic score | .293* | .369** |
| Duration of HCV | .253* | 0.03 |
| No. of treatments | 0.04 | .246* |
| *Viral load* | 0.15 | 0.14 |

*(\*) Statistically significant at p<0.05*      *(\*\*) Statistically significant at p<0.01*

#### Table 5: Correlation between clients and caregivers' knowledge and practice scores

| Items | Spearman's rank correlation coefficient |
|---|---|
| Client knowledge vs caregiver knowledge | 0.14 |
| Client practice vs caregiver practice | 0.52** |
| Client knowledge vs caregiver practice | **0.38**** |
| *Client practice vs caregiver knowledge* | 0.08 |

*(\*\*) Statistically significant at p<0.01*

#### Table 6: Best fitting multiple linear regression model for the HCV client knowledge score

| Items | Unstandardized Coefficients | | Standardized Coefficients | t-test | p-value | 95% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | | | | Lower | Upper |
| Constant | 61.96 | 7.28 | | 8.512 | <0.001 | 47.43 | 76.49 |
| Socioeconomic level | 6.71 | 2.57 | 0.29 | 2.605 | 0.011 | 1.57 | 11.84 |
| Duration of HCV | 0.44 | 0.19 | 0.27 | 2.368 | 0.021 | 0.07 | 0.81 |

r-square=0.14
Model ANOVA: F=6.76, p<0.001
Variables entered and excluded: age, gender, education, chronic diseases, complications

#### Table 7: Best fitting multiple linear regression model for the HCV client practice score

| Items | Unstandardized Coefficients | | Standardized Coefficients | t-test | p-value | 95% Confidence Interval for B | |
|---|---|---|---|---|---|---|---|
| | B | Std. Error | | | | Lower | Upper |
| Constant | 29.04 | 14.16 | | 2.051 | 0.044 | 0.76 | 57.32 |
| Age | 0.36 | 0.14 | 0.26 | 2.676 | 0.009 | 0.09 | 0.63 |
| Socioeconomic level | 10.43 | 3.03 | 0.34 | 3.444 | 0.001 | 4.38 | 16.47 |
| Duration of HCV | -0.43 | 0.22 | -0.20 | 1.949 | 0.056 | -0.87 | 0.01 |
| Knowledge score | 0.58 | 0.14 | 0.44 | 4.269 | <0.001 | 0.31 | 0.85 |

r-square=0.41
Model ANOVA: F=123.46, p<0.001
Variables entered and excluded: gender, education, chronic diseases, complications

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