

EVALUATION OF HEALTH RELATED QUALITY OF LIFE OF CHRONIC LIVER DISEASE PATIENTS (HBV & HCV RELATED)

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Abstract

Background: One of the leading causes of death and disability worldwide is viral hepatitis and Hepatitis B (HBV) & Hepatitis C (HCV) constitute 90% of it. In chronic diseases it is more important to evaluate personal impact and disability caused by the disease. Objective: Purpose of this study was to assess the impact of HBV &/or HCV related Chronic Liver Disease (CLD) on health related quality of life of patients, providing insight on present condition of the patients. **Materials and methods:** This observational study was conducted from June to July, 2018 a private chamber of Chattogram, Bangladesh. Convenience sampling method was used to collect data from 112 HBV &/or HCV patients using EQ-5D-3L questionnaire. SPSS version 23 for windows was used for statistical analysis. Results: In our study, most of the patients could take proper care of themselves but almost one fourth complains some difficulty in walking (28.6%) and performing daily activities (25%). Whereas more than half of total participants had mild physical discomfort or pain (55.4%) and depressive or anxiety (51.8%) experiences in their life. We also found lower quality of life score (Mean 7.13, SD 1.531) in a scale of 5-15 with a comparatively higher well being score (Mean 72.23, SD 21.62) in scale of 0-100 among participants. It was also evident that vaccination status of the spouse were lower in patients with higher wellbeing perception. **Conclusion:** We

tried to evaluate the HRQoL of HBV and HCV related CLD patients to mitigate the burden and provide equitable health care.

Key words: Quality of Life; Hepatitis B; Hepatitis C.

Introduction

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity¹. To evaluate overall health of a person it is important to look for Health Related Quality of Life (HRQoL) of that person which can be affected by many diseases especially the chronic ones. In several studies, it is found that Chronic Liver Disease (CLD) has deleterious effect on HRQoL². Among many reasons of CLD, viral hepatitis is a major concern. Viral hepatitis, caused by hepatitis A, B, C, D and E virus, is one of the leading causes of death and disability worldwide. Whereas Hepatitis B virus (HBV) & Hepatitis C virus (HCV) constitute 90% of it^{3,4}. Viral hepatitis is considered as an emerging public health threat with a rise in numbers of death substantially by 63% and Disability Adjusted Life Years (DALYs) by 34% over the period of 13 years starting from 1990. A continuation of the trend is noticed since 2000 with an increase by 22%^{4,5}. In United States (US) 26% of CLD is caused by HCV alone⁶. In India about 50% of CLD is due to HBV and 20% is due to HCV infection⁷. World Health Organization (WHO) estimated that in 2015, 3.5% of the world population was living with chronic HBV infection while HCV infection accounting for 1% of the world population⁵. But unfortunately in 2015, 8% of those diagnosed with HBV infection and 7.4% of those diagnosed with HCV infection had started treatment⁵. With a wide range of manifestations, chronic hepatitis can cause higher stress and negatively impact patients' quality of life, their social relations, and performance of daily tasks, regardless of hepatic clinical symptoms⁸. HBV & HCV requires a longer duration of treatment regime but many of the patients end up having devastating terminal illness. An estimated 57% cases of liver cirrhosis and 78% cases of primary

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liver cancer result from HBV or HCV infection⁹. Such end-stage treatments are expensive and cause extra burden to the patients and their family¹⁰. In spite of having proper treatment, HBV and HCV infected patients experience symptoms that can have a detrimental impact on the course of the disease and affecting the quality of their life⁸. So in case of chronic diseases like hepatitis, the impact of disease should not only be judged by its mortality but also by its disability and social impact¹¹.

The idea of 'Health-Related Quality of Life' (HRQoL) measurement is to convert the subjective feeling of physical and mental health of an individual into an objective numerical score by using properly structured questionnaires¹². EQ-5D-3L is a standardized measure of health status developed by the EuroQol Group (A network of international multidisciplinary researchers devoted to the measurement of health status) and applicable to a diverse range of health conditions¹³. To understand the complexity of phenomena concerning the illness process and life with hepatitis B &/or C, it is important to understand the changes caused by it⁸. So our study was aimed to evaluate the impact of hepatitis B & C related CLD on quality of life of the patients which will guide to have an insight regarding present condition of the patients in our country.

Materials and methods

To understand health related quality of life among hepatitis B and C related CLD patients a cross sectional descriptive study was conducted in Chattogram, Bangladesh. According to the inclusion criteria mentioned below all participants were called for an interview from different parts of Chattogram. Convenience sampling method was used to collect 112 samples over the period of 2 months (June & July, 2018) at the private chamber of principal investigator. Patients aging less than 18 years were accompanied by their legal guardian. After formal consent from EuroQol research group, a translated (In Bengali) EQ-5D-3L self-reported questionnaire was obtained and used to assess qualitative measure of health outcome. Some queries regarding hepatitis like types of hepatitis, mode of treatment, history of hepatitis in family members, vaccination status of the spouse against hepatitis B were also added. After explaining the purpose of the study written informed consent was obtained properly and questionnaire was provided to the patient with adequate

time allocation. Principles of Declaration of Helsinki were followed throughout the study procedure. Data were compiled and analyzed by using SPSS version 23 for windows.

Inclusion criteria

- i) Patients aging 12 years and above
- ii) Diagnosed with Hepatitis B &/or C related CLD. Diagnosis was done based on history, clinical examination and investigations including presence of HBsAg, AntiHCV for more than 6 months, HBV DNA Polymerase Chain Reaction (PCR) HCV RNA PCR, HCV Genotype, Endoscopy of upper Gastrointestinal Tract (GIT) Fibroscan of liver, Complete Blood Count, Serum Albumin, Prothrombin Time, Ultrasonography of whole abdomen
- iii) Patients who are having either chronic hepatitis or compensated cirrhosis or decompensated cirrhosis
- iv) Patients who are either taking their medications or completed their full course of medication with duration of illness over 2 years
- v) Came for follow up as outpatients.

Exclusion criteria

- i) Hospitalized chronic liver disease patients
- ii) Patients having Hepatocellular Carcinoma (HCC)
- iii) Newly diagnosed chronic hepatitis patients
- iv) Acute hepatitis patients
- v) Pregnant or lactating women.

Results

Age distribution of the participants is demonstrated in Table I. It is evident that chronic hepatitis was more in young adults than elderly with higher number in 18-29 years age group (31.30%) followed by 30-39 years age group (27.70%) and 12-17 years age group (25.00%). The least participated patients were from 40-49 years and 50 years and above age groups with 08.00% in each.

Descriptive part of EQ-5D-3L questionnaire is illustrated in Table II. It was observed that most of the patients could take proper care of themselves but almost one fourth complains some difficulty in walking (28.6%) and performing daily activities (25%). Whereas more than half of total participants had mild physical discomfort or pain (55.4%) and depressive or anxiety (51.8%) experiences in their life.

Table III shows score of quality of life and well being score of the participants according to age groups. Here, mean score of quality of life was found 07.13, SD 1.53, in a scale of 5-15 and mean well being score of 72.23, SD 21.62, in scale of 0-100.

Quality of life score of the patients based on sex, type of hepatitis, mode of treatment, family history of hepatitis, vaccination status of the spouse is denoted in Table IV. No statistically significant variation was noticed.

Well being score of the patients based on different factors is delineated in Table V. No statistically significant difference was detected by sex, type of hepatitis, mode of treatment, family history of hepatitis. But vaccination status of the spouses are significantly lower in patients whose spouses are vaccinated against hepatitis B ($p = 0.018$).

Table I: Distribution of age of the respondents (n=112)

	Frequency (n)	Percentage (%)
Age group:		
12-17 Years	28	25.00
18-29 Years	35	31.30
30-39 Years	31	27.70
40-49 Years	09	08.00
≥50 Years	09	08.00

Table II: Distribution of scores in different domains for quality of life (n=112)

Domain	Score	Frequency (n)	Percentage (%)
1. Walking	01 (No difficulty)	76	67.90
	02 (Partial difficulty)	32	28.60
	03 (Disability)	04	03.60
2. Self-care	01 (No difficulty)	106	94.60
	02 (Partial difficulty)	06	05.40
	03 (Disability)	00	00.00
3. Daily activity	01 (No difficulty)	78	69.60
	02 (Partial difficulty)	28	25.00
	03 (Disability)	06	05.40
4. Physical discomfort	01 (No discomfort)	42	37.50
	02 (Mild discomfort)	62	55.40
	03 (Moderate discomfort)	08	07.10
5. Depression	01 (No depression)	46	41.10
	02 (Mild depression)	58	51.80
	03 (Moderate depression)	08	07.10

Table III : Age based scores for quality of life and wellbeing of the respondents (n=112)

Age group	Frequency (n)	Total score for quality of life		Score for wellbeing	
		Mean	SD	Mean	SD
12-17 Years	28	7.57	1.31	69.11	15.51
18-29 Years	35	7.17	1.54	71.86	20.22
30-39 Years	31	7.00	1.63	73.55	27.51
40-49 Years	09	6.44	1.01	78.89	16.91
≥50 Years	09	6.67	2.00	72.22	26.82
Total	112	7.13	1.531	72.23	21.62

Table IV: Quality of life score based on patient factors (n=112)

Factors	Subgroup	Frequency (n)	Mean	SD	p value
Sex	Male	66	7.03	1.61	0.436
	Female	46	7.26	1.40	
Type of hepatitis	HBV	71	7.18	1.57	0.629
	HCV	35	7.03	1.46	
Mode of treatment	Medicine	68	7.24	1.66	0.346
	Injection	44	6.95	1.29	
Family history of hepatitis	Yes	40	7.45	1.73	0.118
	No	72	6.94	1.38	
Vaccination of spouse	Yes	66	7.24	1.58	0.333
	No	46	6.96	1.44	

*p values calculated by t-test

Table V: Wellbeing score based on patient factors (n=112)

Factors	Subgroup	Frequency (n)	Mean	SD	p value
Sex	Male	66	73.64	20.87	0.413
	Female	46	70.22	22.72	
Type of hepatitis	HBV	71	71.27	23.72	0.587
	HCV	35	73.71	16.99	
Mode of treatment	Medicine	68	72.65	23.07	0.802
	Injection	44	71.59	19.40	
Family history of hepatitis	Yes	40	73.00	21.26	0.781
	No	72	71.81	21.95	
Vaccination of spouse	Yes	66	68.48	24.32	0.018*
	No	46	77.61	15.76	

*p values calculated by t-test

Discussion

HRQoL refers to the physical, psychological, and social domains of health, seen as distinct areas that are influenced by a person's experiences, beliefs, expectations, and perceptions¹⁴. Impact of chronic diseases, like HBV and HCV related CLD, on quality of life of the patients has become a predominant issue worldwide³. A multinational

survey conducted in United States, Canada, United Kingdom, Spain, Hong Kong, and Mainland China proved strong impact of HBV with disease progression¹⁵. Effect of HCV infection on quality of life of patients showed meaningful decrement in studies in Europe and America^{16,17}. But relevant data from Asia is limited regarding impact of HCV¹⁸.

In our study we found that actual objective condition of quality of life of patients with chronic hepatitis was worse with an average mean score of 7.13 whereas subjective perception of wellbeing of the patients were higher with an average mean score of 72.23 with a slight variation among different age groups meaning perception of wellbeing was more than actual quality of life. This might be due to their ignorance and unawareness regarding proper health condition. This similar finding was observed in Pakistan and China among patients with HBV & HCV respectively^{19,20}. This gives an insight that poor quality of life is accepted as usual in these areas of the world and quantitative measures are required for proper assessment of quality of life of patients of these areas. Therefore to evaluate the actual condition more study is a must regarding this. Another interesting fact we found that, positive family history among our participants constituting more than one third of total and it suggests transmission by sharing razors, toothbrushes, nail cutter, straws, and other household articles and from mother to infant during childbirth²¹. An abundant positive family history proved overall less effective preventive practices in this community. In our study we found that more participants were infected with HBV than HCV which follow the trend of global statistics. In the WHO South-East Asia Region an estimated 100 million people are living with chronic HBV infection and 30 million people with chronic HCV infection.

In our study, there was no significant variation of QOL score & wellbeing score depending on age groups, sex, type of hepatitis, mode of treatment and family history of hepatitis, supported by other study findings²². Interestingly wellbeing score was significantly lower in patients whose spouses were vaccinated against hepatitis B which was validated only for hepatitis B. Financial burden, insensibility regarding patient care, unfamiliarity with proper health status, deficient understanding of chronic hepatitis might have resulted lower quality of life among this patients.

Limitations

Only outdoor ambulatory patients were included in the study so severely ill patients did not have any impact on this study hence acute disability was overlooked. Patients with follow up history indicated good awareness level among them therefore condition of underprivileged and unaware people of the community was not expressed in this study.

Conclusion

Millions of people are living with viral hepatitis and millions more are at risk. In our study, we found that perception of wellbeing was more than actual quality of life of patients with HBV and HCV related CLD. To mitigate the burden of hepatitis worldwide, we tried to evaluate the health related quality of life of these patients.

Recommendation

To achieve WHO's goal to reduce the socio-economic impact of viral hepatitis at individual, community & population levels – first it is important to understand the complete picture of hepatitis by evaluating its impact on the life of the patients. Further studies detailing different factors related to quality of life of HBV& HCV patients may help to provide equitable health care.

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Contribution of authors

AAM- Conception, design, acquisition of data, drafting and final approval.

MAK- Analysis, interpretation of data, critical review of content and final approval.

SBA- Drafting, interpretation of data and final approval.

PD- Acquisition of data, critical revision and final approval.

Disclosure

All authors declared no competing interest.

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