

# Quality of Life Assessment in Pakistani Patients with Chronic Liver Disease

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## Abstract

**Objective:** To find out if advanced liver disease causes decrement in health related quality of life in Pakistani patients.

**Methods:** An observational study was conducted at the Shifa International Hospital Islamabad. Chronic Liver Disease Questionnaire (CLDQ) was administered to patients with liver disease who were either admitted or seen as outpatients. Patients were divided into two groups. Those with no cirrhosis or Child's Class A were placed into group A. Those with advanced liver disease i.e. Child's Class B and C into group B.

**Results:** A total of 56 patients (mean age 50.6 years) were included in this study. Hepatitis C was the cause of chronic liver disease (CLD) in 52 (92.9%) patients. Twenty-one (37.5%) patients were in group A and 35 (62.5%) in group B. Patients with advanced liver disease had significantly lower CLDQ scores as well as decrement in five out of the six categories for assessing quality of life.

**Conclusion:** Chronic liver disease causes significant impairment in the Quality of Life Index (QLI) in Pakistani patients (JPMA 54:113;2004).

## Introduction

The prevalence of hepatitis C virus (HCV) infection in Pakistan has been estimated as high as 35% in some areas.<sup>1-3</sup> It has been reported that chronic hepatitis causes significant deterioration in mental and physical health. Patients present with non-specific complaints, such as fatigue, and systemic symptoms, such as dryness of mouth and eyes.<sup>4,5</sup> Like-wise clinically significant emotional distress<sup>6-8</sup>, psychiatric symptoms including depression<sup>9</sup> and cognitive impairment have been reported in patients with chronic hepatitis C.<sup>10-12</sup>

After the development of the CLDQ by Younossi et al.<sup>5</sup>, it has become possible to evaluate various indices related to the quality of life in these patients including emotional changes, fatigue, physical activity, anxiety, worry and abdominal symptoms. As advocated by the authors, this liver specific instrument is likely to become more responsive to changes in QLI.<sup>5</sup> It has moderate test/re-test reliability.<sup>6</sup> Therefore, it is of utmost importance to find out how CLD affects the social, emotional and functional status of our patient population. The aim of this study was to evaluate patients with CLD to assess their quality of life in various areas of physical and mental health.

## Patients and Methods

This observational study was conducted at the Shifa International Hospital Islamabad. Patients were enrolled from the outpatient and the in-patients department of the hospital. Patients with serological evidence of hepatitis C virus (HCV) infection, confirmed by third generation ELISA, were included in the study. These patients had evidence of CLD as highlighted by clinical features such as palmar erythema, spider nevi, and gynecomastia. Their laboratory parameters revealed hypoalbuminemia and

elevated protime (PT). Some patients also had diagnostic procedures, such as upper GI endoscopy, and/or liver biopsy. Patients with HCV or HBV infection on interferon therapy and those who had a co-existing chronic debilitating illness such as: chronic renal failure, stroke, epilepsy, inflammatory bowel disease, or malignancies were excluded.

The enrolled patients were administered the Chronic Liver Disease Questionnaire (CLDQ) developed by Younossi et al. in 1999.<sup>5</sup> This CLDQ was designed to measure the decrement in health related quality of life secondary to advanced liver disease.

Each of the variables is rated on a scale of 1-7. The responses are interpreted as (1) "all the time" (2), most of the time (3), "a good proportion of time" (4), "some of the time" (5), "a little proportion of the time" (6), "hardly anytime" and (7) "never". By adding up the numeric value for each of the response, the cumulative CLDQ score is calculated. Therefore, patients with lower scores are assumed to have greater impairment in quality of life as compared to those with higher scores. Likewise, cumulative scores are calculated for each of the six categories designated as fatigue, emotion, activity, abdominal symptoms, systemic symptoms and worry.

The patients were divided into two groups. Group A comprised of patients who were non-cirrhotics or early cirrhotics (Child's Class A) and group B consisted of patients with advanced cirrhosis (Child's B and C). The decision was based on earlier findings by the developers of the instrument who demonstrated that patients with advanced cirrhosis (Child's Class B and C) showed similar health related quality of life scores measured both by generic (SF-36) and disease specific instruments (CLDQ). They proposed that since the clinical deterioration between

Child's B and C is not accompanied by a corresponding deterioration in health related quality of life, we might not be able to see a difference in quality of life (5).

As recommended by the authors, each domain score was divided by the number of items in the domain, and presented our results on a 1 to 7 scale. A change of 0.5 on this scale can be discerned to approximate the important difference in questionnaire scores as elucidated by researchers before.<sup>7</sup>

The data was entered and analysed on statistical software SPSS v.10.0 (SPSS Chicago, IL, USA). A P value of <0.05 was considered significant.

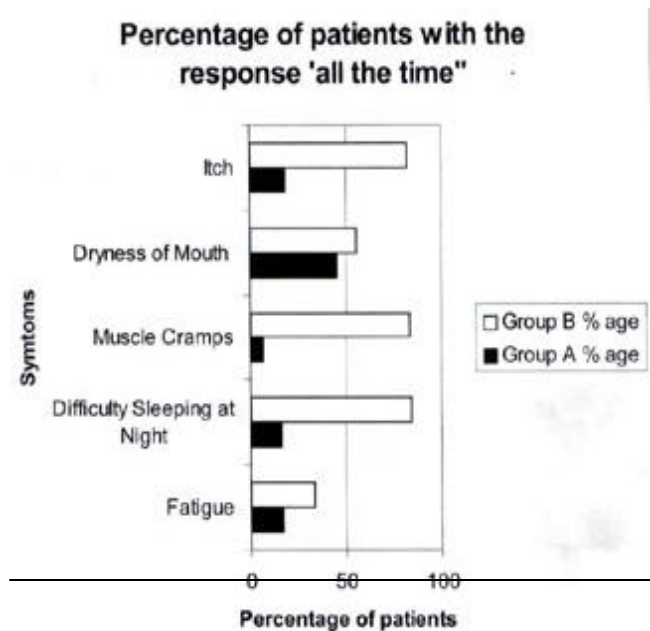
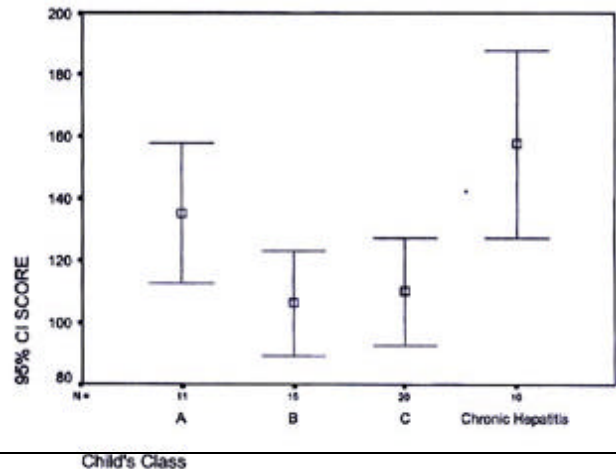
### Results

There were a total of 56 patients, 32 males and 24 females. Two patients had Hepatitis B, one had both hepatitis B and hepatitis C whereas one had cryptogenic cirrhosis. Out of 56 patients, 10 were non-cirrhotics. Eleven patients were from Child's class A, (group A, n=21) 15 from Child's class B and 20 from Child's class C (group B, n=35). The CLDQ scores of patients with group B were significantly lower than group A (Table). The CLDQ score showed a decline with the advancing disease (Figure 1). There was a similar finding regarding the five out of the six categories in CLDQ namely fatigue, systemic symptoms, abdominal symptoms, activity, and emotional upset. However, we did not find a difference in measures calculating worry.

**Table. Student's t-test analysis for the total CLDQ score as well as category scores as defined by CLDQ .**

	Group A	Group B	P-value
CLDQ Score	147.95	109.20	<0.05
Fatigue	5.12	3.40	<0.05
Activity	5.25	3.95	<0.05
Systemic Symptoms	5.21	3.85	<0.05
Emotion	5.03	3.52	<0.05
Abdominal Symptoms	5.52	4.02	<0.05
Worry	4.93	4.25	0.61

In order to delineate symptoms that the patients usually present with, we chose five important symptoms, based on our clinical observation and questions related to systemic symptoms as mentioned in the CLDQ. These included fatigue, difficulty sleeping at night, muscle cramps, dryness of mouth, and itching. We selected only those cases who responded as "all the time" in the CLDQ. It was noted that percentage of patients increased as the disease



progressed (Figure 2). There was no association between prothrombin time, albumin levels and the scores in CLDQ.

### Discussion

The main finding was that patients with advanced liver disease have greater decrement in utilities measuring quality of life as compared with patients without cirrhosis or early cirrhosis. This is in striking synchrony with earlier findings which demonstrated a decrement in the health related quality of life with advanced liver disease.<sup>13</sup> Hence, more severe disease (higher Child's class) is found to be associated with a lower Chronic Liver Disease Questionnaire score.<sup>14</sup>

"Worry" was not significantly associated with advanced liver disease in this study is well explained. One important question in CLDQ is related to "thoughts about liver transplant", which is neither available in Pakistan nor

do many people know about it. Therefore, the health related quality of life related to worry could not be assessed. Prothrombin Time (PT) and albumin levels were also not associated with deterioration on CLDQ. Previously, Younossi et al. found that there was no correlation between ALT levels and poor CLDQ scores.<sup>5</sup>

What remains unidentified is what factors lead to the decrement in quality of life. In a recent report, muscle cramps and pruritis have been found to be closely associated with poor health status perception.<sup>15</sup> It has now been established that even amongst non-cirrhotic patients, those with chronic hepatitis C have significant reduction in scores for all of the modalities tested as compared to patients with chronic hepatitis B virus infection who only show a reduction in scores that assessed mental functions.<sup>16</sup> This indicates that the symptoms associated with chronic HCV infection are qualitatively different from those associated with chronic HBV infection.<sup>16</sup>

Successful treatment of chronic hepatitis C improves generic measures of functional health and well being<sup>17</sup>, vitality, social functioning and health distress<sup>18</sup> as well as energy, physical mobility and pain.<sup>17</sup> The finding that fatigue amongst patients with hepatitis C is unrelated to activity of hepatitis, or mode of infection, could indicate an independent effect of HCV on brain function.<sup>18</sup> Accordingly, this effect was found to be independent of the development of cirrhosis.<sup>19</sup> Also, due to recent awareness campaigns, diagnosis of HCV in a patient seems to be responsible for evoking intense anxiety and irritability. This could explain why the quality of life measures in one study were found to be significantly worse for HCV-seropositive individuals aware of their sero-status compared with those who were unaware.<sup>20</sup> It would, therefore, be interesting to measure health related quality of life in recently diagnosed patients, before receiving an explanation of the disease.

Chronic hepatitis C may be an independent factor responsible for the reduction in quality of life, and advanced liver disease contributes significantly towards the worsening of these symptoms. The issue that this neuropsychological impairment is a consequence of the disease process related to the presence of viremia, the release of cytokines, the induction of specific noxious proteins or hepatocyte necrosis, still remains unresolved.<sup>10</sup>

In conclusion, patients with advanced liver disease have greater decrement in health related quality of life than patients without cirrhosis or early cirrhosis. These are non-specific complaints such as fatigue, difficulty in sleeping, muscle cramps, dryness of mouth and eyes. As the disease

progresses, a higher proportion of patients report these symptoms as occurring "all the time" as compared to lesser proportion of patients without advanced liver disease. Therefore, it is important to differentiate between issues traditionally emphasized by clinicians and those important to the patients. This would help improve clinical outcomes along with patient satisfaction and well-being.

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