

# Quality Of Life of Patients with Chronic Liver Disease as Measured by the Abbreviated Version of the World Health Organization Quality of Life Scale

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## Abstract

**Objective:** To measure the quality of life (QOL) of patients with chronic liver disease (CLD) using the abbreviated version of the World Health Organization Quality of Life Instrument (WHOQOL-BREF-THAI). **Methods:** This study was descriptive in nature. The data were collected from a convenient sample of CLD patients who visited the gastrointestinal clinic at Naresuan University Hospital between December 2008 and November 2009. Structured interviews were conducted by trained interviewers. The instrument consisted of 26-items WHOQOL-BREF-THAI and questions soliciting patients' demographic information. Data were analyzed by descriptive statistics. **Results:** Eighty-five CLD patients agreed to participate in this study. The majority of these patients were male (76.5%), and married (82.5%). More than half (55.3%) were insured by the Civil Servants' Medical Benefit Scheme. CLD patients reported mean score $\pm$ SD of QOL in physical, mental, social relationship, environmental, and overall QOL to be 24.40 $\pm$ 3.86, 20.92 $\pm$ 5.12, 10.83 $\pm$ 2.34, 30.31 $\pm$ 4.50, and 103.51 $\pm$ 13.00, respectively. **Conclusion:** Even though CLD interposed a negative impact on patients' QOL, patients in this study still reported good QOL. This study called for greater attention from health care professionals to physical and mental well-being of CLD patients. In addition, measures to promote patients' social relationships should be incorporated into their treatment plans.

**Keywords:** chronic liver disease, WHOQOL-BREF-THAI, quality of life

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## **Introduction**

The World Health Organization (WHO) defined quality of life (QOL) as an individual's perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns (1). WHO developed a generic cross-cultural quality of life measurement called the WHOQOL-100 in 1994 (2). The instrument consisted of one hundred questions soliciting responses on six domains of quality of life from respondents' perspective. The instrument was further abbreviated to the WHOQOL-BREF which consisted of 26 questions divided into four domains (physical, mental, social relationships, environmental domains) and two general quality of life items (3). The WHOQOL-BREF has been cross-culturally validated (4). The Thai version of the WHOQOL-BREF (WHOQOL-BREF-THAI) was tested for its psychometric properties in a number of Thai populations including the general population (5), the elderly (6), people living with HIV/AIDS (7), and patients who underwent radiotherapy (8). The scale was found to be valid and reliable.

Chronic liver disease (CLD), encompassing a number of hepatocellular and cholestatic conditions, is increasingly recognized as an important cause of chronic disease worldwide because of its epidemiological burden, its potential impact of patients' health and their health related quality of life (9). Patients with chronic liver diseases suffer from debilitating fatigue, pruritus, loss of esteem, depression, sexual dysfunction, and complications of cirrhosis (hepatic encephalopathy, ascites, spontaneous bacterial peritonitis, and recurrent variceal hemorrhages). Although some of these conditions have obvious clinical manifestations that are easily measured by the traditional clinical

measures and are poorly evaluated by the traditional clinical measures. For this reason, health related quality of life (HRQOL) measures are increasingly being used for understanding the impact of chronic liver disease and its treatments from a patient perspective (9,10,11). Previous studies in Western patients showed that CLD had a negative impact on QOL, and QOL worsened as the severity of disease increased (10). The study of QOL in gastrointestinal and liver diseases has recently received attention in Asian population (12). The objective of this study was to measure HRQOL of patients with CLD using the WHOQOL-BREF-THAI.

## **Methods**

Participants in this cross-sectional descriptive study were a convenient sample of CLD patients using International Statistical Classification of Diseases and Related Health Problems, 10th Version (ICD-10) as a diagnosis criteria, over 20 years of age and able to communicate in Thai language, who received medical care at the gastrointestinal clinic at Naresuan University Hospital on an outpatient basis between December 2008 and November 2009. Every participant gave written informed consent prior to participation, and would receive an incentive in the amount of THB300 (approximately US\$10) upon completion. The WHOQOL-BREF-THAI was utilized to capture the level of HRQOL of CLD patients. In addition, questions soliciting patients' demographic information (gender, age, marital status, education level, occupation, health insurance, income, and social history) were included in the questionnaire. Due to poor literacy among the patients, data were collected by means of structured face-to-face interviews by six trained interviewers. The questionnaire was pilot tested on ten CLD patients who were then excluded from the final sample. Descriptive statistics were employed to analyze the data set. The study protocol was approved by

Naresuan University Ethics Committee (Project Code 51 01 04 0022).

The WHOQOL-BREF-THAI scoring and interpretation: The WHOQOL-BREF-THAI contains 26 5-point Likert items. The instrument is divided in four domains: physical (7 items), mental (6 items), social relationships (3 items), and environmental (8 items). Additional two items measure global evaluation of QOL. Scores should be calculated for each domain, and summarized to present overall QOL. The method for converting raw scores to transformed scores as suggested by WHO is as follows: The first transformation method converts scores to range between 4-20, comparable with WHOQOL-100. The second transformation method converts domain scores to a 0-100 scale (13).

## Results

### Patients' demographic information

A total of 85 CLD patients consented to participate in this study. The majority of the participants were male (76.5%), with a median age of 54 years. Most of them were married (82.5%). About half of the patients (44.7%) were government employees, and used Civil Servants' Medical Benefit Scheme (CSMBS) as their health insurance schemes (55.3%). More than half (62.3%) received less than college education. Fifteen patients reported smoking. The median number of cigarettes smoked per day was 10. Nineteen patients consumed alcoholic beverages on a regular basis, with the median of 2 units of drink per day.

### Patients' clinical status

Diagnosis according to the International Statistical Classification of Diseases and Related Health Problems, 10<sup>th</sup> Version (ICD-10) was available for 68 patients. More than half (40, 58.8%) were diagnosed with diseases of the digestive system

(K00-K93). The rest (28, 41.2%) were diagnosed with viral hepatitis (B15-B19). Among these, 33 patients (48.5%) suffered from cirrhosis. The levels of ALT ( $95.15 \pm 122.62$  U/L) and AST ( $79.59 \pm 74.03$  U/L) were elevated in this patient group (normal values for ALT and AST are 3-36 and 0-35 U/L, respectively), indicating abnormal liver function.

### Instrument properties

The WHOQOL-BREF-THAI was employed as a tool to measure QOL of the patients. Judging from data variability, the scales could discriminate the levels of QOL among patients. Internal consistency tests indicated that only mental and environmental subscales achieved acceptable reliability; that is, Cronbach's coefficient alpha of higher than 0.7 (14) (Table).

### CLD patients' quality of life

CLD patients reported their mean  $\pm$  SD of physical, mental, social relationships, and environmental aspects of life to be  $24.40 \pm 3.86$ ,  $20.92 \pm 5.12$ ,  $10.83 \pm 2.34$ , and  $30.31 \pm 4.50$ , respectively. Their mean  $\pm$  SD of overall quality of life was  $103.51 \pm 13.0$ . When transformed scores were compared to those in the college students (5) and the elderly in Northeastern Region of the country (6), CLD patients reported statistically higher levels of mental, and environmental aspects of their QOL, whereas that of physical aspect was significantly lower. Social relationships aspect, however, was found to be comparable across studies.

**Table.** Patients' quality of life according to the WHOQOL-BREF-THAI instrument (mean±SD)

Domain (Num. of questions, Cronbach's alpha)	Range	Raw score	Transformed score (Range 4-20)	Transformed score (Range 0-100)	Li et al. (5) (Range 4-20)	Sudnongbua et al. (6) (Range 0-100)
Physical (7, 0.60)	7-35	24.40±3.86	13.89±2.21*	62.01±13.85**	15.13±2.08	54.93±19.98
Mental (6, 0.76)	6-30	20.92±5.12	17.64±2.14*	80.97±12.28**	14.93±2.18	65.33±17.61
Social relationships (3, 0.56)	3-15	10.83±2.34	14.43±3.15	65.20±19.75	14.97±2.41	65.45±22.06
Environmental (8, 0.76)	8-40	30.31±4.50	15.31±2.14*	70.78±13.38**	14.08±1.96	61.39±15.42
Overall (26, na)	26-130	103.51±13.00	n/a	n/a	n/r	82.56±13.14

Note: n/a = computation was not applicable; n/r = not reported; \* =  $p < .05$  when compared with Li et al. (15);

\*\* =  $p < .05$  when compared with Sudnongbua et al. (16)

### Conclusion and suggestions for further research

In conclusion, CLD patients reported a relatively good level of HRQOL, compared with Thai (5, 6), and US healthy populations (15). This study was the first to explore QOL of CLD patients using the WHOQOL-BREF-THAI. In general, the scale was found to be well utilized with acceptable reliability for emotional and environmental subscales. However, the Cronbach's alpha coefficients for the physical and social relationship subscales were less than 0.7. This finding was consistent with that in the previous studies (4, 6, 8).

Some limitations of this study must be acknowledged. First, the sample of CLD patients in this study was from one hospital in the lower Northern region of the country. Therefore, the subjects cannot be representative of all CLD patients in Thailand. Second, patients were in mild and moderate stages of disease, i.e., they were treated on an out-patient basis. Thus, findings from this study might underestimate the impact of disease on the well-being of severe CLD patients.

For this reason, future studies should plan to include

CLD patients of all severity, especially institutionalized patients, to understand their HRQOL.

Many symptoms frequently found in CLD patients such as pain, pruritus, fatigue, depression, sexual dysfunction and cognitive impairment were found to lower patients' QOL, yet oftentimes are neglected in treatment (9, 10). Patients are hesitant to voice their dissatisfaction, and this may be attributed to the conservative and tolerant nature of Thais. This study calls for greater attention from health care professionals to the physical and mental well-being of CLD patients. In addition, measures to promote patients' social relationship should be incorporated into their treatment plans.

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## บทความวิจัย

# คุณภาพชีวิตของผู้ป่วยโรคตับเรื้อรังตามแบบวัดคุณภาพชีวิต ขององค์การอนามัยโลกฉบับย่อภาษาไทย

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### บทคัดย่อ

**วัตถุประสงค์:** เพื่อวัดระดับคุณภาพชีวิตของผู้ป่วยโรคตับเรื้อรังโดยใช้แบบวัดคุณภาพชีวิตขององค์การอนามัยโลกฉบับย่อภาษาไทย **วิธีการ:** การวิจัยเชิงพรรณนาครั้งนี้ใช้การเลือกตัวอย่างแบบบังเอิญ เก็บข้อมูลจากผู้ป่วยโรคตับเรื้อรังที่เข้ารับการรักษาที่คลินิกโรคทางเดินอาหารของโรงพยาบาลมหาวิทยาลัยนเรศวร ระหว่างเดือนธันวาคม 2551 ถึงเดือนพฤศจิกายน 2552 โดยการสัมภาษณ์แบบมีโครงสร้าง เครื่องมือที่ใช้ในการวิจัย คือ แบบสัมภาษณ์ที่ประกอบด้วยแบบวัดคุณภาพชีวิตขององค์การอนามัยโลกฉบับย่อภาษาไทย และคำถามเกี่ยวกับข้อมูลส่วนบุคคลของผู้ป่วย วิเคราะห์ข้อมูลโดยสถิติเชิงพรรณนา **ผลการวิจัย:** มีผู้ป่วยโรคตับเรื้อรังที่ยินยอมเข้าร่วมการวิจัยครั้งนี้ทั้งสิ้น 85 คน ส่วนใหญ่เป็นเพศชาย (ร้อยละ 76.5) สมรสแล้ว (ร้อยละ 82.5) กว่าครึ่งของผู้ป่วย (ร้อยละ 55.3) ใช้สิทธิระบบสวัสดิการรักษายาบาลข้าราชการ เมื่อพิจารณาระดับคุณภาพชีวิตของผู้ป่วยตามแบบวัดคุณภาพชีวิตขององค์การอนามัยโลก (ฉบับย่อ) พบว่า ผู้ป่วยมีค่าเฉลี่ย±ส่วนเบี่ยงเบนมาตรฐานของคุณภาพชีวิตด้านร่างกาย จิตใจ สัมพันธภาพทางสังคม สิ่งแวดล้อม และคุณภาพชีวิตโดยรวมเท่ากับ  $24.40 \pm 3.86$ ,  $20.92 \pm 5.12$ ,  $10.83 \pm 2.34$ ,  $30.31 \pm 4.50$  และ  $103.51 \pm 13.00$  ตามลำดับ **สรุป:** ผลการวิจัยแสดงว่า แม้ความเจ็บป่วยด้วยโรคตับเรื้อรังส่งผลกระทบต่อคุณภาพชีวิตของผู้ป่วย แต่ในภาพรวม ผู้ป่วยในการศึกษานี้ยังคงมีคุณภาพชีวิตในระดับดี บุคลากรสุขภาพควรให้ความสำคัญกับการดูแลสุขภาพร่างกายและจิตใจของผู้ป่วย รวมทั้งมีมาตรการในการเพิ่มความสัมพันธระหว่างผู้ป่วยกับสังคมรอบข้าง

**คำสำคัญ:** โรคตับเรื้อรัง แบบวัดคุณภาพชีวิตขององค์การอนามัยโลก, คุณภาพชีวิต