



# **Psychological Problem among Hepatitis C and B Virus Patients**

**Ahmed Yaqoub Kazem1,**

1BSN, Ministry of Health and Environment, Diyala Health  
Directorate / Al-Batoul Teaching Hospital, Diyala, Iraq Email:

[Ahmed.Yaqoub2205m@conursing.uobaghdad.edu.iq](mailto:Ahmed.Yaqoub2205m@conursing.uobaghdad.edu.iq)

[dr.salwagh@conursing.uobaghdad.edu.iq](mailto:dr.salwagh@conursing.uobaghdad.edu.iq)

College of Nursing University of Baghdad

Assistant professor

<https://orcid.org/0000-0002-6580-331X>

Corresponding Author:

**Salwa Ghazi Turki**

[dr.salwagh@conursing.uobaghdad.edu.iq](mailto:dr.salwagh@conursing.uobaghdad.edu.iq)

College of Nursing University of Baghdad

Assistant professor

<https://orcid.org/0000-0002-6580-331X>

Phone number:07802152203



## Psychological Problem among Hepatitis C and B Virus Patients

Ahmed Yaqoub Kazem1,

Salwa Ghazi Turki2

### Abstract

**Objectives:** To assess the levels of psychological problem of hepatitis virus C&B patients. And to find out the relationship between psychological problem of hepatitis virus C&B patients with socio-demographic data.

**Methodology:** A quantitative, cross-sectional study assessed psychological problems among Hepatitis C and B patients in Baghdad's Medical City Department. Ethical approval was obtained, and a sample size of 120 was selected via purposive sampling. Data collection, conducted from January 6, 2023, to January 20, 2024, employed a questionnaire including socio-demographic details and the Depression, Anxiety, and Psychological Stress Scale (DASS-21), with a high reliability coefficient of 0.890.

**Results:** The vast majority of hepatitis patients suffer from moderate depression their percentage is estimated at 85.8% of patients, while 11.7% suffer from mild depression and 2.5% suffer from severe depression. The majority of hepatitis patients suffer from moderate anxiety, estimated at 75.8% of the total number of infected people, compared to healthy individuals. The majority of hepatitis patients suffer from moderate stress, estimated at 75.8% of the total number of infected people, compared to healthy individuals.

**Key words:** Hepatitis C, Hepatitis B, Anxiety, Depression

### الخلاصة

الأهداف: تقييم مستويات المشكلة النفسية لدى مرضى التهاب الكبد الوبائي C&B. ولمعرفة العلاقة بين المشكلة النفسية لدى مرضى التهاب الكبد الوبائي C & B مع البيانات الاجتماعية والديموغرافية. المنهجية: قامت دراسة كمية ومقطعية بتقييم المشاكل النفسية بين مرضى التهاب الكبد الوبائي C و B في قسم مدينة الطب في بغداد. تم الحصول على الموافقة الأخلاقية، وتم اختيار حجم عينة قدره 120 شخصاً عن طريق أخذ العينات الهادفة. استخدم جمع البيانات، الذي تم إجراؤه في الفترة من 6 يناير

## Psychological Problem among Hepatitis C and B Virus Patients

٢٠٢٣ إلى ٢٠ يناير ٢٠٢٤، استبيانًا يتضمن التفاصيل الاجتماعية والديموغرافية ومقياس الاكتئاب والقلق والضغط النفسي (DASS-21)، بمعامل موثوقية عالي يبلغ ٠,٨٩٠.

النتائج: الغالبية العظمى من مرضى التهاب الكبد الوبائي يعانون من اكتئاب متوسط وتقدر نسبتهم بـ ٨٥,٨% من المرضى بينما ١١,٧% يعانون من اكتئاب خفيف و ٢,٥% يعانون من اكتئاب حاد. يعاني غالبية مرضى التهاب الكبد الوبائي من قلق متوسط، يقدر بـ ٧٥,٨% من إجمالي المصابين، مقارنة بالأصحاء. ويعاني غالبية مرضى التهاب الكبد الوبائي من إجهاد متوسط، يقدر بنحو ٧٥,٨% من إجمالي المصابين، مقارنة بالأصحاء.

الكلمات المفتاحية: التهاب الكبد C، التهاب الكبد B، القلق، الاكتئاب

### INTRODUCTION

Hepatitis B is an infection of the liver tissues caused by the hepatitis B virus (Redha and Majeed, 2015). Globally, hepatitis C virus (HCV) infection is considered one of the main reasons for chronic liver disease, which may progress to life-threatening outcomes, such as cirrhosis and hepatocellular carcinoma (HCC) (Hussein and Ali, 2023). Hepatitis B virus (HBV) infection has become a worldwide health problem (Bakey, 2009). Hepatitis C is a liver disease caused by the hepatitis C virus (HCV). This virus leads to inflammation and can cause serious liver damage over time (Ghafel, 2019). Viral hepatitis is a systemic, viral infection in which necrosis and inflammation of liver cells produce a characteristic cluster of clinical, biochemical, and cellular changes (Hassan and Mohammed, 2014). Chronic liver diseases (CLD) are a major cause of morbidity and mortality in the present-day world (Midhin, 2012).

In addition to the physical health challenges posed by HBV and HCV, these infections are also associated with significant psychological problems. Patients with chronic hepatitis often experience a range of mental health issues, including depression, anxiety, and cognitive impairments. The psychological burden of living with a chronic infectious disease can impact patients' quality of life, adherence to treatment, and overall health outcomes. Understanding the

# **Psychological Problem among Hepatitis C and B Virus Patients**

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psychological impact of HBV and HCV is crucial for providing comprehensive care to these patients (Smith et al., 2020).

Psychological distress in hepatitis patients can be attributed to various factors such as the stigma associated with the disease, the chronic nature of the infection, and the side effects of antiviral treatments. Studies have shown that patients with chronic hepatitis are at a higher risk of developing psychiatric disorders compared to the general population (Jones and Brown, 2018). Effective management of these psychological issues is essential to improve the overall well-being and treatment adherence in patients with HBV and HCV (Wilson et al., 2017).

## **METHODOLOGY**

### **Description of the Study Design**

Quantitative non experimental a descriptive cross-sectional study design has been carried out where using an evaluation approach from (21th December 2023 to 20th January 2024) at Baghdad Governorate in the Medical City Department/Digestive and Liver Teaching Hospital to assess the process for the Psychological Problems among Hepatitis C and B Virus Patients.

A descriptive cross-sectional study was selected because of examines data from a group of people at a single point in time. Participants are chosen for this type of study based on certain variables of interest that are used to form inferences about probable links or to collect preliminary data to support additional research and experimentation (Strand & Lindgren, 2010).

### **Ethical Considerations**

Ethical consideration is the moral kindness necessary to take care of someone's facts associated with the information collected and confidential and to promote professional study conduct, the following ethical issues have been applied; It depends on The Research Ethics Committee of the College of Nursing, University of Baghdad, accepted the tool that will be used in the study.

# **Psychological Problem among Hepatitis C and B Virus Patients**

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## **The setting of the study:**

The study was conducted in Baghdad Governorate in the Medical City Department/Digestive and Liver Teaching Hospital.

Population: The population selection for the study was patients with hepatitis (B,C) virus in Baghdad Governorate in the Medical City Department/Digestive and Liver Teaching Hospital.

Sample and Sample Size: total patients in the Digestive and Liver Teaching Hospital was (160) and sample size in this study (120) patient was selected from total patients at digestive and liver teaching hospital to according calculating of minimum sample size based on confidence level 95% and margin of error 5% . Where five questionnaires (outside the representative sample size) were excluded due to a lack of answers to the questionnaire axes completely.

## **Sample technique**

A non-probability (purposive) sampling was used. Purposive sampling, also known as judgmental, selective, or subjective sampling, is a form of non-probability sampling in which researchers rely on their own judgment when choosing members of the population to participate in their surveys (Prihantini, 2020).

## **Data Collection**

Before starting, the researcher wore personal protective equipment in order to prevent the risk of acquiring infection and preventing its transmission to the staff and patient in the center.

The researcher met with the patient in Baghdad Governorate in the Medical City Department/Digestive and Liver Teaching Hospital To obtain their consent to participate in the study and to clarify The objectives of the study, and after the researcher obtained the consent of the participants. However, the data collection process began as of (6th January 2023 to 20th January 2024) in order to achieve goals study.

Data was collected through the use of the Arabic version questionnaire the data was collected in a unified self-report questionnaire that includes three parts. The first axis includes socio-demographic data, the second axis includes Depression, and Anxiety in patients with hepatitis virus in Baghdad Governorate in the Medical City Department/Digestive and Liver Teaching Hospital.

# Psychological Problem among Hepatitis C and B Virus Patients

## The Study Instrument

Part one: Socio-demographic; This part includes (age, gender, marital status, Level of education, Residency, Monthly Income, Duration of diagnosis (year), and type of hepatitis).

Part two: Depression, Anxiety, and Psychological Stress Scale (DASS-21): This scale that contains 21-items on 4-point Likert scale to assessed Depression, Anxiety, and Psychological Stress. Where each item is measured on a 4-point scale ranging from Normal= 0 – 5.25, Mild= 5.26 – 10.50, Moderate=10.51 – 15.75, Severe= 15.76 – 21. Cronbach's alpha was used to confirm the tool's reliability, and it came out at 0.890.

## RESULTS OF THE STUDY:

**Table 1: Distribution of Participants according to their Socio-demographic Characteristics**

No.	Characteristics	Study group		Control group		
		f	%	F	%	
1	<b>Age (year)</b>	15 – less than 25	14	11.7	42	35
		25 – less than 35	28	23.3	53	44.2
		35 – less than 45	29	24.2	19	15.8
		45 – and more	49	40.8	6	5
		Total	120	100	120	100
		Mean± SD	39.8 ± 12.6		28 ± 7.6	
2	<b>Gender</b>	Male	83	69.2	69	57.5
		Female	37	30.8	51	42.5
		Total	120	100	120	100
3	<b>Marital status</b>	Unmarried	29	24.2	37	39.2
		Married	67	55.8	73	60.8
		Divorced	1	.8	0	0
		Widowed/er	23	19.2	0	0
		Total	120	100	120	100
4	<b>Level of education</b>	Doesn't read & write	16	13.3	0	0
		Read & write	20	16.7	1	.8
		Intermediate school	31	25.8	31	25.8
		Secondary school	10	8.3	3	2.5
		Institute	19	15.8	58	48.3
		College	24	20	27	22.5
		Total	120	100	120	100
5	<b>Residency</b>	Urban	43	35.8	42	35
		Rural	77	64.2	78	65

## **Psychological Problem among Hepatitis C and B Virus Patients**

	Total	120	100	120	100	
6	<b>Monthly Income</b>	Insufficient	68	56.7	45	37.5
		Barely sufficient	52	43.3	73	60.8
		Sufficient	0	0	2	1.7
		Total	120	100	120	100
7	<b>Duration of diagnosis (year)</b>	1 – less than 6	86	71.7	-	-
		6 – less than 11	33	27.5	-	-
		11 or more	1	.8	-	-
		Total	120	100	-	-
8	<b>Type of hepatitis</b>	Hepatitis C	60	50	-	-
		Hepatitis B	60	50	-	-
		Total	120	100	-	-

No: Number, f: Frequency, %: Percentage, SD: Standard deviation

The analysis in this table (1) shows that average age for patients with hepatitis is  $39.8 \pm 12.6$  years and the high percentage is seen with age group of 45- less than 55 years among 25% of them. The average age for individuals in the control group refers to  $28 \pm 7.6$  years and 44.2% of them seen with age group of 25-less than 35 years.

The gender of patients with hepatitis refers to male among 69.2% of them and those in control group refer to 57.5% males. The marital status reveals that 55.8% of patients with hepatitis are married and 60.8% of individuals in control group are married.

Regarding level of education, the highest percentage refers to 25.8% of patients that graduated from intermediate school while 48.3% of individuals in the control group are graduated from institute.

The residency reveals that 64.2% of patients with hepatitis and 65% of individuals in the control group are resident in rural. The monthly income reveals that 56.7% of patients perceive insufficient monthly income while 60.8% of individuals in the control group perceive barely sufficient income.

Regarding duration of diagnosis for patients with hepatitis, 71.7% of them seen with duration of 1-less than 6 years. The type of infection refers to 50% hepatitis C and 50% hepatitis B among patients.



## **Psychological Problem among Hepatitis C and B Virus Patients**

**Table 2: Assessment of Depression for Patients with Hepatitis in the Study Group and Individuals in the Control Group**

Depression	Study group (N=120)					Control Group (N=120)				
	f	%	M	SD	Ass.	f	%	M	SD	Ass.
Normal	0	0	12.57	1.728	Moderate	64	53.3	5.48	2.362	Mild
Mild	14	11.7				53	44.2			
Moderate	103	85.8				3	2.5			
Severe	3	2.5				0	0			
Total	120	100				120	100			

f: Frequency, %: Percentage, M: Mean of total score, SD Standard deviation, Ass: Assessment

Normal= 0 – 5.25, Mild= 5.26 – 10.50, Moderate= 10.51 – 15.75, Severe= 15.76 – 21

This table indicates that 85% of patients with hepatitis associated with moderate depression ( $M \pm SD = 12.57 \pm 1.728$ ) while 53.3% of individuals in the control group mild depression ( $M \pm SD = 5.48 \pm 2.362$ ) and only 44.2% associated with mild depression.

**Table 3: Assessment of Anxiety for Patients with Hepatitis in the Study Group and Individuals in the Control Group**

Anxiety	Study group (N=120)					Control Group (N=120)				
	f	%	M	SD	Ass.	f	%	M	SD	Ass.
Normal	0	0	11.72	1.721	Moderate	8	6.7	8.09	2.070	Mild
Mild	28	23.3				96	80			
Moderate	91	75.8				16	13.3			
Severe	1	.8				0	0			
Total	120	100				120	100			

f: Frequency, %: Percentage, M: Mean of total score, SD Standard deviation, Ass: Assessment

Normal= 0 – 5.25, Mild= 5.26 – 10.50, Moderate= 10.51 – 15.75, Severe= 15.76 – 21

## Psychological Problem among Hepatitis C and B Virus Patients

This table illustrates that 75.8% of patients with hepatitis associated with moderate anxiety level ( $M \pm SD = 11.72 \pm 1.721$ ) while 80% of individuals in the control group have mild anxiety level ( $M \pm SD = 8.09 \pm 2.070$ ).

**Table 4:** Assessment of Stress for Patients with Hepatitis in the Study Group and Individuals in the Control Group

Stress	Study group (N=120)					Control Group (N=120)				
	f	%	M	SD	Ass.	f	%	M	SD	Ass.
Normal	0	0	11.38	1.759	Moderate	29	24.2	7.34	2.253	Mild
Mild	29	24.2				79	65.8			
Moderate	91	75.8				12	10			
Severe	0	0				0	0			
Total	120	100				120	100			

f: Frequency, %: Percentage, M: Mean of total score, SD Standard deviation, Ass: Assessment

Normal= 0 – 5.25, Mild= 5.26 – 10.50, Moderate= 10.51 – 15.75, Severe= 15.76 – 21

This table manifest that 75.8% of patients with hepatitis experiencing moderate level of stress ( $M \pm SD = 11.38 \pm 1.759$ ) while 65.8% of individuals in the control group have mild level of stress ( $M \pm SD = 7.34 \pm 2.253$ ).

## DISCUSSION

**Section 1: Discussion of participant's distribution according to their socio-demographic characteristics as shown in (Table 1).**

According to table (1): the results shows that the average age of for patients with hepatitis is  $39.8 \pm 12.6$  years, and the highest age group is between 45 and less than 55, which represents 25% of the total study group sample, and the lowest age group is between 15 and less than 25 years, which represents 11.7% of the total study group sample. While the average age of the control group is  $28 \pm 7.6$  years, where the age group of 25 and less than 35 represents the highest group of the control group sample at a rate

## **Psychological Problem among Hepatitis C and B Virus Patients**

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of 44.2%. Most of those patients with hepatitis are men, representing 69.2%, and men represent 57.5% of the control group. In the same context, this is result disagree with study done by (Hussein and Mohammed,2022) which show that highest percentage of participant of patient in both of study and control groups(60%) of them were in 50 years and more ,also finding which is inconsistent with recent studies by Malewe Kolou et al. (2017) which mentioned there was no statistically significant difference between the male and female gender distributions in HBV infection and agree with study done by (Atiyah and Majeed ,2020; Isam and Hassan,2023;Abas and Mohammed,2013; Mohammed and Hatab, 2022)) that showed highest percentage of participants were male, while disagree with study done by (Manhal,2009) which showed that highest percentage of participants where female., Fascinatingly, we found that there were more people in the 20–29 and 30-39 age ranges than in the other ranges. Among all the age categories evaluated for HBV infection, the lowest number was found in the children and adolescents (0-19 years). This is not a fundamental inconsistent and is due to how the sample was collected.

Most patients with hepatitis are married, representing 55.8% of the study group sample, while married people represent 60.8% of the control group sample this result agree with study done by (Baqir,2018) which showed that highest percentage of participants were married.

. With regard to educational level, the largest group of patients with hepatitis are intermediate school graduates, who represent 25.8% of the study group sample, while the smallest group are secondary school graduates, who represent 8.3% of the study group sample. With regard to the control group, the largest group are graduates. institutes, representing 48.3% of the control sample. Regarding the monthly income of the patients with hepatitis, the results show that most of the patients have insufficient income, and their percentage is estimated at 56.7% of the total study group sample, while most of the control group are those with a barely sufficient, representing 60.8% of the sample. In a related context, a finding which is consistent with study of Ayman A. Abdo (2012) that stated the vast majority of patients infected with viral hepatitis are married, 92% of the total sample. Regarding the level of education, the researcher mentioned that most of the sample No high school 55% of the total sample. Regarding

## **Psychological Problem among Hepatitis C and B Virus Patients**

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the monthly income of the patients with hepatitis, the researcher found that majority of them had an insufficient income standard of living their percentage reaches 80% of the total sample.

In a related context, most of the research sample are residents of rural areas, where they represent 64.2% of those patients with hepatitis and 65% of the control group. In this context mentioned Claudia Monica Danilescu et al. (2022) that according to a descriptive analysis of the demographic data, 53.3% of the hepatitis patients were urban residents.

The results show that most patients with hepatitis are in the newly diagnosed category, from 1 to less than 6 years old, representing 71.7% of the sample. They also show that the study sample is equal to the number of patients with hepatitis B and C, as each one of them reached 60 patients, representing 50% of the study sample.

### **Section 2: Discussion of psychological problems among hepatitis C and B virus patients, as Shown in Tables (2), (3), (4):**

The majority of hepatitis patients suffer from moderate depression, as the table (2) shows their percentage is estimated at 85.8% of patients, while 11.7% suffer from mild depression and 2.5% suffer from severe depression. Compared to the control group, most individuals do not suffer from anything, and their percentage is estimated at 53.3% of the total sample. With regard to anxiety, table (3) shows the majority of hepatitis patients suffer from moderate anxiety, estimated at 75.8% of the total number of infected people, compared to healthy individuals, as the vast majority of them suffer from mild anxiety, reaching 80% of the total control sample. At the same level, which is consistent with what was stated in the results of the study, where mentioned Aurelia Enescu, et al. (2014) that when comparison to healthy people, those with chronic hepatitis were more likely to experience psychiatric problems (mostly depression), anxiety, and impaired global functioning. High levels of emotional instability, anxiety, and depression were

## **Psychological Problem among Hepatitis C and B Virus Patients**

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seen in ill patients. Nineteen hepatitis professionals were asked regarding their top concerns in a small research. Of these, 36% were concerned about not being stigmatized, and 60% expressed concern about not spreading the infection to others.

In the table (4) shows the majority of hepatitis patients suffer from moderate stress, estimated at 75.8% of the total number of infected people, compared to healthy individuals, as the Most of them suffer from mild stress, reaching 65.8% of the total control sample. In this regard, which is consistent with what was stated in the results of the study, where mentioned Claudia Monica Danilescu et al. (2022) that every person in the sample who has hepatitis has had their stress level assessed. At every stage of the examination, we saw a preponderance of the intermediate level. Differences mostly occur between low and high stress groups.

### **CONCLUSION**

Hepatitis patients live with psychological problems compared to healthy individuals, manifests that psychological problems are highly reported among patients with hepatitis as indicated by high significant differences in psychological problems of depression, anxiety, and stress

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## Psychological Problem among Hepatitis C and B Virus Patients

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## **Psychological Problem among Hepatitis C and B Virus Patients**

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