

Assessment of Self-Efficacy and Self-Care Behaviors among Patients with Hepatitis C Virus

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Abstract

Background: Hepatitis C Virus is a systemic infection which has many consequences on patients' life because of its chronic nature. Patient involvement in doing self-care is crucial for patients with chronic Hepatitis C in order to change their behaviors towards a healthy life style. The aim of this study: was to assess self-efficacy and self-care behaviors among patients with Hepatitis C Virus. **Study design:** a descriptive exploratory design was used. **Setting:** Hepatic outpatient clinic at Ain Shams University hospitals in Cairo– Egypt. **Subjects:** A purposive sample of 200 adult patients from both sex and free from other chronic disease. **Data collection Tools:** **I-**Demographic data assessment questionnaire for patients with Hepatitis C Virus, **II-**Clinical data assessment tool for patients with Hepatitis C Virus **III-**Knowledge assessment questionnaire for patients with Hepatitis C Virus **IV-**Hepatitis C Virus Treatment Self-Efficacy (HCV-TSE).**V-**Hepatitis C Virus Self-Care Behavioral Scale (HCV-SCB) **Results:** The present study revealed that more than three quarter of the studied patients had unsatisfactory level of knowledge about HCV, near three quarter of the studied patients had moderate level of self-efficacy and more than three quarter of the studied patients had fair self-care behaviors .There was highly statistically significant correlation between total self- efficacy and total dimensions of self-care behavior except psychological self -care-behavior **Conclusion:** The majority of the studied patients had unsatisfactory level of total knowledge about Hepatitis C Virus, moderate level of self-efficacy and have fair level of self-care behavior with positive correlation between them **Recommendations:** Promotion and enhancement of the self-care modalities to HCV patients; through a strict written illustrated instruction prepared by specialists about HCV and its associated self-care behaviors .

Key words: HCV, self-efficacy, self-care behavior.

Introduction

Hepatitis c virus (HCV) is one of the most common chronic diseases in developed and developing countries and became a major health problem worldwide, affecting between 130 and 170 million people of every age, race and culture. The word hepatitis is the Latin word that means an inflammation of liver and is used to describe that HCV is one which has

devastating psychological and physical effects on patients' life. (Who, 2017)

Hepatitis C Virus is one of the most contagious diseases that have great social and economic impact which may touch the future of the young generation and hinder the community. It is approximately 10-15 times more infectious than HIV. It is defined as a chronic systemic infection which involves liver. It has many consequences on patient's

life because of its chronic nature. So that, involvement of patients with HCV in doing self-care is crucial for them in order to change their behaviors towards a healthy life style and improve their quality of life (Fikry, et al., 2015).

Considering hepatitis c virus is a significant health burden worldwide. It leads to high morbidity and mortality, as it has many consequences on patients 'life. So, one of the most widely studied and empirically supported patient- level factors is self-efficacy. Self-efficacy refers to the personal beliefs or to an individual's confidence in his own ability to perform effectively specified tasks. Self-efficacy theory stressed that human action and success depend on how deep the interactions between one's personal thoughts and a given task. So patients with greater self-efficacy have been shown to practice more self-management behaviors, leading to better disease control, better physical function and better quality of life (Bonner et al., 2015)

Significance of the Study

Hepatitis C Virus 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. Nowhere else is there an HCV epidemic that affects a whole country. In all other countries, the prevalence of HCV is between 1% to 2%. In Egypt however, the prevalence of HCV is 14.7% just about every family in Egypt is touched by Hepatitis C (Kamal, 2017).

Aim of the study

This study aims to assess self-efficacy and self-care behaviors among patients with Hepatitis C virus.

Research Question

1-What is the level of knowledge regarding self-care behaviors among patients with Hepatitis C Virus?

2-What is the level of self-efficacy among patients with Hepatitis C Virus?

3-What are the self-care behaviors done by patients with Hepatitis C Virus ?

Research design

A descriptive exploratory design was used in carrying out this study.

Subjects and methods for this study was portrayed under four main categories, these are:

- Technical design
- Operational design
- Administrative design
- Statistical design.

Technical design

The technical design was used for the study which included research design, setting, subjects and tools of data collection.

Research design

A descriptive study design was used in carrying out the study.

Setting

This study was conducted in hepatic outpatient clinic at Ain Shams University hospitals, affiliated to Ain Shams University in Cairo -Egypt.

Subjects

A purposive sample of 200 adult patients from both sex and free from other chronic disease.

Type 1 error (α) = 0.05
Type 11 error (B) = 0.1
(1-B) 90 %

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Inclusion criteria:

Adult conscious patients, from both sexes, who diagnosed with hepatitis C virus, with different educational levels, able to comprehend instructions and agreed to participate in this study.

Exclusion criteria:

Patients with mental or psychotic disorders, patient declined to participate in this study and Patient with class C liver cirrhosis.

Tool of data collection

Data was collected using the following tools:

1- Demographic data assessment questionnaire for patients with Hepatitis C Virus:

It was developed by the researcher and written in simple Arabic language based on recent literature review. It aimed to assess the patient's demographic characteristics including age, sex, level of education, marital status, work, work nature, residence, treatment method, monthly income and number of family members.

2- Clinical data assessment tool for patients with Hepatitis C Virus .

It was developed by the researcher and written in simple Arabic language based on recent literature review **Brunt, 2016; Firpi, 2017; Guido, 2017; Guindi, 2017; Hart, 2018**, it was used to assess and collect data about Patient's medical history including four parts as the following: present history, past medical history, family history and medical follow up history

3- Knowledge assessment interview questionnaire for patients with Hepatitis C Virus (Appendix III).

It was developed by the researcher and written in simple Arabic language based on recent literature review **Brunt, 2016; Firpi, 2017; Guido, 2017; Guindi, 2017; Hart, 2018**, it was used to assess patients` Knowledge regarding Hepatitis C Virus and divided into six sections as the following:

Section 1: It was concerned with assessment of patient's knowledge regarding Hepatitis C Virus as definition, causes, manifestations (signs and symptoms) and complications of Hepatitis C Virus.

Section 2: It was concerned with assessment of patient's knowledge regarding diagnostic tests done during the periods of follow up.

Section 3: It was concerned with assessment of patient's knowledge regarding medical regimen.

Section 4: It was concerned with assessment of patient's knowledge regarding nutritional regimen.

Section 5: It was concerned with assessment of patient's knowledge regarding physical activity.

Section 6: It was concerned with assessment of patient's knowledge regarding control spread of infection.

❖ Scoring system

The subgroups and total questionnaire were categorized in to satisfactory and unsatisfactory, as follows:

≥ 60 % was considered satisfactory when the total grades were ≥ 31 grades.

< 60 was considered unsatisfactory when the total grades were < 31 grades.

3- Hepatitis C Virus Treatment Self-Efficacy (HCV-TSE).

This tool was adapted from **smith, rublin & marus, 2013**. Then translated in to Arabic language after its modification based on the related literature **Schwarzer, 2014; Younossi, 2014; Ranieri ,2015; Graham & Trooskin, 2018** It was used to assess self-efficacy for patients with Hepatitis C Virus. It was consisted of 24 statement. The response for the previous 24 items were on a scale ranged from 0 (never perform) to 4 (always perform).Level of efficacy classified as the following:-

4-Hepatitis C Virus Self-Care Behaviours Scale (HCV-SCB)

It was adapted from **Obediah, 2011**, Then translated into Arabic language after its modification based on the related literature (**Ignatavicius &Workman, 2015; Landsberg & Denenberg, 2015; Ackley, et al., 2016; Grove & Gray, 2018; Moorhead, et al., 2018** and it was used to assess all dimensions of self-care behaviour including physical, Psychological & Emotional, Social, Spiritual, and Occupational self-care for patients with Hepatitis C Virus.

It included 58 statement distributed as the following:

Physical self-care dimension included 21 statement, Psychological self-care dimension included 8 statement, Emotional self-care dimension included 8 statement, social self-care dimension included 7 statement, Spiritual self-care dimension included 6 statement, occupational self-care dimension included 8 statement

❖ Scoring system

The responses were scored as follow: - never (0) - Scarcely (1) – Sometimes (2) – Frequently (3) – Always (4).

Self-care behavior was classified as the following:

- 0-1-----poor self-care behavior
- 2 - 3---- fair self-care behavior
- 4----- Good self-care behavior

II. Operational design

The operational design included preparatory phase, tool validity and reliability, pilot study and field work.

1- Preparatory phase

This phase started from November 2017 to February 2018 covering four months based on reviewing the available literature concerning the topic of the study, and developing the data collection tools after reviewing the recent related literature, and theoretical knowledge of various aspects of the study using books, articles, internet, periodicals and magazines to develop tools for data collection.

Tools Validity and Reliability:

To achieve the criteria of trust worthiness of the tools of data collection in this study, the tools were tested and evaluated for their face and content validity by seven experts from faculty members in the Medical Surgical Nursing field from Faculty of Nursing, Ain Shams University. They were from different academic levels (one professor, three assistant professor and three lecturers) the aim was to determine relevance, clarity, completeness, simplicity and applicability of the study tools, experts responses were either agreed or disagreed or agreed with modifications for the face validity and content validity. About 85% or more of the experts were in agreement with the proposed tool. Required modifications were done. Such as cancelling phrases that giving the same meaning and modify some words to give the right meaning for the phrase which did not understand clearly.

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Tools were tested statistically for reliability by using Alpha Cronbach test.

Pilot study:

Before performing the actual study, pilot study was conducted on 10 % of the study subject included 20 patient with Hepatitis C Virus) in order to test the applicability of the study tools, the clarity of the study tools , as well as estimating the average time needed to complete the tools.no modification was done to the study tools .so, patients selected for the pilot study were included from the main study group.

Field work:

The researcher visited the hepatic outpatient clinic from Sunday to Thursday for male and female patients during the morning shifts (9:00 am to 1:00 pm). The patients who fulfilled the inclusion criteria were selected. At the beginning of the interviewing with the patients, aim of the study was explained to all patients in order to motivate them to follow instructions and participate. Then, interviewing with the patients was conducted at hepatic outpatient clinic. These tools were completed within an average time 60 - 80 minutes.

Ethical consideration:

The ethical research consideration in this research included the following:

- The research approval obtained from the ethical committee in the faculty of nursing, Ain Shams University before starting the study.
- The researcher clarified the objective and aim of the study to patients before obtaining their consent to start the participation.
- The researcher assured maintaining anonymity and confidentiality of the subjected data.

- Patients were informed that they are allowed to choose either to participate or withdrawal from the study at any time.
- Values, cultures and benefits were respected.

III - Administrative design:

An official permission obtained to conduct the study from Director of hepatic outpatient Clinic at Ain Shams University Hospital through a formal letter from the Dean of Faculty of Nursing, Ain Shams University. This letter included the aim of the study and a photocopy from the data collection tools in order to get the permission and cooperation for collection of data. Data collection was completed within 6 months from February to august, 2018. All information collected through data collection tools were interpreted for identifying the patients' knowledge, self-efficacy and self-care behaviors.

Statistical design:

The data were collected, coded and entered in to a suitable excel sheet. Data were analysed using the statistical package for social science (SPSS) version 11.0.1. The statistical analysis was done using Percentage (Descriptive: e.g., percentage (%), mean and standard deviation (SD). Also, Microsoft Office Excel is used for data handling and graphical presentation. Quantitative variables are described by the Mean, Standard Deviation (SD), and paired t-test, analysis of variance, Parson correlation coefficient (r test) were used to test the association between variable and P value.

Test of significance was used and regarding significance of the result, the observed differences and associations was considered as follows:

- Non-significant (NS) $P > 0.05$
- Significant (S) $P \leq 0.05$
- Highly significant (HS) $P > 0.01$

Result

Figure (1): Total self-care behavior among the studied patients (n = 200).

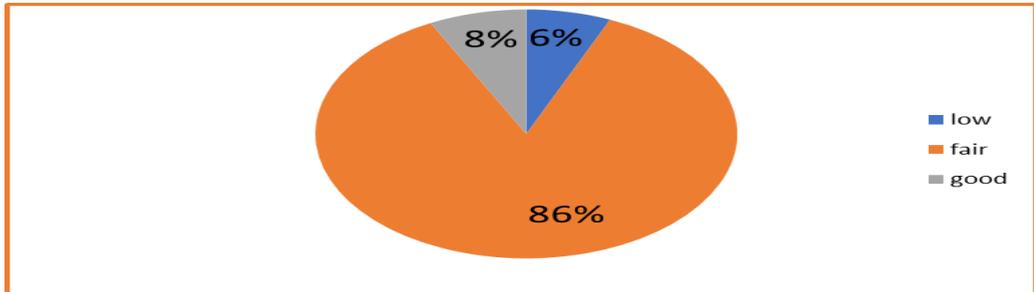


Figure (1): shows that 86.0 % of the study patients have fair self-care behavior, 8 % have good self-care behavior and 6 % have poor self-care behavior.

Figure (2): Total self-efficacy among the study patients (N= 200).

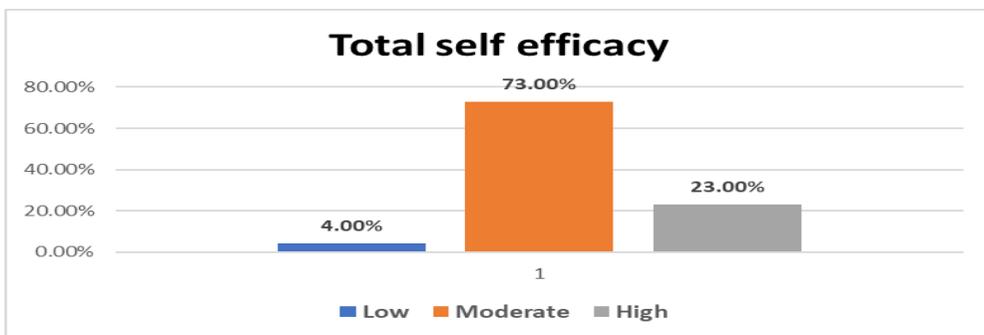


Figure (2): shows that 73% of the study patients have a moderate level of self-efficacy, (23%) of them have high level of self-efficacy and (4%) of them have low level of self-efficacy.

Figure (3): Total level of knowledge among the study patients (n = 200).

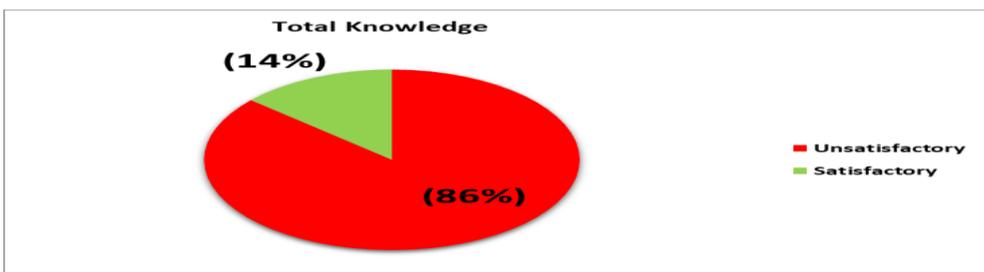


Figure (3): shows that 86% have unsatisfactory level of knowledge about hepatitis c virus while (14%) have satisfactory level of knowledge of HCV.

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Table (1): Number and percentage distribution of the demographic characteristics of the study patients (n=200).

| Items | N | % |
|----------------------------------|--------------|--------------|
| Age | | |
| 20 - < 40 | 36 | 18.0% |
| 40 - < 60 | 140 | 70.0% |
| ≥ 60 | 24 | 12.0% |
| Range | 30 – 83 | |
| Mean ± SD | 49.25 ± 9.59 | |
| Gender | | |
| Male | 107 | 53.5% |
| Female | 93 | 46.5% |
| Marital status | | |
| Married | 150 | 75.0% |
| Single | 9 | 4.5% |
| Divorced / Widowed | 41 | 20.5% |
| Educational level | | |
| Illiterate | 98 | 49.0% |
| Read and Write \ basic education | 53 | 26.5% |
| Secondary level education | 32 | 16.0% |
| Highly education (University) | 17 | 8.5% |
| Residence | | |
| Rural | 147 | 73.5% |
| Urban | 53 | 26.5% |

Table (1): shows that 70 % of the studied patients have age between 40 to less than 60 years, the mean age of them was 49.25 ± 9.59 , 53.5 % were males, 75.0% were married, 49.0% were illiterate, 73 .5 % lived in a rural area.

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Table (2):Number and percentage distribution of present history regarding he severity of the virus and the extent of liver damage to the virus among the study patients (n = 200).

| Items | N | % |
|--|-----|--------------|
| severity of the virus and the extent of liver damage to the virus | | |
| Encephalopathy | | |
| None | 165 | 82.5% |
| Minimal | 35 | 17.5% |
| Advanced(coma) | 0 | 0.0% |
| Ascites | | |
| Absent | 170 | 85.0% |
| Controlled (diuretic responsive) | 30 | 15.0% |
| Refractory (diuretic refractory) | 0 | 0.0% |
| Bilirubin (mg/ dl) | | |
| < 2 mg/ dl | 158 | 79.0% |
| 2-3 mg/ dl | 42 | 21.0% |
| >3 mg/ dl | 0 | 0.0% |
| Albumin(g/ dl) | | |
| > 3.5 g/dL | 152 | 76.0% |
| 2.8 – 3.5 g/ dl | 48 | 24.0% |
| < 2.8 g/ dl | 0 | 0.0% |
| International normalized ratio (INR) | | |
| < 1.7 | 171 | 85.5% |
| 1.7 - 2.3 | 29 | 14.5% |
| > 2.3 | 0 | 0.0% |
| severity of the virus and the extent of liver damage to the virus | | |
| Class A | 154 | 77.0% |
| Class B | 46 | 23.0% |
| Class C | 0 | 0.0% |

Table (2):shows that 82.5 % have point no Encephalopathy , 85.0% were free from Ascites , 79.0% have < 2 mg/ dl of Bilirubin in laboratory investigations , 76.0% have > 3.5 g/dL of Albumin in laboratory investigations , 85.5% have < 1.7 of International normalized ratio (INR) in laboratory investigations and (77.0 %) of the study patients have class A of child Pugh score .

| | Domains of Self-care behavior | | |
|----------------------------|--------------------------------------|----------------------------------|-----------------|
| | | Correlation Coefficient r | P- value |
| Total self-efficacy | Total physical care | 0.538 | 0.000000 |
| | Total Psychological care | 0.094 | 0.187516 |
| | Total emotional care | 0.344 | 0.000001 |
| | Total spiritual care | 0.216 | 0.002097 |
| | Total occupational self-care | 0.320 | 0.000004 |
| | Total self-care behavior | 0.492 | 0.000000 |

Table (3): Correlation between total self-efficacy and domains of total self- care behavior among the study patients (No = 200).

Table (3): Regarding the relation between patients' total self-efficacy and total physical care. This table reveals that, there was highly statistically significant positive correlation of moderate strength between total self-efficacy and total physical care ($P = 0.000000$), while there was non-statistically significant positive correlation of low strength between total self-efficacy and total psychological care ($P = 0.187516$) and there was highly statistical significant positive correlation of moderate strength between total self-efficacy and total self-care behavior ($p = 0.000000$).

Discussion

Regarding demographic characteristics of patients under study, the finding of this study revealed that the age group from forty to less than sixty years constitute the highest percentage among the studied patients. From the researcher point of view, Perhaps the reason is that Hepatitis C Virus takes a long time to discover as well as their level of education as about half of them were illiterate making them un aware of disease symptoms and not asking for a medical advice. This findings is in agreement with the research study of **Zhang, Huynh and Hu, 2017** which titled "Baseline Child-Pugh and Meld Scores Predict Sustained Normalization of both AST and ALT in HCV-Infected Patients Following DAA Induced SVR12" who stated that the majority of patients had age ranged from (40-85) years.

Regarding to gender of the studied patients, more than half of them were males, this finding is supported with the research study of **Seeff, 2014** in Egypt which titled "Sustained virologic response: Is this equivalent to cure of Chronic Hepatitis C " who stated that progression of Hepatitis C Virus (HCV) infection is known to be worse in males than in females. Also, the finding is in the same line with the research study of **Zhang, Huynh and Hu, 2017** who reported that the majority of the studied patients were males.

As regard to marital status, the results of current study revealed that three quarter of the studied patients were married. From the researcher point of view, this may be due to that marriage often occurs after age of 20 years according to Egyptian culture. Also,

Hepatitis C Virus rarely transmitted through sexual contact between spouses. This finding is in the same line with the research study of **Chiu, Huang, Lin and Chen, 2018** in Taiwan which titled "Caring People of Hepatitis C carriers Living with Adverse Effects during Antiviral Treatment" who stated that the majority of the studied patients were married.

Regarding to educational level, the present study showed that about half of the studied patients were illiterate. From the researcher point of view, it may be that most of them live in a rural area. This finding is congruent with the research study of **Vermunt, 2014** under the research titled "The prevalence and level of education of Hepatitis C Virus among an asymptomatic population" who stated that the majority of the studied patients were less than high school level of education.

As regard to residence, the current study showed that near three quarter of the studied patients lived in rural area. From the researcher point of view this might be related to the fact that Hepatitis C Virus is prevalent in rural areas due to low educational level compared to urban. This finding is consistent with the research study of **Mohamoud , Mumtaz , Riome , Miller and Abu-Raddad, 2013** in Egypt which aimed to determine " The epidemiology of Hepatitis C Virus in Egypt , a systematic review and data synthesis " who found that the prevalence of HCV infection is higher in people from rural areas than those from urban areas.

As regard to severity of the virus and the extent of liver damage due to Hepatitis C Virus, the present study showed that three

quarter of the studied patients have class A of child Pugh score and less than one quarter have class B . From the researcher point of view, this is due to that most of the patients have normal range of their laboratory tests for bilirubin, albumin, INR , ascites and hepatic encephalopathy making most of them having child Pugh score class A. This finding is consistent with the research study of **Zhang, et al., 2017** who stated that the majority of patients had Child-Pugh class A and 14.5% had Child – Pugh class B. Also, this finding is supported with the research study of Yang, et al., 2014 which titled “Child–Pugh Score and Ascites for Predicting Economic Outcomes in Adult Patients with Acute Hepatitis” who found that the majority of the patients had class A of child Pugh score.

Regarding relation between total self-efficacy and domains of self-care behavior, this study revealed that, there was statistical significant relation between total self-efficacy and all domains of self-care behavior except psychological self-care behavior This finding is in agreement with the research study of **Bonner, et al., 2015** who found that there was no statistical significant relation between self-efficacy regarding physical coping, psychological coping and treatment adherence coping. Also, this finding is in the same line with the research of **Asselah, et al., 2018** who found that there was a positive association between self-efficacy with social support and demonstrated low positive associations with medication taking behavior at treatment week 24, and low to moderate strength of relationship with other psychosocial measure.

Conclusion

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

The majority of the studied patients had unsatisfactory level of total knowledge about Hepatitis C Virus. Also, near three quarter of the study patients had moderate level of self-efficacy. In addition, more than three quarter of the study patients had fair self-care

behavior. Also, there was highly statistical correlation between total self-efficacy and all domains of self-care behavior except psychological self-care behavior.

Recommendations

Based on the results of the current research, the following suggestions for future research and practice are proposed:

1- Promotion and enhancement of the self-care modalities to HCV patients; through a strict written illustrated instruction prepared by specialists about disease process, Causes, allowed foods, importance of physical activities and follow up during treatment.

2- An educational programe for HCV patients to improve knowledge, self – efficacy and self-care behaviors.

3- Developing a simplified illustrated and comprehensive Arabic booklet including information about HCV and its therapeutic regimen .

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