Factors Related to Quality of Life among Patients with Chronic Hepatitis B Infection in Vietnam*

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Abstract

Purpose: To investigate the relationships between anxiety, depression, fatigue, social support, and quality of life (QOL) among patients with chronic hepatitis B infection in Vietnam.

Design: Descriptive correlational study.

Methods: Sample was chronic hepatitis B infection patients who were treated at the Department of Infectious Diseases in Bach Mai Hospital, Ha Noi, Vietnam. Data were collected through interview using 5 questionnaires: The Hamilton Anxiety Rating scale (HAM-A), the Hamilton Depression Rating Scale (HAM-D), the Functional Assessment of Chronic Illness Therapy Fatigue Scale (Version 4) (FACIT-F), the Multidimensional Scale of Perceived Social Support (MSPSS), and the SF-36® Health Survey (SF36) to measure QOL. Spearman's Rho was employed to test the relationships between the studied variables and quality of life.

Main findings: The findings supported that anxiety, depression, and fatigue were negatively correlated to quality of life (QOL) among patients with chronic hepatitis B infection (r_S = - .550, - .683, and - .541, $p < .05$, respectively). However, social support was not correlated to quality of life (QOL) significantly among patients with chronic hepatitis B infection ($p > .05$).

Conclusion and recommendations: From the findings of this study it is suggested that nurses should screen for anxiety, depression, fatigue, and social support of patients with chronic hepatitis B infection in order to provide appropriate care to enhance QOL.

Keywords: chronic hepatitis B infection, quality of life, anxiety, depression, fatigue, social support

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ปัจจัยที่มีความสัมพันธ์กับคุณภาพชีวิตในผู้ป่วยโรคตับอักเสบบีเรื้อรังในประเทศเวียดนาม*

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บทคัดย่อ

วัตถุประสงค์: เพื่อศึกษาความสัมพันธ์ระหว่างความวิตกกังวล ภาวะซึมเศร้า ความเมื่อยล้า การสนับสนุนทางสังคม และคุณภาพชีวิต ในผู้ป่วยโรคตับอักเสบบีเรื้อรัง

รูปแบบการวิจัย: การศึกษาเชิงสหสัมพันธ์

วิธีดำเนินการวิจัย: กลุ่มตัวอย่าง คือ ผู้ป่วยโรคตับอักเสบบีเรื้อรังจำนวน 115 รายที่เข้ารับการรักษาที่คลินิกโรคติดเชื้อ ในโรงพยาบาลบาคมาย เมืองฮานอย ประเทศเวียดนาม เก็บรวบรวมข้อมูลโดยการสัมภาษณ์ด้วยแบบสอบถามความวิตกกังวล (Hamilton Anxiety Rating Scale: HAM-A) ภาวะซึมเศร้า (Hamilton Rating Depression Rating Scale: HAM-D) แบบวัดความเมื่อยล้า (Fatigue Scale Version 4) การรับรู้การสนับสนุนทางสังคม (MSPSS) และคุณภาพชีวิต (SF36) วิเคราะห์ข้อมูลทั่วไป โดยใช้สถิติเชิงบรรยายและวิเคราะห์ความสัมพันธ์ โดยใช้สถิติ Spearman's Rho

ผลการศึกษา: ความวิตกกังวล ภาวะซึมเศร้า และความเมื่อยล้ามีความสัมพันธ์ทางลบกับคุณภาพชีวิตของผู้ป่วยโรคตับอักเสบบีเรื้อรัง (r_s = - .550, - .683, and - .541, $p < .05$, ตามลำดับ) การสนับสนุนทางสังคมมีความสัมพันธ์กับคุณภาพชีวิตอย่างไม่มีนัยสำคัญทางสถิติ ($p > .05$).

สรุปและข้อเสนอแนะ: พยาบาลควรคัดกรองความวิตกกังวลและภาวะซึมเศร้าของผู้ป่วยโรคตับอักเสบบีเรื้อรัง และให้การช่วยเหลือที่เหมาะสม รวมทั้งการจัดการอาการเมื่อยล้า และส่งเสริมการสนับสนุนทางสังคม เพื่อส่งเสริมคุณภาพชีวิตของผู้ป่วยโรคตับอักเสบบีเรื้อรัง

คำสำคัญ: ตับอักเสบบีเรื้อรัง คุณภาพชีวิต ความวิตกกังวล ภาวะซึมเศร้า การสนับสนุนทางสังคม

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Background and Significance

It was estimated that 400 million people have chronic hepatitis B infection (CHB) worldwide.[1,2] Hepatitis B virus (HBV) infection-related diseases continued to cause 1 million deaths of liver disease per year.[3] Southeast Asian countries such as Myanmar, Thailand, and Vietnam had a high prevalence of hepatitis B virus infection resulted in being long-term carriers or CHB patients.[4] Vietnam was one of the countries with the highest rate of chronic hepatitis B virus infection, especially in two biggest cities, Hanoi and Ho Chi Minh City, had shown 9% to 14% of positive hepatitis B surface antigen (HBsAg).[5] Chronic hepatitis B infection affected not only progression of disease to hepatocellular carcinoma or liver cancer, but also deterioration of health and burden of their family.

Quality of life is defined as individuals' 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. The term health-related quality of life (HRQOL) reflects the impact of the disease upon a person's quality of life, progression to more severe complications may profoundly affect HRQOL.[6] Similar to all chronic diseases, patients with chronic hepatitis B infection may experienced both physical and psychological health problems that might affect their quality of life[7].

Previous research has shown that several psychiatric disorders such as mood swings, anxiety, low self-esteem, depression might be correlated with and decreased QOL in chronic hepatitis B infection patients.[7,8] Patients with depression had a significant reduction in QOL.[9,10] It might be beneficial in disease management for health care teams to screen for depression in chronic hepatitis B infection patients.[7,11,12]

The findings of another study demonstrated that fatigue was significantly associated with health-related quality of life in patients with chronic hepatitis virus.[13] Fatigue was one of criterion used in monitoring QOL in CHB patients.[14]

Social support was hypothesized to be associated with mental health and HRQOL in chronic hepatitis B and C infection patients.[15] Low level of social support had a negative impact on mental health of chronic hepatitis patients.[14] Therefore, it was crucial to strengthen social support from various sources to chronic hepatitis patients in order to improve the patients' quality of life. In antiviral therapy, social support played an important role in improving adherence of antiviral regimens to obtain virologic response which resulted in significant improvements of HRQOL.[16]

According to the literature review, little if any research on factors correlated with QOL among chronic hepatitis B infection patients, found in Vietnam. Therefore, the researcher was interested in examining QOL and the relationships between anxiety, depression, fatigue, social support, and QOL in chronic hepatitis B infection patients in Vietnam. The findings could be used to plan nursing care to promote QOL for chronic hepatitis B infection patients in Vietnam.

Objective

To investigate the relationships between anxiety, depression, fatigue, social support, and quality of life (QOL) among patients with chronic hepatitis B infection.

Hypotheses

1. Anxiety, depression, and fatigue were negatively correlated to quality of life (QOL) among patients with chronic hepatitis B infection.

2. Social support was positively correlated to quality of life (QOL) among patients with chronic hepatitis B infection.

Methodology

The design was a descriptive correlational design.

Population and Sample

Population included male and female patients diagnosed with chronic hepatitis B infection who had been admitted to the Department of Infectious Diseases at Bach Mai Hospital, Hanoi, Vietnam.

Sample was selected from the population with the inclusion criteria: 1) aged 18 years and older, 2) was able to verbally communicate in the Vietnamese language. The exclusion criteria included 1) patients who had liver transplantation, 2) co-infection with human immunodeficiency virus (HIV), 3) had symptoms of ascites, severe pain, or dyspnea.

Sample size was calculated based on G*Power analysis with the level of significance .05; power of test .9; and the effect size from moderate correlation (r = .3). The calculated sample size for correlation was 109 subjects[17], plus 5% attrition rate made the total sample to 115 subjects.

Research Instruments

Five instruments were used to collect data as follows:

1. Demographic data and health information were audited from hospital record included age, gender, marital status, educational level, and illness history, etc.

2. Hamilton Anxiety Rating Scale (HAM-A) contained 14 items to evaluate symptoms and signs of anxiety. Each item was scored on 5-point rating scales from 0 to 4; 0 = Not present, 1 = Mild, 2 = Moderate, 3 = Severe, 4 = Very severe. The total possible score ranged from 0 to 56; score ≤ 17 was interpreted as mild anxiety; score 18-24 was interpreted as mild to moderate anxiety; and score 25-30 was interpreted as moderate to severe anxiety.

3. The Hamilton Depression Rating Scale (HAM-D) contained 17 items to identify severity of depressive symptoms. The range of score for depression severity is determined as follows: < 10 points = no depression; 10-13 points = mild depression; 14-17 points = moderate depression; > 17 points = severe depression.

4. The Functional Assessment of Chronic Illness Therapy (FACIT) Fatigue Scale (Version 4) (FACIT-F) contains 13 items in 4 subscales: cognitive, fatigue, energy, and productivity; to evaluate level of fatigue which was measured on a Likert scale from 4 (not at all) to 0 (very much).[18] FACIT-F scores ranged from 0 to 52, with the high value indicating less fatigue. Score in the range of 30 and below suggested significant fatigue.

5. The Multidimensional Scale of Perceived Social Support (MSPSS) contained 12 items to measure the perception of social support of patients based on three sources: Family, friends, and significant others. Each item is scored on a Likert scale ranging from 1 (very strongly disagree) to 7 (very strongly agree).[19] The total scores ranged from 12-84, the higher score reflects more social support.

6. The SF-36® Health Survey (SF36) was used to measure quality of life. SF36 contained 36 items health survey consisting of eight domains to measure physical and mental health status. Physical health status included physical functioning (PF), role limitations due to physical health problems (RP), body pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitations due to emotional problems (RE), and mental health (MH). Each scale was graded between 0 and 100 points with higher score indicating improved health. In addition, the 8 domains are divided into physical component summary (PCS) and mental component summary (MCS) scales.[20]

All instruments were back translated from English to Vietnamese. Content validity was reviewed and approved by six experts in the field of infectious disease. Cronbach's alpha coefficient was employed to test reliability for each instrument. The results showed that Cronbach's alpha of HAM-A, HAM-D, FACIT-F, MSPSS, and SF36 were .878, .799, .918, .880, and .926, respectively.

Protection Right of Human Subjects

The proposal for this study obtained approval from the IRB of the Faculty of Nursing, Mahidol University (COA No.IRB-NS2016/342.0205), and the IRB of the School of Medicine and Pharmacy, Vietnam National University. Data collection was conducted based on standard procedures of IRB. Human rights of research subjects were protected in terms of independent to make decision for participation after fully informed, confidentiality, and anonymity.

Data Collection Process

1. After receiving permission to collect data from the Bach Mai Hospital, Vietnam. The researcher met the director of Bach Mai Hospital, Head of the Infectious Diseases Department and head nurse, physicians and staff of the department to explain details of the research project and procedures for data collection.

2. The research assistant recruited subjects for the study by giving details about this study both verbal and written information. If the subject agreed to participate in the study, the research assistant asked the subject to sign the consent form and introduced the researcher to the subject.

3. The researcher arranged a private room to interview the subjects or let the subjects answer the questionnaires by themselves. The interview process for each patient lasted for 30-40 minutes.

Data Analysis

Data were analyzed using a computer statistical package with the significance level .05.

1. Descriptive statistics using frequency, percentage, range, mean, and standard deviation.

2. All of the studied variables did not show normal distribution. Therefore, Spearman's Rho was employed to test the relationships between anxiety, depression, fatigue, social support, and quality of life among patients with chronic hepatitis B infection.

Findings

The sample in this study composed of 65.22% males and 34.78% females; aged ranged from 18 to 72 (Mean = 38.84, SD = 13.72) with 65.22% aged under 40 years old; 36.52% finished college or university education, while 25.22% finished secondary school; 76.52% were married; 20.87% were overweight with 9.57% obesity.

Anxiety, depression, fatigue, social support, and quality of life

The findings revealed that 43.48% of subjects had mild anxiety, 42.61% had mild to moderate anxiety, and 13.91% had moderate to severe anxiety.

There were 18.26% of subjects had moderate depression, and 6.09% had severe depression. With regard to fatigue, the majority of the subjects (85.22%) illustrated less fatigue.

In term of social support, 54.78% of subjects received high support, while 1.74% received low social support. (Table 1)

Table 1: Frequency, percentage, mean, and SD of patients with CHB categorized by anxiety, depression, fatigue, social support, and quality of life

Variables	Number (n = 115)	Percentage
Anxiety (HAM-A)		
Mean = 10.98, SD = 8.56		
Mild anxiety	50	43.48
Mild to moderate anxiety	49	42.61
Moderate to severe anxiety	16	13.91
Depression (HAM-D)		
Mean = 9.76, SD = 5.71		
No depression	51	44.35
Mild depression	36	31.30
Moderate depression	21	18.26
Severe depression	7	6.09
Fatigue (FACIT-F)		
Mean = 13.43, SD = 7.46		
Less fatigue	98	85.22
Severe fatigue	17	14.78
Social support (MSPSS)		
Mean = 5.38, SD = .80		
Low support	2	1.74
Moderate support	50	43.48
High support	63	54.78
Quality of life (SF36)		
Mean = 50.81, SD = 13.68		

Hypotheses testing

1. Anxiety, depression, and fatigue were negatively correlated to quality of life (QOL) among patients with chronic hepatitis B infection.

2. Social support was positively correlated to quality of life (QOL) among patients with chronic hepatitis B infection.

The findings supported the hypothesis 1 that anxiety, depression, and fatigue were negatively correlated to quality of life (QOL) among patients with chronic hepatitis B infection (r_s = - .550, - .683, and - .541, $p < .05$, respectively). However, hypothesis 2 was not supported; social support was not correlated to quality of life (QOL) significantly among patients with chronic hepatitis B infection ($p > .05$). (Table 2)

Table 2: Correlations between anxiety, depression, fatigue, social support, and QOL

Variables	1	2	3	4	5
1. Anxiety	1.00				
2. Depression	.755*	1.00			
3. Social support	.054	.139	1.00		
4. Fatigue	.598*	.665*	.077	1.00	
5. QOL	- .550*	- .683*	- .089	- .541*	1.00

*$p < .05$, Spearman's Rho Correlation

Discussion

Hypotheses 1: Anxiety, depression, and fatigue were negatively correlated to quality of life (QOL) among patients with chronic hepatitis B infection.

The findings supported hypothesis 1; patients who had higher level of anxiety, depression, and fatigue would have low quality of life. Depression and anxiety were common and important symptoms in patients with chronic hepatitis B infection. Enescu et al., found that here was a higher rate of psychiatric disorders (mostly depression) and anxiety in patients diagnosed with chronic hepatitis B infection within 3 months.[14] Several psychiatric disorders such as depression would affect quality of life of the patients[7]; chronic hepatitis B infection patients with depression had a significant reduction in quality of life.[10] In addition, previous research has also shown that depressive disorders were related to poor QOL in patients with chronic liver disease.[21] Patients should be monitored for depressive symptoms during the course of medical care, so that psychological care may be initiated in a timely manner.

The results also indicated that fatigue was negatively correlated with quality of life. These results were consistent with previous findings; fatigue was found to be significantly associated with health in relation to the quality of life of patients with chronic hepatitis virus.[13] Fatigue was one of criteria for monitoring quality of life in CHB patients.[14]

Hypothesis 2: Social support was positively correlated to quality of life (QOL) among patients with chronic hepatitis B infection.

This hypothesis was not supported; social support was not correlated to QOL among patients with chronic hepatitis B infection. This might be explained that more than half of subjects in this study received high level of social support; and almost all of them received moderate to high level of social support; so there was no variation in the level of social support in this group of subjects. The findings was not consistent with studied of Poorkaveh et al., which found that social support was associated with mental health and HRQOL in chronic hepatitis B and C patients.[15]

Conclusion including Implication for Practice and Further Study

Based on the findings of this study, it is suggested that nurses should screen for psychiatric problems such as anxiety and depression in patients with chronic hepatitis B infection in order to plan psychosocial care appropriately. In addition, nurses should keep in mind that fatigue is one factor that affects quality of life of patients with chronic hepatitis B infection.

For further study, researchers should pay attention to prove whether social support is correlated with quality of life in patients with chronic hepatitis B infection.

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