

Psychological Distress and Health Related Quality Of Life Among Patients With Chronic Liver Diseases

Akhila K Nair

Lecturer
KIMS College of Nursing

Mrs. Graceamma Joseph

Principal
SSNMM College of Nursing
Varkala

Abstract

The present study assessed psychological distress and health related quality of life among patients with Chronic Liver Diseases. The objective of the study was to assess psychological distress and health related quality of life among patients with CLD. The conceptual framework of the study is based on Roy's Adaptation Model. Non-experimental descriptive survey design was used for the study. 100 patients attending liver clinic of KIMS hospital, TVM and who satisfied inclusion criteria were selected by consecutive sampling. Structured Interview schedule was used to collect data regarding socio-personal variables and clinical variables. Psychological distress was assessed by Hospital Anxiety and Depression Scale (HADS) and Health Related Quality of Life (HRQoL) by Chronic Liver Disease Questionnaire (CLDQ). After data collection individualized teaching on measures to improve quality of life and to decrease psychological distress was given with information pamphlet. Data were analyzed using descriptive and inferential statistics. The findings show that 20 % had abnormal anxiety and 25% had borderline abnormal anxiety. 6 % had abnormal depression and 37% had borderline abnormal depression. 64% of patients had good overall HRQoL whereas 75% had poor HRQoL in the domain of activity; 71% had poor HRQoL in the domain of fatigue; 42% had poor HRQoL in the domain of emotional function. The *r* value in the study shows that there is statistically significant negative correlation ($p < 0.05$, $p < 0.01$) between psychological distress and HRQoL in various domains except abdominal symptoms and systemic symptoms. There is a statistically significant association between anxiety with severity of illness, complications and depression with severity of illness, also there is a statistically significant association between HRQoL with age, severity of illness, duration of disease and complications in various domains. The study findings concluded that low level psychological distress enable the patients with CLD to maintain a higher HRQoL

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I. Background of the problem

Chronic Liver Diseases are the progressive destruction and regeneration of the liver parenchyma leading to fibrosis and cirrhosis (normally lasts 6 months). The etiologic agents of CLDs include hepatotropic viruses (HBV and HCV), fatty liver, alcohol, autoimmune hepatitis.¹ Liver disease accounts for approximately 2 million deaths per year worldwide. Cirrhosis is currently the 11th most common cause of death globally and is within the top 20 causes of disability-adjusted life years and years of life lost, accounting for 1.6% and 2.1% of the worldwide burden. About 2 billion people consume alcohol worldwide and upwards of 75 million are diagnosed with alcohol-use disorders. Approximately 2 billion adults are obese or overweight and over 400 million have diabetes; both of which are risk factors for non-alcoholic fatty liver disease (NAFLD). The global prevalence of viral hepatitis remains high, while drug-induced liver injury continues to increase as a major cause of acute hepatitis. Given the population burden, India accounts for one-fifth (18.3%) and China accounts for 11% of all cirrhosis deaths globally.² According to Global Burden of Disease Study of 2010, 1.75 million deaths were attributable to CLD. There is a large degree of geographic variation in the burden of CLD, depending on the prevalence of causative factors such as viral hepatitis infection, alcohol consumption, diabetes and metabolic syndrome. In general, Hepatitis B virus (HBV) infection tends to have a large burden in resource limited countries and NAFLD is more in established economies, whereas Hepatitis C virus (HCV) infection and alcohol use are prevalent throughout.³

Need and significance of the study

A study on depression, anxiety and illness symptoms according to severity classification of liver cirrhosis patients among 110 patients in South Korea reported that the mean depression was 15.11, the anxiety was 11.46. Patients with Child Pugh class A had lower levels of depression and symptom experience than those with Child Pugh class B and C.⁴ A study done on symptom prevalence and clustering of symptoms in 188 people living with Chronic Hepatitis C infection in Australia reported poor quality of life. The most prevalent symptom was physical tiredness (86%) followed by irritability (75%), depression (70%), mental tiredness (70%), and abdominal pain (68%).⁵ A study was conducted to assess the disease-specific health-related quality of life and its determinants in liver cirrhosis patients in Lithuania. The study included 131 patients with liver cirrhosis in the case group and 262 persons from healthy in the control group. The study reported a significant difference in Quality of Life(QoL) between case and control groups in domains of worry (56.0 ± 24.2 vs 88.6 ± 14.4 , $p < 0.001$) and abdominal symptoms (59.7 ± 25.8 vs 88.9 ± 14.2 , $p < 0.001$) and a smaller difference in emotional functions (58.5 ± 20.9 vs 78.9 ± 16.1 , $p < 0.001$) and systemic symptom domains (68.8 ± 18.1 vs 90.0 ± 10.9 , $p < 0.001$). The overall CLDQ score for patients with liver cirrhosis also was lower than in persons with no cirrhosis (59.5 ± 18.3 vs 85.3 ± 12.3 , $p < 0.001$). The findings showed a significant worsening of QOL in parallel with increase of the clinical severity of disease measured by Child-Pugh scale in A and C classes respectively 65.9 ± 18.6 and 52.6 ± 17.0 ($p < 0.01$).⁶ A case control study was conducted to evaluate determinants of health related quality of life among 255 patients with Chronic Liver Diseases in Germany. The study result showed that cause of liver disease, severity of disease (cirrhosis vs. no cirrhosis, Child-Pugh score), sex, age, and social class had no effect on HRQOL. Anxiety and depression scores greater than 11 in HAD scale indicating a probable psychiatric disorder, contributed independently to the impaired HRQoL in the total score of the CLDQ ($p < 0.0001$). Number of active medical comorbidities contributed independently to the reduced HRQoL in the total score of the CLDQ ($p < 0.0001$).⁷

Statement of the problem

A descriptive study to assess psychological distress and health related quality of life among patients with Chronic Liver Diseases in a selected tertiary care hospital, Thiruvananthapuram.

Objectives

1. Assess psychological distress among patients with Chronic Liver Diseases.
2. Assess the health related quality of life among patients with Chronic Liver Diseases
3. Find the relationship between health related quality of life and psychological distress among patients with CLD.
4. Find the association between psychological distress among patients with Chronic Liver Diseases and selected socio-personal and clinical variables.
5. Find the association between health related quality of life among patients with Chronic Liver Diseases and selected socio-personal and clinical variables.

Hypotheses

H₁: There is significant relationship between psychological distress and health related quality of life among patients with CLD.

H₂: There is significant association between psychological distress of patients with CLD and selected socio-personal variables such as age, gender, religion and education and clinical variables such as etiology of disease, severity of illness, duration of disease and complications.

H₃: There is significant association between health-related quality of life of patients with CLD and selected socio personal variables such as age, gender, religion and education and clinical variables such as etiology of disease, severity of illness, duration of disease and complications.

II. Methodology

Research approach

Quantitative approach

Research Design

Non experimental descriptive survey design

Setting of the study

Liver Clinic of KIMS hospital, Thiruvananthapuram.

Population

Patients with Chronic Liver Diseases within the age group of 35-75 years.

Sample and Sample size

Patients with Chronic Liver Diseases within the age group of 35-75 years attending Liver Clinic, KIMS hospital Thiruvananthapuram. Sample consisted of 100 patients with CLD.

Sampling technique

Consecutive sampling technique.

Criteria for sample selection

Inclusion criteria

- Patients who are diagnosed with CLD.
- Patients who can read and understand English or Malayalam.

Exclusion criteria

- Patients with hepatocellular carcinoma.
- Patients with hepatic encephalopathy grade 3 and 4.

Description of tools

TOOL 1: Interview schedule -To collect socio-personal and clinical data

TOOL 2- Child Pugh score to assess the severity of liver disease.

TOOL 3- The Hospital Anxiety and Depression Scale (HAD scale)

TOOL 4- The CLD Questionnaire (CLDQ)

Data analysis

Section 1: Socio-personal and clinical data of patients with CLDs

Sample characteristics	f	%
Age in years		
36-45	10	10
46-55	19	19
56-65	43	43
66-75	28	28
Gender		
Male	76	76
Female	24	24
Religion		
Hindu	65	65
Christian	16	16
Muslim	19	19
Education		
Primary school	3	3
High school	28	28
Higher secondary	28	28
Degree	41	41
Marital status		
Married	95	95
Unmarried	1	1
Widow	4	4
Source of income		
Salary	26	26
Pension	24	24
Aids from children	28	28
Aids from family members	6	6
Assets	3	5
Assets and aid from children	13	13
Monthly income		
Less than Rs.20000	17	17
Between Rs.20000-Rs.40000	82	82

More than Rs.40000	1	1
Occupation		
Unemployed	33	33
Private job	24	24
Government job	1	1
Retired	42	42
Type of work		0
Sedentary	56	56
Moderate	44	44
Medical insurance		
Yes	5	5
No	95	95
Type of family		
Nuclear	60	60
Joint	40	40
Family history of liver disease		
No	84	84
Yes	16	16
Diet		
Vegetarian	5	5
Non-vegetarian	95	95
Smoking		
Current smokers	0	0
Ex-smokers	26	26
Non-smokers	74	74
Alcoholism		
Current alcoholics	0	0
Ex-alcoholics	43	43
Non-alcoholics	57	57
BMI		
Normal	44	44
Overweight	38	38
Obesity	18	18
Etiology		
Viral	17	17
Drugs	3	3
Alcoholism	42	42
NAFLD	35	35
Others	3	3
Duration of disease		
≤ 5 years	73	73
>5 years	27	27
Adherence to treatment		
Good	93	93
Poor	7	7
Severity of illness		

Class A	58	58
Class B	35	35
Class C	7	7
Co-morbidity		
Hypertension		
Yes	43	43
No	57	57
Diabetes mellitus		
Yes	55	55
No	45	45
Coronary artery disease		
Yes	13	13
No	87	87
Renal disease		
Yes	5	5
No	95	95
Others		
Yes	21	21
No	79	79
Complications		
PHTN only	23	23
PHTN and Ascites	6	6
PHTN and Esophageal varices	31	31
PHTN and Hepatic Encephalopathy	5	5
PHTN and SBP	1	1
PHTN and Hepato renal syndrome	1	1
PHTN, Esophageal varices and Ascites	10	10
PHTN ,Ascites and SBP	1	1
PHTN , HE and Esophageal varices	6	6
PHTN,EV, Ascites and HE	3	3
PHTN, EV, Ascites, SBP, HE	1	1
PHTN, EV,HE,Ascites,HRS	1	1
PHTN,EV,Ascites, SBP	1	1
PHTN, EV, Ascites,HRS	2	2
PHTN, Ascites,HE, SBP	1	1
No complications	7	7

Section 2: Psychological distress among patients with CLD measured using HADS scale.

Variable	f	%
Anxiety		
Normal	55	55
Borderline abnormal	25	25
Abnormal	20	20
Depression		
Normal	57	57
Borderline abnormal	37	37
Abnormal	6	6

Section 3: Distribution of patients with CLD based on HRQoL measured by CLD Questionnaire.

Domains of HRQoL	HRQoL			
	Poor		Good	
	f	%	f	%
Abdominal symptoms	25	25	75	75
Fatigue	71	71	29	29
Systemic symptoms	16	16	84	84
Activity	75	75	25	25
Emotional function	42	42	58	58
Worry	41	41	59	59
Overall HRQoL	36	36	64	64

Section 4: Relationship between psychological distress and HRQoL among patients with CLD.

Domains of HRQoL	r value	
	Anxiety	Depression
Abdominal symptoms	-0.158	-0.153
Fatigue	-0.338**	-0.326**
Systemic symptoms	-0.049	-0.049
Activity	-0.219*	-0.217*
Emotional function	-0.637**	-0.515**
Worry	-0.633**	-0.465*
Total HRQoL	-0.507**	-0.429**

Section 5: Association of psychological distress with socio-personal and clinical variables among patients with CLD

There is statistically no significant association between psychological distress-anxiety and age, gender, religion, education, smoking, alcoholism, duration of disease, etiology of disease (p>0.05). Also there is statistically no significant association between psychological distress-depression and age and gender, religion, education, duration of illness, etiology of illness and complications(p>0.05)

Clinical variable	Anxiety						df	χ ²
	Normal		Borderline		Abnormal			
	F	%	f	%	f	%		
Severity of illness								
Class A	38	65.5	12	20.7	8	13.8	4	10.97*
Class B	13	37.1	13	37.1	9	25.8		
Class C	4	57.1	0	0	3	42.9		
Complications								
PHTN only	14	60.9	5	21.70	4	17.40	30	44.49*
PHTN and Ascites	1	16.7	3	50.00	2	33.30		
PHTN and Esophageal varices	21	67.7	7	22.60	3	9.70		
PHTN and Hepatic Encephalopathy	3	60	0	0.00	2	40.00		
PHTN and SBP	1	100	0	0.00	0	0.00		
PHTN and Hepato renal syndrome	0	0	1	100.00	0	0.00		
PHTN, Esophageal varices and Ascites	6	60	0	0.00	4	40.00		
PHTN ,Ascites and SBP	0	0	0	0.00	1	100.00		

PHTN , HE and Esophageal varices	2	33.3	3	50.00	1	16.70		
PHTN,EV, Ascites and HE	2	66.7	0	0.00	1	33.30		
PHTN, EV, Ascites, SBP, HE	1	100	0	0.00	0	0.00		
PHTN, EV,HE,Ascites,HRS	0	0	1	100.00	0	0.00		
PHTN,EV,Ascites, SBP	1	100	0	0.00	0	0.00		
PHTN, EV, Ascites,HRS	0	0	0	0.00	2	100.00		
PHTN, Ascites,HE, SBP	0	0	1	100.00	0	0.00		
No complications	3	42.9	4	57.10	0	0.00		

Clinical variable	Depression						df	χ^2
	Normal		Borderline		Abnormal			
	f	%	f	%	f			
Severity of illness								
Class A	40	69	17	29.3	1	1.7		
Class B	15	42.9	17	48.6	3	8.6	4	14.033**
Class C	2	28.6	3	42.9	2	28.6		

Section 6: Association of HRQoL with socio-personal and clinical variables among patients with CLD

Socio-personal variable	HRQOL domains													
	Abdominal symptoms		Fatigue		Systemic symptoms		Activity		Emotional function		Worry		Overall HRQOL	
	df	χ^2	df	χ^2	df	χ^2	df	χ^2	df	χ^2	df	χ^2	df	χ^2
Age	3	3.52	3	1.40	3	5.28	3	0.77	3	7.42	3	15.67**	3	4.76
Gender	1	0.26	1	2.33	1	0.01	1	0.00	1	1.92	1	0.16	1	0.44
Religion	2	1.77	2	1.05	2	3.42	2	0.40	2	0.53	2	0.09	2	0.03
Education	4	4.25	4	0.67	4	2.28	4	4.08	4	1.95	4	7.46	4	2.40
Smoking	1	0.07	1	0.05	1	0.92	1	1.73	1	0.18	1	1.18	1	1.57
Alcoholism	1	2.30	1	0.43	1	0.38	1	0.67	1	0.15	1	1.92	1	0.41

**-.Significant at 0.01 level

Clinical variable	HRQOL domains													
	Abdominal symptoms		Fatigue		Systemic symptoms		Activity		Emotional function		Worry		Overall HRQoL	
	df	χ^2	df	χ^2	df	χ^2	df	χ^2	df	χ^2	df	χ^2	df	χ^2
Duration of disease	1	2.86	1	1.97	1	2.71	1	3.81*	1	1.14	1	3.47	1	2.37
Etiology of disease	5	4.31	5	7.28	5	2.36	5	9.26	5	1.4	5	7.55	5	1.91
Severity of illness	2	6.49*	2	5.37	2	7.33*	2	9.35**	2	6.82*	2	1.03	2	14.56**
Complications	15	36.9**	15	17.11	15	26.82*	15	18.08	15	15.9	15	11.7	15	24.07

Implications of the Study Nursing Practice

A structured teaching program on different aspects to be adopted to reduce psychological distress and to improve health related quality of life (etiology and symptoms of illness, alcohol consumption, rest, prevention of infection, use of medications, management of co-morbidities, stress reduction, prevention of complication, liver cancer and liver transplant) can be used as a powerful tool to impart knowledge. Nurses should have up-to-date knowledge regarding various aspects of Chronic Liver Diseases which make them well equipped to meet the needs of the clients. Nurses need to arrange and conduct workshops and seminars on measures to reduce

psychological distress and to improve health related quality of life. Continuing and in-service education programs need to be conducted regularly for nurses in order to update them with the recent advances they in turn motivate patients with Chronic Liver Diseases to modify lifestyles and to prevent further complications thereby improving the quality of life.

Nursing Education

Student nurses can conduct health education sessions in the community setting regarding various aspects of Chronic Liver Diseases and measures to improve quality of life. Nursing students should be motivated to provide incidental and planned teaching programme to decrease psychological stress among patients with CLD.

Nursing Administration

Nursing administrators have to organize workshop/ seminars and education programs for nurses focusing on various measures to improve health- related quality of life and decrease psychological distress in patients with Chronic Liver Diseases. Nurse leaders in collaboration with mass media can deliver health education sessions regarding various measures to improve health related quality of life and decrease psychological distress in patients with Chronic Liver Diseases.

Nursing Research

There is a need for extensive research in this area so that strategies for educating nurses and public regarding various measures to improve health related quality of life. Nurse researchers should disseminate the research findings through magazines, journals, seminars and symposiums. Research findings should be communicated to nurse practitioners to incorporate those evidence in the clinical practice as evidence-based nursing practice.

III. Conclusion

Health related quality of life is significantly impaired in patients with Chronic Liver Diseases. The findings of the present study shows that among the patients with CLD 20 % had abnormal anxiety and 25% had borderline abnormal anxiety. 6 % had abnormal depression and 37% had borderline abnormal depression. Out of the samples, 64% of patients had good overall HRQoL; whereas poor HRQoL is noted in the domains of activity and fatigue. There is a statistically significant negative correlation between psychological distress and HRQoL in various domains except abdominal symptoms and systemic symptoms. There is a statistically significant association between anxiety with severity of illness and with complications and depression with severity of illness. Also there is a statistically significant association between HRQoL with age, severity of illness, duration of disease and complications in various domains. The study findings concluded that low level psychological distress will enable patients with CLD to maintain a higher health related quality of life. The findings highlight the need for intensive medical and nursing care vigilance to diagnose and manage psychological distress at the earliest which will in turn improve health related quality of life of patients with CLD.

Limitations

- The study was confined to patients with Chronic Liver Diseases within the age group of 35-75 years attending Liver Clinic, KIMS hospital, Trivandrum.
- The study was confined to 100 samples only, so it is difficult to draw generalization

Recommendations

- A community-based study can be done to assess psychological distress and health related quality of life among patients with Chronic Liver Diseases.
- A follow up study can be conducted among same patients to evaluate the measures adopted to improve quality of Life.
- Structured teaching programme may be made available in the all NCD clinics to make public aware about the risk factors of CLD.
- Study can be replicated on a large sample in a different setting.

References

- [1]. Huang X, Liu X, Yu Y. Depression and chronic liver diseases: are there shared underlying mechanisms? *Frontiers in molecular neuroscience*. [Internet]. 2017 May 8; 10:134. [Cited on 2019 June 10]. Available from <https://www.frontiersin.org/articles/10.3389/fnmol.2017.00134/full>
- [2]. Asrani SK, Devarbhavi H, Eaton J, Kamath PS. Burden of liver diseases in the world. *Journal of hepatology*. [Internet]2019 Jan 1;70(1):151-71. [Cited on 2019 May 30] Available from <https://pubmed.ncbi.nlm.nih.gov/30266282/>
- [3]. Udompap P, Kim D, Kim WR. Current and future burden of chronic non-malignant liver disease: *Clinical Gastroenterology and Hepatology*. [Internet]2015 Nov 1;13(12):2031-41. [Cited on 2019 May 20] Available from <https://www.ncbi.nlm.nih.gov/pubmed/26291665/>
- [4]. Seo JH, Ryu HS, Lee YY, Kim MJ, Choi YS. A study on depression, anxiety and illness symptoms according to severity classification of liver cirrhosis patients in South Korea. *Biomedical Research*. [Internet]. 2018;29(16):3243-8.
- [5]. [Cited on 2019 June 10]. Available from <http://www.alliedacademies.org/articles/a-study-on-depression-anxiety-and-illness-symptoms-according-to-severity-classification-of-liver-cirrhosis-patients-in-south-korea.pdf>
- [6]. Lang CA, Conrad S, Garrett L, Battistutta D, Cooksey WG, Dunne MP, Macdonald GA: Symptom prevalence and clustering of symptoms in people living with chronic hepatitis C infection: *Journal of pain and symptom management*. [Internet].2006 Apr 1;31(4):335-44. [Cited on 2019 June 11]. Available from: [https://www.jpmsjournal.com/article/S0885-3924\(06\)00074-1/abstract/](https://www.jpmsjournal.com/article/S0885-3924(06)00074-1/abstract/)
- [7]. Sumskiene J, Sumskas L, Petrauskas D, Kupcinskas L. Disease-specific health-related quality of life and its determinants in liver cirrhosis patients in Lithuania: *World journal of gastroenterology: WJG*. [Internet]2006 Dec 28;12(48):7792. [Cited on 2019 June 1]. Available from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4087544/>
- [8]. Häuser W, Holtmann G, Grandt D. Determinants of health-related quality of life in patients with chronic liver diseases: *Clinical Gastroenterology and Hepatology*. [Internet] 2004 Feb 1;2(2):157-63. [Cited on 2019 May 20]. Available from <https://www.ncbi.nlm.nih.gov/pubmed/15017621>

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