

Original Article

Study on effects of psychologic interventions in the treatment of hepatitis B patients

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Abstract: Objective: To investigate the effects of psychologic interventions on patients with hepatitis B. Methods: From January 2019 to June 2020 in our hospital, 108 patients with hepatitis B were randomly divided into the control group (n=58) or the observation group (n=50) and a retrospective analysis was performed. 58 patients in control group received usual care and 50 patients in observation group underwent psychologic interventions in addition to usual care. The psychologic interventions were consisted of psychologic guidance, cognitive intervention, and emotional support. The World Health Organization Quality of Life Scale (WHOQOL), the Self-Rating Anxiety Scale (SAS), the Self-Rating Depression Scale (SDS), and the Symptom Checklist 90 (SCL-90), nursing satisfaction and the treatment adherence rate were compared between the two groups. Results: Compared with those patients after intervention in control group, SAS scores, SDS scores and SCL-90 scores in observation group were significantly decreased (all $P < 0.05$) and the WHOQOL scores were obviously increased ($P < 0.05$). Additionally, patients in the observation group showed more nursing satisfaction rate ($P < 0.020$) and higher treatment adherence rate ($P < 0.01$). Conclusion: The psychologic interventions could provide hepatitis B patients with less negative emotions and better psychologic rehabilitation, as well as more satisfaction with nursing care and higher treatment adherences.

Keywords: Hepatitis B, psychologic intervention, therapeutic effect

Introduction

Hepatitis B virus infection is the main cause leading to chronic liver cirrhosis. Pathological examination in patients with hepatitis B revealed distortion and destruction of normal liver architecture. It was reported that 5-year survival rates of hepatitis B patients with compensated cirrhosis and decompensated cirrhosis were 84% and 14%, respectively [1, 2]. Currently, the treatment for hepatitis B patients include antiviral agents, improvement of liver function, and decrease of the development of decompensated cirrhosis and liver cancer [3, 4], which played an important role in the recovery of life quality and long-term prognosis. However, many studies showed that most patients with hepatitis B were in poor mental status and have anxiety and depression emotions, which could influence their psychologic rehabilitation and the immune func-

tions, and eventually lead to poor therapeutic effects [5]. Another study has reported that the negative emotions in Hepatitis B patients may affect their conditions and prognosis and it was not beneficial to their life quality [6]. Therefore, relieving negative emotions and promoting the psychologic state in hepatitis B patients are necessary [7, 8]. The purpose of this research was to investigate the effects of psychologic interventions on hepatitis B patients, with an aim to improve the negative emotions and life quality and promote the rehabilitation, so as to provide a scientific basis for developing clinical nursing intervention for hepatitis B patients.

Materials and methods

Subjects

From January 2019 to June 2020, 108 hepatitis B patients in our hospital were included as participants. Inclusion criteria were as follows:

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(1) Patients aged from 18 to 70 years old. (2) The recruited patients met the diagnostic criteria for hepatitis B [9]; (3) The included patients actively cooperated and the collected data was complete. (4) The patients firstly received anti-HBV treatment. Exclusion criteria: (1) Serious dysfunction of important organs such as heart, lung, kidney, and brain (2) Complicating other chronic hepatitis such as Hepatitis C, autoimmune hepatitis, alcoholic hepatitis and fatty liver; (3) Malignant tumor diseases such as liver cancer; (4) Cognitive impairment. All the included patients submitted written informed consent, and this study obtained the approval from the Hospital Ethics Committee (*Ethics approval number*: 2019L036).

This study was a retrospective analysis. The enrolled patients were randomly divided into two groups: control group and observation group. The patients in control group receive usual care (n=58), and patients from observation group received psychologic interventions based on usual care (n=50).

Usual care

The usual care included health education, informing of anti-HBV programs, precautions and preventions against related complications, and answering the questions of the patients, and so on.

Psychologic interventions

The psychologic intervention included psychologic guidance, cognitive intervention, and emotional support. Details are shown as follows.

Psychologic guidance

In order to establish a better doctor-patient relationship, the patients were communicated with amiable words and in a sincere and sympathetic manner. The patients should be informed of the precautions by means of encouragement, guidance and hints, and the entire process of interventions, possible abnormalities and corresponding measures, and stressing the influence of the subjective factors on the interventions. The patients were encouraged to improve self-images, establish good interpersonal relationships, enhance the ability of self-mental adjustment and actively accept social support.

Cognitive intervention

The psychologic problems and negative emotions of patients should be known and the relevant wrong cognition should be corrected. The patients were reminded that negative emotions were primarily caused by their own wrong cognition. The patients should be encouraged to accept the cognitive intervention, and learn to approach the problems from multiple perspectives, and to identify their wrong cognition. Moreover, the patients were informed that negative emotions were detrimental to the curative effects and prognosis, and that their psychologic problems could not be well dealt with if they did not have a sensible way of thinking.

Emotional support

The relatives and friends of the patients were informed that the importance of emotional supports on the rehabilitation of the patients and asked to avoid affecting the patients with their own negative emotions. The patients should often receive spiritual encouragement, full respect, sympathy and supports. With these helps, the patients become more confident in fighting against the disease. Moreover, the humanistic care should be integrated into the daily medical work. And the patients should be encouraged to open their hearts and make emotional catharsis.

Observed indexes

The World Health Organization Quality of Life Scale (WHOQOL) was used to evaluate the quality of life of the patients [10]. The WHOQOL scale mainly consists of 6 domains including the physical, psychological, and social-relationships domains, all having positive scores.

The Self-Rating Anxiety Scale (SAS) and the Self-Rating Depression Scale (SDS) were applied to evaluate the mental state of patients in two groups [11]. The SAS and SDS both include 20 items, rating into 1 to 4 grades, with 50 points as the threshold value for discriminating anxiety from depression.

The Symptom 90 Checklist (SCL-90) was used to assess the mental conditions in patients [12]. The SCL-90 scale covers 90 items, rating into 1 to 5 grades, with higher scores indicating worse psychologic rehabilitation.

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Table 1. Demographics of patients in two groups

Indexes	Control group (N=58)	Observation group (N=50)	T/ χ^2 value	P value
Age (year)	51.4 ± 5.2	51.8 ± 5.9	0.709	0.375
Male/famle (n)	31/27	28/22	0.071	0.791
Course of disease (months)	37.5 ± 1.9	37.2 ± 1.6	0.879	0.381
Hypertension (n)	19	17	0.019	0.892
Diabetes (n)	12	8	0.391	0.532
Hyperlipidemia	10	7	0.213	0.645
Child-Pugh grades			0.793	0.673
A grade	30	24		
B grade	23	19		
C grade	5	7		

Table 2. Comparison of the WHOQOL scores between two groups

Group	Before intervention	After intervention	T values	P values
Control group (n=58)	74.8 ± 10.7	75.6 ± 11.2	0.393	0.695
Observation group (n=50)	74.6 ± 10.3	82.9 ± 12.4	3.641	<0.001
T values	0.010	3.089		
P values	0.922	0.003		

The patients' satisfaction with nursing care was compared between the two groups [13]. The total points were 100 scores. The judgment criteria were as follows: The scores more than 90 points indicated high satisfaction; the scores between 70 and 90 points indicated satisfaction; the scores below 70 points indicated dissatisfaction. The nursing satisfaction rate was calculated as follows: Nursing satisfaction = (the cases of patients with high satisfaction + the cases of patients with satisfaction) / total number of patients × 100%.

The treatment adherence rate was compared between two groups [14]. The treatment adherence covers four items including reasonable diet, treatment adherence, emotional stability and doctor's orders, with rating into 1 to 4 grades. Each item included 25 scores. The higher scores indicated better treatment adherences.

Statistical analysis

The collected data in this study were performed using SPSS software, version 21.0. And the graphic software was GraphPad Prism version 8.0.1. Measurement data were expressed as mean ± SD. The independent t-tests were used for comparisons between two groups. Count data were presented as percentages, and the

chi-square tests were applied for intergroup groups. P<0.05 was considered as significant differences.

Results

Basic information

As seen in **Table 1**, There were not significant differences between two groups for items including gender, age, course of disease, Child-Pugh grade, underlying diseases such as diabetes and hypertension and so on (all P<0.05), and they were comparable.

Comparison of the WHOQOL scores

The WHOQOL scores before intervention were insignificantly different between

the observation group and the control group (P>0.05); The WHOQOL scores after intervention in the observation group were significantly higher than those before intervention in the same group and those after intervention in the control group, and there were obviously statistical differences (all P<0.05), as showed in **Table 2**.

Comparison of the SAS and SDS scores between two groups

The scores of SAS and SDS before intervention were insignificantly different between control group and observation group (all P>0.05); the SAS and SDS scores after intervention in observation group were significantly lower than those before intervention in the same group and those after intervention in control group and the significantly statistical differences were found (all P<0.001), as shown in **Figure 1**.

Comparison of SCL-90 score between two groups

As seen in **Figure 2**, there were no obvious differences between two groups before intervention (157.7 ± 6.1 vs 158.1 ± 7.2, P>0.05); Compared with those before intervention in the same group and those after intervention in

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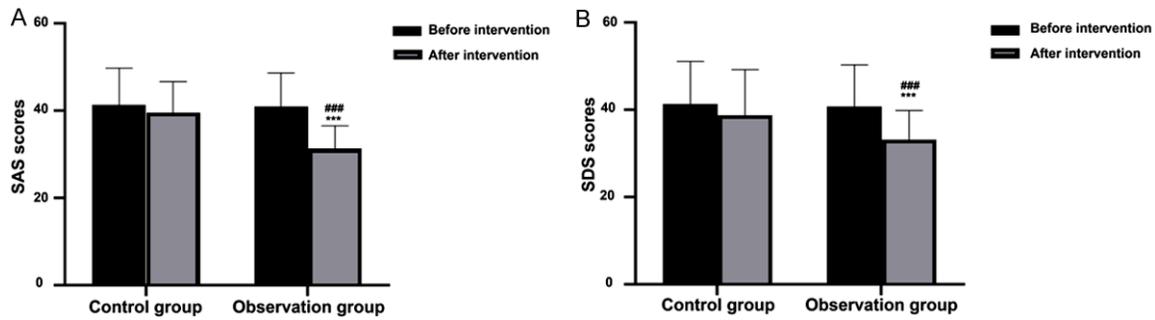


Figure 1. Comparison of SAS and SDS scores between two groups. Compared with those before intervention in observation group, *** $P < 0.05$; Compared with those after intervention in control group, ### $P < 0.05$.

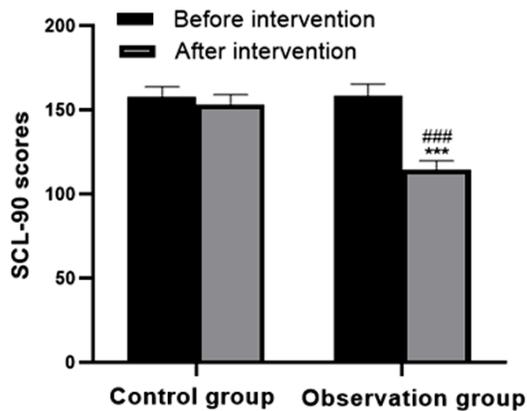


Figure 2. Comparison of SCL-90 scores between two groups. Compared with those before intervention in observation group, *** $P < 0.05$; Compared with those after intervention in control group, ### $P < 0.05$.

control group, SCL-90 scores after intervention in observation groups were significantly decreased. And the significantly statistical differences were found (all $P < 0.001$).

Comparison of nursing satisfaction rate

The rate of nursing satisfaction in observation group was 92.0% (46/50), significantly higher than that [72.4% (41/58)] in control group, and there were obviously statistical differences ($\chi^2 = 7.789$, $P = 0.020$, **Table 3**).

Comparison of treatment adherence rate

In observation group, the treatment adherence rate was 94.0% (47/50), which was significantly higher than that in control group [74.1% (43/58)]. And there were significantly statistical differences between two groups ($\chi^2 = 7.672$, $P = 0.006$), as shown in **Figure 3**.

Discussion

Hepatitis B is one of most common clinical disease. During the course of treatment, patients often suffer from the anxiety and depression moods, which seriously affect the treatment effects. In this study, 108 patients with Hepatitis B showed overt negative emotions such as depression and anxiety before intervention. It was reported that long-term unhealthy emotions could dysregulate the levels of hormone, impair the immune function and finally decrease the ability of resistance [15]. Many studies showed that the negative emotions could impact the life quality of patients [16]. Another study showed that the nursing interventions in coordination with clinical treatment could significantly improve prognosis of patients [17]. With the changes in concepts of clinical nursing interventions and the increasing renewal in the nursing interventions modes. The clinical nursing interventions have been shown to play the key role in improving the patients' prognosis [18]. The psychologic nursing intervention is mainly focused on the mental activity of patients. It was reported that psychologic nursing intervention could significantly reduce unhealthy emotions, relieve compliances, and improve life quality, and eventually bringing satisfaction clinical outcomes [19].

In this study, the psychologic nursing intervention as a new nursing care program include psychologic guidance, cognitive intervention and emotional support for patients with hepatitis B. Life quality is considered as a self reflection and feeling of individual in physical and social, psychological aspects. This research showed that the WHOQOL scores after intervention in hepatitis B patients from observation group

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Table 3. Comparison of nursing satisfaction (n)

Group	High satisfaction	Satisfaction	Dissatisfaction	Rate nursing satisfaction
Control group	22	19	17	72.4%
Observation group	25	21	4	90.0%
χ^2 value				7.789
P value				0.020

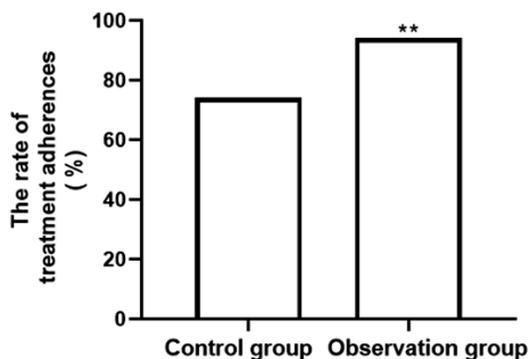


Figure 3. Comparison of treatment adherence rate between two groups. Compared with control group, **P<0.01.

were obviously more than those in the control group, and there were statistically significant. The above results showed that psychologic nursing intervention could improve patients' life quality and promote the recovery of physical and psychological health, which may be explained as the following: patients with hepatitis B were more confidence after psychological nursing interventions and there were fewer negative effects on patients' life quality. This result was similar to previous report [20]. Thus it can be seen that psychologic nursing interventions could effectively promote the life quality of hepatitis B patients.

It was reported that negative emotions could affect the treatment effects in hepatitis B patients [21]. At present, SAS scores, SCL-90 scores and SDS scores are considered as authoritative tools for examining psychological status in patients [22]. The results showed that SAS scores, SCL-90 scores and SDS scores in observation group or control group were significantly more than normal values, which indicated that negative emotions exist in hepatitis B patients. The similar results were reported by Yang et al. [23]. In addition, SAS scores, SCL-90 scores and SDS scores in the observation

group were significantly less than those in the control group, and there were significantly statistical differences between two groups. It is indicated that psychologic nursing interventions play an important role in obtaining the best physical

and psychological conditions for hepatitis B patients.

In term of the nursing satisfaction and treatment adherences, psychologic nursing intervention could provide patients with more meticulous nursing care. Many studies showed that good nursing interventions could improve rates of nursing satisfaction and treatment adherences. This study showed that Compared with those in the control group, the rates of nursing satisfaction and treatment adherences in the observation group were significantly more and the significant differences were found. The results were also consistent with previous study [24].

In summary, psychologic nursing interventions provide hepatitis B patients with improved unhealthy emotions, increased life quality, more rate of nursing satisfaction and higher treatment adherence of patients. It is worth generalizing in clinical practices of nursing. However, this study is performed with a single center, a small sample size, a short follow-up and no subgroups comparisons. In order to provide more scientific results, a multi-centered, randomized control, and long-term follow-up research needs to be conducted.

Disclosure of conflict of interest

None.

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