Symptom experience and predictive factors in patients with liver cirrhosis: A cross sectional survey in Egypt

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Arab Republic of Egypt:
Transcontinental country located within North Africa with its Sinai Peninsula forming a land bridge in Southwest Asia
Cairo is the capital
Language: Arabic
Population: 92 million
Content outlines

- Background
- Literature review summary
- Aim and objectives
- Methods
- Conceptual framework
- Results
- Conclusion and recommendations
Background

- Liver cirrhosis is a major health problem in Western and Eastern countries.
- It is the twelve leading cause of death worldwide\(^1\); and the seventh leading cause of death in Egypt\(^2\).
- Cirrhotic patients are the group most difficult to treat; particularly those with hepatitis C virus (HCV) genotype 4.
Recent systematic review found that the overall response rate of compensated cirrhotic patients (in Europe and Asia) who were treated with anti-HCV therapy did not exceed 33.3% for all genotypes and 21% for genotype 1 and 4.

In Egypt Genotype 4 is the most common type of HCV (93%).

Chronically infected HCV patients will progress to cirrhosis.

Increasing number of liver cirrhosis cases in the future.
Most studies focused on patients with chronic liver disease at mixed stages with a relatively small sample of cirrhotic patients or without decompensated cirrhosis.

Majority of the relevant studies investigated one or maximum three symptoms: depression, anxiety and/or fatigue.
Literature review summary

- One study was conducted in Africa and Middle-east, specifically in Egypt in 2011. It investigated only depression among early cirrhotic (Child-A) receivers of interferon therapy.

- One study in 2006 investigated prevalence, severity and distress of symptom in small sample of cirrhotic patients in Korea.

- No studies investigated predictors of symptom experience in Egypt or elsewhere using multivariate analysis.
This study aimed to explore and describe the symptoms that people with liver cirrhosis in Egypt experience and to determine its predictors.

I. Investigate and describe experienced symptoms in terms of prevalence, severity and hindrance.

II. Determine the predictive factors of overall symptoms severity and symptoms hindrance.
Methods

- A cross-sectional study.
- Over three months period in 2011.
- At three hospitals in Cairo.
- Face-to-face interview.
Participants

- A convenience sample.
- 401 eligible patients who met the inclusion criteria participated.
- Response rate 96.6%.
Selection criteria

Inclusion criteria
- Aged 18 years or older,
- Liver cirrhosis and
- Agree to take part in the study.

Exclusion criteria
- Advanced stage of hepatic encephalopathy,
- Neurological or communication problem,
- Primary biliary cirrhosis,
- Post liver transplantation,
- Hepatic carcinoma, or
Measurements

Background sheet
Socio-demographic data
Medical history

LDSI-2.0\textsuperscript{7,8}
Liver Disease Symptom Index-2.0
24 items; two subscales assess severity of symptoms and hindrance of symptoms

MSPSS\textsuperscript{9}
Multidimensional Scale of Perceived Social Support
12 items; overall perceived social support score,
Three subscales assess perceived support from three sources: spouse, family and friends
The conceptual model

The conceptual model of HRQOL outcomes adapted from Wilson and Cleary (1995)¹⁰
Ethical approval

The study was approved by:

- The Research Ethics Committee of the School of Nursing, Midwifery and Health at the University of Stirling.
- The Research Ethics Committee Board of the National Hepatology and Tropical Medicine Research Institute (NHTMRI) in Egypt.
## Participants’ characteristics

<table>
<thead>
<tr>
<th>Variables</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Females 56.6%</td>
</tr>
<tr>
<td>Education</td>
<td>Illiterate 54.6%</td>
</tr>
<tr>
<td>Marital status</td>
<td>Married 77.3%</td>
</tr>
<tr>
<td>Age</td>
<td>Mean age 53.25±9.0 (22-76 yrs)</td>
</tr>
<tr>
<td>Disease stage</td>
<td>Compensated 50.1%</td>
</tr>
<tr>
<td>Cause of cirrhosis</td>
<td>HCV 54.1%</td>
</tr>
<tr>
<td></td>
<td>HCV and Bilharzias 37.7%</td>
</tr>
<tr>
<td></td>
<td>Bilharzias 3.5%</td>
</tr>
<tr>
<td></td>
<td>Others 4.6%</td>
</tr>
<tr>
<td>Comorbidity</td>
<td>with at least one comorbidity 62%</td>
</tr>
<tr>
<td></td>
<td>Diabetes 27.7%</td>
</tr>
<tr>
<td></td>
<td>Hypertension 20.2%</td>
</tr>
<tr>
<td>Hospitalisation</td>
<td>Number of hospitalisation 38.2% experienced hospital admission at least once as a result of liver disease</td>
</tr>
<tr>
<td>Causes of hospitalisation</td>
<td>Most common causes of hospitalisation 23% ascites</td>
</tr>
<tr>
<td></td>
<td>13.2% bleeding</td>
</tr>
<tr>
<td></td>
<td>7.7% hepatic coma</td>
</tr>
</tbody>
</table>
Results
<table>
<thead>
<tr>
<th>LDSI items</th>
<th>Prevalence of people reported symptom severity n (%)</th>
<th>Prevalence of people reported symptom hindrance (among symptomatic) n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Itch</td>
<td>210 (52.4)</td>
<td>Activity: 103 (25.7)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sleep: 125 (31.2)</td>
</tr>
<tr>
<td>Joint pain</td>
<td>314 (78.3)</td>
<td>282 (70.3)</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>259 (64.6)</td>
<td>208 (51.9)</td>
</tr>
<tr>
<td>Sleepiness during day</td>
<td>290 (72.3)</td>
<td>213 (53.1)</td>
</tr>
<tr>
<td>Worry</td>
<td>300 (74.8)</td>
<td>231 (57.6)</td>
</tr>
<tr>
<td>Decrease appetite</td>
<td>303 (75.6)</td>
<td>237 (59.1)</td>
</tr>
<tr>
<td>Depression</td>
<td>291 (72.6)</td>
<td>246 (61.3)</td>
</tr>
<tr>
<td>Fear of complications</td>
<td>281 (70.1)</td>
<td>NA</td>
</tr>
<tr>
<td>Jaundice</td>
<td>109 (27.2)</td>
<td>65 (16.2)</td>
</tr>
<tr>
<td>Memory problems</td>
<td>310 (77.3)</td>
<td>NA (Not applicable)</td>
</tr>
<tr>
<td>Personality change</td>
<td>283 (70.6)</td>
<td>NA</td>
</tr>
<tr>
<td>Financial affairs problems</td>
<td>321 (80)</td>
<td>NA</td>
</tr>
<tr>
<td>Use time different</td>
<td>361 (90)</td>
<td>NA</td>
</tr>
<tr>
<td>Decrease sexual interest</td>
<td>256 (63.8)</td>
<td>NA</td>
</tr>
<tr>
<td>Decrease sexual activity</td>
<td>255 (63.6)</td>
<td>NA</td>
</tr>
</tbody>
</table>
## Percentage of patients reported additional symptoms

<table>
<thead>
<tr>
<th>Additional symptoms</th>
<th>People reported symptom severity N (%)</th>
<th>Prevalence of people reported symptom hindrance (Among symptomatic) N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleepiness at night</td>
<td>107 (26.68)</td>
<td>95 (23.69)</td>
</tr>
<tr>
<td>Muscle cramp</td>
<td>149 (37.15)</td>
<td>122 (30.42)</td>
</tr>
<tr>
<td>Heart burn</td>
<td>62 (15.46)</td>
<td>40 (9.97)</td>
</tr>
<tr>
<td>Constipation</td>
<td>11 (2.74)</td>
<td>11 (2.74)</td>
</tr>
</tbody>
</table>
Association between socio-demographic characteristics and symptoms experience

- Females, illiterate and unemployed reported higher overall symptoms severity and distress in their daily life due to symptoms than other group of patients.

- Singles significantly had more distress due to symptoms than married, although there was no significant different in terms of symptom severity.
Different between women and men experienced symptoms

- **Women**
  - Women were more likely than men to report symptoms of joint pain, right abdominal pain, decreased appetite, depression, jaundice, memory problems, changing personality and difficulty in managing time.

- **Men**
  - Men were more likely than women to report symptoms of sexuality problems (decreased sexual interest and activity).
  - However, males and females were likely to have the same symptoms of worry about the family situation, itching, fear of disease complications and problems in financial affairs.
Patients with decompensated cirrhosis, and with increasing number of complications, comorbidities and admissions to hospital because of liver disease significantly had higher mean score of severity and distress of overall symptoms than other patients.
Multivariate analysis: Predictors explain severity of symptoms (Model -1)

- Gender (female)
  Beta=0.220

- Disease stage (decompensated)
  Beta=-0.196

- Spouse support
  Beta=-0.161

- Employment status (unemployed)
  Beta=0.139

- Family support
  Beta=-0.118

- Complications
  Beta=0.100

Model -1 summary: $R^2 = 0.228$, $R^2_{adj} = 0.213$, $p = 0.0005$

P ≤ 0.048

Severity of symptoms
Multivariate analysis: Predictors explain hindrance of daily activities due to symptoms (Model-2)

- **Gender (Female)**
  - Beta = 0.274

- **Disease stage (Decompensated)**
  - Beta = -0.211

- **Spouse support**
  - Beta = -0.144

- **Family support**
  - Beta = -0.109

Model -2 summary: $R^2 = 0.173$, $R^2_{adj} = 0.162$, $p = 0.0005$
Conclusions and recommendations

- Assessment of symptom experience has to include not only the severity of symptom but also the effect of this symptom on the daily life.
- Nurses should involve the patient’s family in any plan of care.
- Further research is recommended to explore additional predictive factors.
- Future intervention studies that aim to develop programs to relieve treatable symptoms and enhance social support are also recommended.
References


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