

## CARING OUTCOMES AND RELATED FACTORS AMONG PATIENTS DIAGNOSED WITH VIRAL HEPATITIS IN CAN THO GENERAL HOSPITAL

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### ABSTRACT

**Background:** Viral hepatitis is an inflammatory condition that causes liver damage. It is a major public health problem globally, especially in developing countries. Patients with viral hepatitis have torse physical and psychological health status, and hepatitis is also a burden on family finance and the healthcare system. Effective nursing care is essential to decrease complications, re-hospitalization, mortality rate, and treatment costs and improve the quality of life for hepatitis patients. However, there was inadequate research quality of nursing care for viral hepatitis patients. Thus, it is important to conduct a study regarding caring outcomes which might be useful in developing nursing interventions to provide high-quality care for patients diagnosed with viral hepatitis. **Objectives:** This study aims to examine the caring outcomes and indicates its related factors among viral hepatitis patients. **Methods:** A descriptive cross-sectional design was applied for this study to conduct 160 inpatients in Can Tho General Hospital. The self-report questionnaires assessed caring outcomes, including 5 domains and 21 items. **Results:** The findings indicated that patients' good caring outcomes rate was 87.5%. In detail, health education showed the highest scores, while direct care and observation were the lowest. The study found that comorbidity significantly correlated with outcomes of provided care among viral hepatitis patients. There was no relationship between patients' caring outcomes and their demographic characteristics. A negative correlation was presented between patients' comorbid condition of diabetes type 2 and their caring outcomes. **Conclusion:** The incidence of satisfied caring outcomes among viral hepatitis patients was high. Patients' comorbid condition was associated with their caring outcomes. Health education should be focused on order better care for patients who are diagnosed with viral hepatitis.

**Keywords:** caring outcome, viral hepatitis, Can Tho general hospital.

### I. INTRODUCTION

Viral hepatitis is a major public health problem globally, especially in developing countries, which is hyperendemic for HAV, HBV, HCV, HDV, and HEV. The hepatitis B, C, and D viruses can cause acute, chronic, or long-lasting infections. In Vietnam, HBC and HCV are major causes of chronic hepatitis among patients, and they can lead to complications such as cirrhosis, liver failure, and liver cancer. HCV infection is also a major cause of post-transfusion hepatitis [1].

Early diagnosis, effective treatment, and care of viral hepatitis patients can decrease or lower patients' chances of developing severe complications and prevent the spread of

infections. However, there was inadequate research on the quality of nursing care for viral hepatitis patients. Thus, it is important to conduct a study regarding caring outcomes, which might be useful in developing nursing interventions to provide high-quality care for patients diagnosed with viral hepatitis [2,4].

Findings of the study which examined the caring outcomes among patients with viral hepatitis and determined related factors among viral hepatitis patients could be evidence to develop a quality-of-care improvement strategy in the hospital. Therefore, the study was conducted to 1) examine the caring outcomes among patients with viral hepatitis; 2) indicate factors related to caring outcomes among viral hepatitis patients.

## II. METHODS

### 2.1. Research design

A cross-sectional descriptive design was used to examine the caring outcomes among patients with viral hepatitis and indicated related factors.

### 2.2. Research population, sample, and data collection

Population: all hospitalized patients diagnosed with viral hepatitis at Can Tho general hospital.

This calculator used the following formula for the sample size  $n$

$$n = Z^2 \frac{p \times (1 - p)}{d^2}$$

$n$ : minimum sample size

$Z^2 \frac{1-\alpha}{2} = 1.96$ : Z statistic for a level of confidence at  $\alpha=0.05$

$p = 0.9$ : results from research of Ngo (2017) [6]

$d = 0.05$  precision (if the precision is 5%, then  $d = 0.05$ )

From the formula,  $n = 138$ . We added 10% more patients to the sample size to prevent data collection errors. The research sample was at least 152. Therefore, we conducted an entire sample, including 160 patients diagnosed with viral hepatitis at the Department of Internal Gastroenterology of Can Tho general hospital from November 2020 to April 2021.

### 2.3. Research instruments

Demographic questionnaire: a demographic questionnaire that included information on patient characteristics regarding age, gender, educational level, occupation, address, comorbid conditions, and alcohol addiction was used for data collection.

Caring outcomes for hepatitis patients were used to evaluate the effectiveness of provided care. The self-report scale consisted of 21 items and was divided into 5 domains. All of the items used the 3-Likert scale to measure participants' level of agreement regarding the outcomes of provided care for patients. Each domain was divided into satisfied and unsatisfied outcomes. Good outcomes was defined when all items in the domain were evaluated at a "good level". If any item was evaluated as "average level" or "poor level or not provided", the domain would be defined as poor outcome. The total score of caring outcomes was also evaluated based on the results of all domains. It was also

categorized as good (all domains were good) and poor outcomes (equal or more than one domain was at an average or poor level).

The developed questionnaire was tested for their internal consistency reliability with 20 patients with similar characteristics to this study's sample. Their reliabilities were 0.90.

#### 2.4. Data analyses

Data were collected, encoded, and analyzed by using SPSS 20.0. Descriptive statistics in frequency, percent, mean, standard deviation, and range were used to examine patients' demographic characteristics and caring outcomes. Chi-squared ( $\chi^2$ ) test was used to determine associations between caring outcomes among viral hepatitis patients and its correlated factors including demographic characteristics, comorbidity, and alcohol and smoking addiction. Statistical significance was considered at lower than 0.05.

#### 2.5. Ethical considerations

This study was approved by The Institutional Review Board for graduate study at Thang Long University.

### III. RESULTS

#### 3.1. Demographic characteristics

Most of the respondents were older than 51 years old (73.7%), male (62.5%), and Kinh (99.4%). Half of the patients graduated high school (44.4%), and farmers (45.6%), often used alcohol (56.9%) and smoked (51.9%). 18.1% of them had type 2 diabetes, 20.0% had hypertension, and 5.6% had a history of cardiovascular diseases. In terms of cause, among 160 participants, 63.8% of patients had hepatitis B, and 36.2% had hepatitis C. Almost all of the patients lived in rural areas (61.9%).

#### 3.2. Caring outcomes among viral hepatitis patients

In total, caring outcomes among viral hepatitis were satisfied. 87.5% of patients agreed that they received good care from clinical nurses (figure 1).

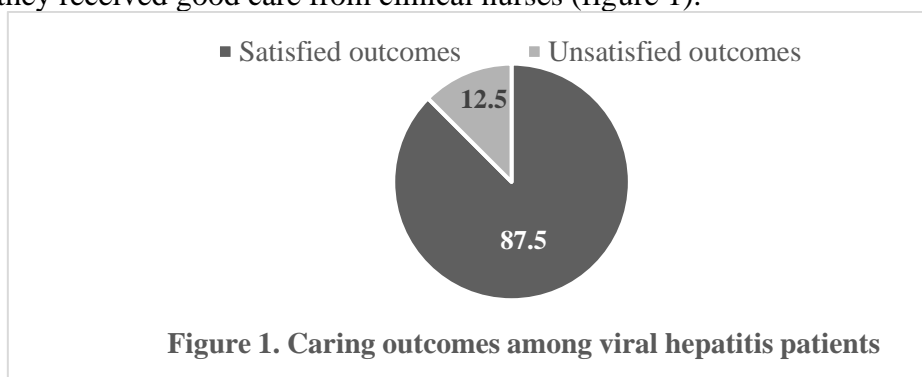
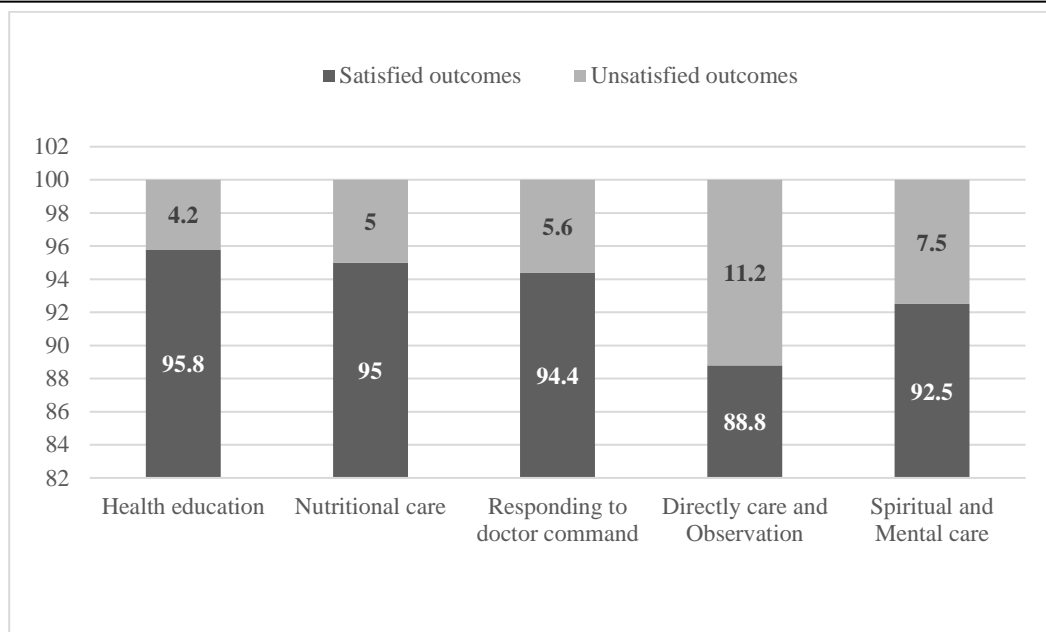


Figure 1. Caring outcomes among viral hepatitis patients

Following each domain, health education was at the highest score. 95.8% of respondents had a good level of care based on patients' self-report. The directly provided care and observation were the most unsatisfied or poorest with 88.8% "good level" respondents (fig 2).



**Figure 2.** Caring outcomes among viral hepatitis patients by domains

### 3.3. Factors related to caring outcomes among viral hepatitis patients

**Table 1.** Relationship between patient’s demographic characteristics and caring outcomes

Demographic Characteristics (n = 160)		Good		Poor		OR (95%CI)	p
		n	%	n	%		
Gender	Male	60	60	40	40	OR = 1.147 (0.6 – 2.2)	0.68
	Female	34	56.7	26	43.3		
Address	Urban areas	37	60.7	24	34.3	OR = 0,88 (0.4 – 1.6)	0.70
	Rural areas	57	57.6	42	42.4		

There was no significant relationship between the patient’s gender and caring outcomes. Caring outcomes of patients who lived in urban areas were not different from one’s lived in rural areas ( $p = 0.68$  and  $0.70$  in order).

**Table 2.** Relationship between patient’s lifestyle and caring outcomes (n = 160)

Patient’s behaviors		Satisfied		Unsatisfied		OR (95%CI)	p
		n	%	n	%		
Alcohol consumption	Yes	52	57.1	39	42.9	OR = 1.167 (0.6 – 2.2)	0.64
	No	42	60.9	27	39.1		
Smoking behavior	Yes	45	54.2	38	42.8	OR = 1.478 (0.7 – 2.7)	0.23
	No	49	63.6	28	36.4		

There were non-significant correlations between patients' behaviors of using alcohol and smoking and caring outcomes among viral hepatitis patients ( $p = 0.64$  and  $p = 0.23$ , as shown in Table 2).

**Table 3.** Relationship between comorbidity and patient's caring outcomes (n = 160)

Comorbidity		Satisfied		Unsatisfied		OR (95%CI)	p
		n	%	n	%		
<i>Diabetes type 2</i>	Yes	11	37.9	18	62.1	OR = 2.83 (1.2 – 6.4)	<b>0.012</b>
	No	83	63.4	48	36.6		
<i>Hypertension</i>	Yes	21	65.6	11	34.4	OR = 0.69 (0.3 – 1.5)	0.377
	No	73	57	55	43		
<i>Cardiovascular disease</i>	Yes	6	66.7	3	33.3	OR = 0.69 (0.1 – 2.8)	0.619
	No	88	58.3	63	41.7		

The findings showed that type 2 diabetes was related to patients' caring outcomes. Patients who had type 2 diabetes had lower caring outcomes ( $p = 0.012$ ). Hypertension and cardiovascular diseases were not associated with caring outcomes among viral hepatitis patients.

#### IV. DISCUSSION

##### **The caring outcomes among viral hepatitis patients in Can Tho General Hospital**

The study findings showed a high percentage of satisfied caring outcomes among patients with viral hepatitis (87.5%). Our result was similar to Dao et al.'s in 2015 [2]. However, this finding was higher than Quach's one in 2018 [8]. The two studies' differences might come from the participants' demographic characteristics. In addition, the high incidence of good caring outcomes might come from the request for nursing care and roles.

Regarding subscales of caring outcomes, health education had the highest score of caring outcomes. Besides, direct caring and observation were the lowest. These results were consistent with previous studies. A Nguyen (2016) study showed that only 59.9% of viral hepatitis patients reported good caring outcomes [7]. Similarly, 99.3% of patients had adequate caring outcomes for viral hepatitis [5]. A study by Ford also showed a high incidence of satisfied caring outcomes in nutritional care for viral hepatitis patients [2]. Regarding spiritual and mental care, a similar finding was found in a study by Chkhartishvili et al., with the incidence of adequate caring outcomes being 90.2% [1].

##### **Factors related to caring outcomes among viral hepatitis patients**

Regarding demographic characteristics, there was no factor related to the patient's caring outcomes ( $p > 0.05$ ). It was pertinent to previous evidence. Peter Frei (2013) reported that the patient's demographic characteristics, regarding gender and living places, were not statistically significantly correlated with caring outcomes among patients with viral hepatitis [5]. The same result was also found in a study by Ngo (2015). According to Ngo (2015), there was a non-significant correlation between patient's caring outcomes and

personal characteristics [6]. However, some studies that conducted a large sample showed a significant relationship between patients' caring outcome and their demographic factors. The differences might come from the sample size and research locale, and more studies are required to examine these.

Our study also demonstrated a negative correlation between patients' caring outcomes and their comorbid condition of type 2 diabetes. A patient with comorbid diabetes type 2 had 2.83 times lower caring outcomes than a patient without diabetes. Our finding was consistent with the result from Desbois et al. (2017) [3]. In other words, the more comorbidity the patient had, the lower their caring outcomes.

Limitations: the study used a self-report to measure caring outcomes among patients without observation, which might lead to errors.

Suggestion: observation and an intervention study should be conducted to gain a deeper understanding of factors related to patient caring outcomes.

## V. CONCLUSIONS

The incidence of satisfied caring outcomes among viral hepatitis patients was 87.5%. The highest score was health education, and the lowest was directly caring and observation. There was no relationship between patients' caring outcomes and their demographic characteristics. A negative correlation between patients' comorbid condition of type 2 diabetes and their caring outcomes; a non-significant relationship between comorbidity of hypertension and cardiovascular diseases was reported.

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