



## FUNCTIONAL DEPENDENCE AMONG PATIENTS WITH CHRONIC LIVER DISEASE

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### ABSTRACT

The aim of the study was to assess the functional dependence among patients with chronic liver disease (CLD) attending a tertiary care Hospital, Kottayam. A quantitative research approach was used for the study. The research design selected for the study was non experimental descriptive survey design. A total of 175 patients, who were diagnosed to have CLD admitted in medical wards and attending the outpatient departments of Medicine and Gastroenterology at Government Medical College Hospital, Kottayam were selected for the study by using non probability purposive sampling technique. Sociopersonal and clinical data sheet was used for collecting basic information about the subjects and functional dependence rating scale was used for assessing functional dependence among patients with CLD. The data were analysed using descriptive and inferential statistics. Findings of the study revealed that 32% of the patients with CLD were totally dependent, 31.4% of patients were partially dependent and 36.6 % of patients were functionally independent.

**KEYWORDS :** Functional dependence; Patients with CLD

### INTRODUCTION

Liver disease accounts for over 2 million deaths per year worldwide, with half of these being contributed by cirrhosis, which is the 11<sup>th</sup> most common cause of death. Furthermore, cirrhosis impairs health related quality of life including physical and mental health and which reduces the ability to perform activities of daily living.<sup>1</sup>

A multi centric study was conducted in India regarding etiology and mode of presentation of CLD. It shows that 1.2% of all hospital attendances in Indian hospitals were due to CLD alone and the fact that one fourth of all liver disease patients attending hospitals were newly diagnosed. This compares favorably with estimates of death due to cirrhosis in India i.e. age standardized death rate 23.6 per 100,000 population and 2% of death due to all causes. CLD mortality figures in India are increasing progressively since 1980 while that of China, the other Asian country with a large population remain stationary and is even showing downward trends in mortality.<sup>2</sup>

Chronic liver diseases, including cirrhosis, are now fast catching up among Keralites like other lifestyle disorders, including diabetes and hypertension. According to a recent study, 5000 to 10,000 people die every year in the state due to liver diseases, compared to the national average of 70,000. CLD due to alcohol showed a significant rising trend with early age (mean 48.4 years) and high percentage of decompensated disease (75%) at presentation and high early mortality (63%). A menace of alcohol related liver disease affecting young productive work force in India is foreseen, which might impact the country's economy and mandates immediate containment policy.<sup>3</sup>

A comparative study was conducted to find the impact of liver diseases on health related quality of life in representative sample of the general population and patients with major liver diseases. A total of 6,800 healthy subjects and 3,105 subjects with liver diseases were included in the analysis. Multivariate logistic analysis showed that decompensated CLD had significantly ( $p < 0.05$ ) higher risk to have problems in mobility, self-care, and usual activities compared to healthy subjects.<sup>4</sup>

Usually, functional dependence left unspoken and go unnoticed among patients with CLD. This is an unsatisfactory situation because liver disease often negatively impacts patients' family and social life, employment and financial status, and maintenance of health insurance, all sequelae

that are often unseen by healthcare professionals. Therefore, researches need to be conducted to develop a convergent, integrated synthesis of quantitative and qualitative data on functional dependence among patients with CLD in an attempt to reveal unmet patient needs. So the investigator identified the relevance of conducting a study among patients with CLD to identify their functional dependence.

### METHODOLOGY

A quantitative approach was used for the study. The study design selected was non experimental descriptive survey design. Non probability purposive sampling technique was used for selecting the sample. The study was theoretically supported by the framework based on Betty Neuman's system model. A total of 175 patients, who were diagnosed to have CLD admitted in medical wards and attending the outpatient departments of Medicine and Gastroenterology at Government Medical College Hospital, Kottayam were selected for the study. Sociopersonal and clinical data sheet used for collecting basic information about the subjects and functional dependence rating scale was used to assess the functional dependence among patients with CLD.

Sociopersonal data sheet consisted of eleven items which includes age, gender, education, occupation, nature of work, marital status, religion, socioeconomic status, type of family, socio-economic support system and unhealthy habits. Clinical data sheet consisted of eight items which include duration after diagnosis, frequency of hospitalization in the last year related to CLD, family member with history of CLD, regularity of follow up visit, use of alternative therapy, history of chronic use of painkillers, history of jaundice before diagnosis of CLD and comorbidities. Functional dependence rating scale was used to assess the functional dependence among patients with CLD.

Functional dependence rating scale was prepared by the investigator after taking opinion and corrections from nursing experts and gastroenterologists. There are fifteen items in the rating scale to assess functional dependence experienced by the patients with CLD for the last 4 weeks, which were categorised under 2 domains – self care and mobility. The responses were independent, partially dependent and totally dependent and they were scored as one, two and three respectively. Data were collected using self administered rating scale. Self care domain consists of eight items which include eating, drinking, brushing of teeth, combing of hair, bathing, dressing, getting on and off the toilet and shaving

(males only). Mobility domain consists of seven items, such as standing, sitting, rising from bed, to and from the bed to chair, walk on flat surface, climbing stairs, walking outside the house. The scores were interpreted as independent, partially dependent and totally dependent based on the scores obtained from the patients.

**RESULTS**

Results of the study were discussed under the following headings:

- Sociopersonal data of patients with CLD
- Clinical data of patients with CLD
- Functional dependence among patients with CLD

**Sociopersonal Data Of Patients With CLD**

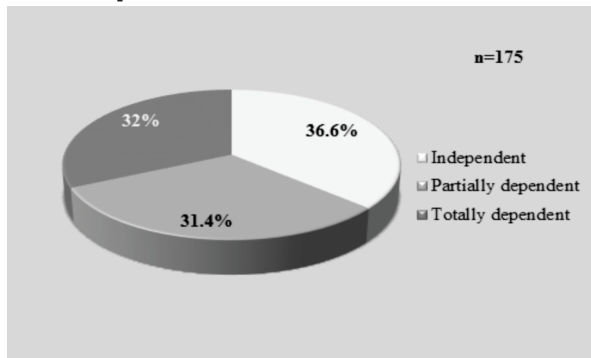
The data revealed that 40% of patients belonged to the age group of 45-54 years and majority of the subjects (86.86%) with CLD were males. More than half (54.86%) of the patients with CLD had studied up to high school, 41.14% of the patients were self-employed and nearly half of the subjects (49.71%) were doing heavy work. With regard to marital status, majority of the patients with CLD (88.57%) were married. While considering religion, 69.14% of patients with CLD participated in the study were Hindus. The data revealed that 76.58% belonged to BPL category and most of the patients with CLD (94.86%) belonged to nuclear family. Majority of the patients (76.58%) had inadequate socioeconomic support system. Among the patients with CLD, 19.43% were not having any unhealthy habits. Among the 137 alcoholics, 36.5% consumed alcohol for 10-19 years and 27% consumed it for duration of 20-29 years. With regard to the frequency of drinking alcohol, 43.79% consumed it once daily whereas, 35.04% consumed it for many times in a day. The data revealed that 74.46% of patients kept abstinence from alcoholism. While considering the duration of abstinence, 32.85% of patients remained abstinent from alcoholism for 1-3 years.

**Clinical Data Of Patients With CLD**

It was evident from the obtained data that 41.71% of the patients were diagnosed as having CLD for less than one year and 37.14% had one admission due to CLD in the previous year. Majority of the subjects (88.57%) had no family member with history of CLD. Most of the patients (90.28%) had regular follow up visits and majority of the subjects (85.14%) had not taken any alternative treatment. The data revealed that 38.6% subjects had history of chronic use of pain killers and 58.29% had history of jaundice before the diagnosis of CLD. While considering the comorbidities, 28.57% of the patients had diabetes mellitus alone and 12% had two comorbidities.

**Functional Dependence Of Patients With CLD**

Functional dependence was classified into independent, partially dependent and totally dependent groups based on the range of scores 1-15, 16-30 and 31-45 respectively. Functional dependence was assessed in terms of self care and mobility.



**Figure 1: Pie Diagram Showing Functional Dependence Of Patients With CLD**

The pie diagram depicts that 32% of the patients with CLD were totally dependent, 31.4% of patients were partially dependent and 36.6 % of patients were functionally independent.

**Table 1: Frequency Distribution And Percentage Of Patients With CLD Based On The Level Of Functional Dependence In Self Care And Mobility (n = 175)**

| Domains of functional dependence | f  | %     |
|----------------------------------|----|-------|
| <b>Self care</b>                 |    |       |
| Independent (1-8)                | 64 | 36.57 |
| Partially dependent (9-16)       | 55 | 31.43 |
| Totally dependent (17-24)        | 56 | 32.00 |
| <b>Mobility</b>                  |    |       |
| Independent (1-7)                | 63 | 36.00 |
| Partially dependent (8-14)       | 62 | 35.42 |
| Totally dependent (15-21)        | 50 | 28.58 |

Table 1 depicts that 36.57% of the patients with CLD were independent in self care whereas, 31.43% were partially dependent and 32% were totally dependent. The table also illustrates that more number of the patients (36%) were independent in mobility whereas 35.42% were partially dependent 28.58% were totally dependent.

**Table 2: Frequency Distribution And Percentage Of Patients With CLD Based On Functional Dependence In Selfcare (n = 175)**

| Selfcare                     | Independent |       | Partially dependent |       | Totally dependent |       |
|------------------------------|-------------|-------|---------------------|-------|-------------------|-------|
|                              | f           | %     | f                   | %     | f                 | %     |
| Eating                       | 87          | 49.71 | 41                  | 23.43 | 47                | 26.86 |
| Drinking                     | 88          | 50.29 | 45                  | 25.71 | 42                | 24.00 |
| Brushing of teeth            | 91          | 52.00 | 41                  | 23.43 | 43                | 24.57 |
| Combing of hair              | 90          | 51.43 | 44                  | 25.14 | 41                | 23.43 |
| Bathing                      | 75          | 42.86 | 54                  | 30.86 | 46                | 26.28 |
| Dressing                     | 81          | 46.29 | 49                  | 28.00 | 45                | 25.71 |
| Getting on/ off toilet       | 80          | 45.71 | 49                  | 28.00 | 46                | 26.29 |
| Shaving (males only, n= 152) | 56          | 36.84 | 30                  | 19.74 | 66                | 43.42 |

Table 2 shows the percentage of patients who had total dependence for eating, drinking, brushing of teeth and combing of hair as 26.86%, 24%, 24.57% and 23.43% respectively. The table shows also that 26.28% of patients were totally dependent for bathing, 25.71% of patients for dressing and 26.29% of patients for getting on and off the toilet. It is also clear that 30.86% were partially dependent for bathing whereas, for dressing and getting on and off the toilet were 28% each. More than half of the patients were independent in drinking (50.29%), brushing teeth (52%) and combing hair (51.43%). Among 152 males, 43.42% of subjects were totally depended on others for shaving.

**Table 3: Frequency Distribution And Percentage Of Patients With CLD Based On Functional Dependence In Mobility (n = 175)**

| Mobility                     | Independent |       | Partially dependent |       | Totally dependent |       |
|------------------------------|-------------|-------|---------------------|-------|-------------------|-------|
|                              | f           | %     | f                   | %     | f                 | %     |
| Standing                     | 83          | 47.43 | 49                  | 28.00 | 43                | 24.57 |
| Sitting                      | 84          | 48.00 | 46                  | 26.29 | 45                | 25.71 |
| Rising from bed              | 74          | 42.28 | 55                  | 31.43 | 46                | 26.29 |
| To and from the bed to chair | 78          | 44.57 | 50                  | 28.57 | 47                | 26.86 |
| Walk on flat surface         | 86          | 49.14 | 44                  | 25.14 | 45                | 25.72 |
| Climbing stairs              | 65          | 37.14 | 59                  | 33.71 | 51                | 29.15 |
| Walking outside the house    | 85          | 48.57 | 44                  | 25.14 | 46                | 26.29 |

Table 3 depicts that 29.15% of patients with CLD were totally dependent for climbing stairs whereas, in standing, sitting

and to and from the bed to chair were 24.57%, 25.71% and 26.86% respectively. The table also illustrates that patients with CLD remained totally dependent for rising from bed and walking outside the house were 26.29% each. One third of patients were partially dependent for climbing stairs (33.71%) and for rising from bed (31.43%). The table also illustrates that nearly half of the patients were independent in standing (47.43%), sitting (48%), to and from the bed to chair (44.57%), walking on flat surface (49.14%) and walking outside the house (48.57%).

## CONCLUSION

The results revealed that 32% of the patients with CLD were totally dependent, 31.4% of patients were partially dependent and 36.6 % of patients were functionally independent. A prospective cohort study was conducted to assess the frailty and the burden of concurrent and incident disability in patients with cirrhosis. The percentage of participants with at least one baseline activities of daily living or instrumental activities of daily living impairment was 28% and 37%, respectively.<sup>5</sup>

Patients with chronic liver disease experiences various health problems and that makes them functionally dependent. Health care workers need to take initiative to address this issue at the earliest to improve the quality of life among patients with CLD.

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