

# Analysis of the Influence of Psychological Nursing on the Psychological Status of Pregnant Women with Hepatitis B Virus

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With the continuous progress of human civilization and the continuous development of social medicine and science, health and disease issues are getting more and more attention, and the quality of life of the diseased population is becoming more and more prominent, especially for patients with serious diseases. The quality and the dignity of life need others to take care of. Hepatitis B, as a disease that cannot be cured by modern medicine, has an increasing incidence year by year, and it is inevitable to turn from the deterioration of the disease to death. In the 21st century, hepatitis B has become one of the main diseases threatening human health. If people learn that they have hepatitis B, it is tantamount to a bolt from the blue and even feel that their lives are meaningless. This is a normal reaction. For patients with hepatitis B, it is very easy to have bad psychological conditions, which are mainly manifested in depression and anxiety. This article takes the pregnant women hepatitis B virus carriers in the hepatitis B patient group as the research object, and mainly studies the influence of psychological care on the psychological status of pregnant women hepatitis B virus carriers. The research content focuses on anxiety, depression, body image, the quality of life and social support are five aspects, and the relevant scales are used to analyze the experimental data, and finally the corresponding conclusions are drawn.

**Key words:** Psychological Care, Pregnant Women with Hepatitis B Virus Carriers, Anxiety, Depression

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Hepatitis B virus belongs to the hepatotropic DNA virus family, the genus Hepatotropic DNA virus, with a genome length of about 3.2 kb. It is currently the smallest double-stranded DNA virus known to infect humans. At present, about 2 billion people are infected with HBV. According to statistics, 78,000 deaths per year are related to HBV infection. This type of virus infection has become the tenth leading cause of death in the world. China is a region with a high incidence of hepatitis B virus infection. About 93 million people are carriers of hepatitis B surface antigen (HBsAg).

HBV infection has become a serious global public health problem. HBsAg is the main clinical indicator of acute and chronic infection, and its positive can indicate the prevalence and prevalence of HBV infection. The average positive rate of HBsAg in China is 7.2%<sup>14</sup>,

which is an area with a high incidence of HBV infection, and the positive rate varies greatly in different regions. For example, the HBsAg positive rate in Shihezi, Xinjiang is 5.92%, which is lower than Shenzhen, Guangdong (6.68%) and Fuzhou, Fujian. (9.75%) within <sup>1</sup>. Studies have also shown

that the main genotype of HBV infection in northern China is type C, while type B is the main genotype in the south, and type C also accounts for a certain proportion of the heart. In areas with a high incidence of HBV infection, such as China and Southeast Asia, mother-to-child transmission is the main route, and the lifetime risk of infection is more than 60%. According to statistics, there are about 50 million new infections each year, of which vertical mother-to-child transmission is the main reason. In addition, pregnant women who test positive for HBV-DNA are prone to intrauterine infection, which will increase the risk of vertical transmission from mother to child <sup>2,3</sup>. Infection of viral hepatitis during pregnancy is very harmful to both the mother and the fetus, and the process of pregnancy can also affect the clinical progress and prognosis of viral hepatitis. Currently, prenatal screening for HBV has become a standard in many countries. There may be more than 120 million chronic asymptomatic carriers of hepatitis B virus, and there are now more than 20 million hepatitis B patients. Many people die of liver cirrhosis and primary liver cancer after hepatitis every year <sup>4</sup>. After HBV infects human liver cells, its DNA can persist in human liver cells, and the damage of liver cells will not stop due to the reduction of the virus, which determines the long-term infection of hepatitis B patients. There are many types of HBV infection. HBV infection mainly depends on the infection itself. Even if individuals with the same other conditions are infected by the same virus subtype, different results will be produced.

Hepatitis B liver cirrhosis is a modern medical concept. The number of people infected with hepatitis Z virus in our country is large, and cirrhosis is the terminal stage of people infected with hepatitis Z virus. Traditional Chinese medicine has certain advantages in the treatment of liver cirrhosis. In recent years, many scholars have envisaged the prevention and treatment of people who are susceptible to hepatitis B and liver cirrhosis from the perspective of traditional Chinese medicine <sup>5</sup>. The academic community has two consensus on the basic connotation of discrimination: one is difference or unfair treatment, and the other is the negative meaning

and result. It can be clearly seen that carriers are discriminated against in the admission of civil servants. In fact, the carriers also suffer severe social discrimination and social exclusion in their marriages in school and employment. According to a survey conducted by the China Hepatitis Prevention Foundation on discrimination in foreign companies, 77% of the company's human resources department clearly stated that they would refuse to carry the hepatitis B virus when recruiting employees. The detection rate of hepatitis B serum markers is as high as 96%. The results of a survey conducted by someone once showed that 39% of hepatitis B virus carriers have experienced severe employment discrimination. The social science community cannot ignore the research on such a large discriminated group, because ignoring not only means that the research materials are vacant, but also means the lack of responsibility, morality and responsibility <sup>6,7</sup>. There are only more than 40 studies on the discrimination of hepatitis B virus carriers from the perspective of social sciences that can be collected on the Chinese academic journals. In summary, there are the following themes: First, the right to employment of hepatitis B virus carriers and the government's responsibilities are analyzed; the second is to analyze the essence of discriminating against hepatitis B virus carriers in violation of the Constitution; the third is to analyze and explore the demonization and prejudice of non-hepatitis B carriers against hepatitis B virus carriers; the fourth is to explore the discrimination against hepatitis B virus carriers in media transmission. The first and second one is to consider from the perspective of law, the third theme analyzes the "stereotype" of the non-carrier group towards the carrier group, and the fourth is the construction of the image of the carrier from the media. It is considered from the perspective of the role, through in-depth analysis on these four themes, it has a certain inspiration for the research of this article.

There is currently no effective cure for hepatitis B infection. Long-term chronic carrier status will cause patients to have some obvious physical conditions due to prolonged disease, fear of prognosis and contagion leading to limited life and

activities, negative views on future life, and extreme understanding of others. Symptoms, anxiety, depression, and mental stress are reduced. At the same time, the reduction of labor capacity and various direct or indirect costs will bring a heavy economic burden to the family and society. The transmission route of hepatitis B is mainly divided into mother-to-child vertical transmission and blood and body fluid horizontal transmission. In regions with low prevalence or among adults, hepatitis B is mainly spread horizontally through high-risk behaviors such as unprotected sex, sharing needles, or iatrogenic infections; while in high-prevalence countries and regions, hepatitis B spreads horizontally. Part of hepatitis B infections are mother-to-child transmission. Mother-to-child transmission means that a mother suffering from hepatitis B transmits the hepatitis B virus to her offspring in a certain way<sup>8, 9</sup>. Mother-to-child transmission is specifically divided into: intrauterine transmission, which is mainly transmitted through the placenta, which may be related to slight peeling; perinatal transmission, fetal broken skin or mucous membrane contacting mother's blood, amniotic fluid or vaginal secretions; postpartum transmission, mother-to-child transmission close contact leads to the spread of hepatitis B virus. At present, the active and passive combined immunization method combining hepatitis B vaccine and hepatitis B immune globulin is considered to be the most effective method to prevent mother-to-child transmission. In 2002, our country incorporated active and passive combined immunization into intervention measures for mother-to-child transmission of hepatitis B. Although combined immunization has greatly reduced the transmission rate of hepatitis B, there are still 0--16% of mother-to-child transmission that cannot be successfully blocked under this intervention. Studies have found that the younger the hepatitis B infection, the higher the risk of chronicity. Only about 5% of adult hepatitis B infections will eventually develop into chronic infections; while infections in preschool children aged 1 to 5 years, about 30% will eventually develop chronic infections; if hepatitis B transmission from mother to child occurs in the

perinatal period, it will become chronic infection. Chronic infection cases can be as high as 90% or more<sup>10</sup>. It can be seen that the interruption of mother-to-child transmission of hepatitis B is of great significance in controlling the epidemic of chronic hepatitis B and cannot be ignored. People always have certain prejudice and discrimination towards hepatitis B patients, which can easily cause greater psychological harm to the hepatitis B patient group and bring psychological and spiritual adverse effects to the hepatitis B patient group. The research object of this article is pregnant women with hepatitis B virus carriers, and the main content of the research is the analysis of the influence of psychological nursing on the psychological status of pregnant women with hepatitis B virus carriers.

## STUDY ON THE EFFECT OF PSYCHOLOGICAL NURSING ON THE PSYCHOLOGICAL STATUS OF PREGNANT WOMEN WITH HEPATITIS B VIRUS

### Research Status of Psychological Nursing Service at Home and Abroad

"Mental health" is an intact state of reasonable cognition, emotional stability, appropriate behavior, interpersonal harmony, and adaptation to changes in the process of growth and development. "Mental health service" is also called "mental health service", "mental health service", etc. The concept of mental health service mainly adopts the definition of psychology and health field<sup>11, 12</sup>. Mental health services are divided into broad and narrow senses. The broad sense of mental health services refers to the use of certain principles, methods and methods to solve people's psychological and behavioral problems, and the narrow sense of mental health services refers to the use of psychological theories and methods as the leading factor. Activities to maintain and promote people's mental health. The World Health Organization believes that mental health services refer to the sum of all measures that provide effective mental health interventions. The "Guiding Opinions on Strengthening Mental Health Services" issued by 22 departments including the former National Health and Family Planning Commission and the Central Propaganda Department clearly pointed out that mental health

services use psychology and medical theories and methods to prevent or reduce various mental behavior problems, activities to promote mental health and improve the quality of life mainly include mental health publicity and education, psychological counseling, mental illness treatment, psychological crisis intervention, etc.

### **Psychological Nursing Service Research Methods and Evaluation Tools**

There are three main types of evaluation methods currently available. The first type is a self-assessment questionnaire, which observes the degree of mental health knowledge of the evaluation object; the second type is the re-diagnosis of the patient by a trained psychiatrist using a unified diagnostic standard, to observe the recognition rate of these doctors on mental disorders; the third category is to use standardized patients to test the ability of these doctors to recognize and deal with mental disorders. The assessment tools mainly include mental health knowledge questionnaires and case questionnaires, and the assessment content focuses on knowledge and skills<sup>13</sup>. Western general practitioners have a detection rate of 30% to 60% for common psychological disorders. In order to guide the scientific assessment of the development of mental health work in various regions in China, the former Ministry of Health organized experts to formulate the "Mental Health Work Indicator Questionnaire" in 2010. Since then, most domestic scholars have used the questionnaire as an evaluation tool or compiled related knowledge questionnaires and case questionnaires on this basis to investigate and research medical staff on common mental disorders' cognition, diagnosis rate, and treatment status<sup>14</sup>. Mental health services not only help improve the level and quality of medical and health services, reduce the waste of medical resources, but also increase patient satisfaction and improve the doctor-patient relationship. There are many patients with psychological and physical disorders in general hospitals. Such problems can cause more serious health problems and are more difficult to deal with than patients with pure physical diseases, seriously affecting clinical efficacy,

and easily causing many misdiagnosis and waste of resources. When a patient suffers from psychological and mental problems, he cannot be identified in time. The patient feels that he is not understood by the doctor and often moves between departments or major hospitals. As a result, the satisfaction of the patient and family members is reduced, causing medical disputes, and in severe cases, injuries. The occurrence of adverse events such as medical killing. Researches on interventions to improve mental health services are scattered. It mainly includes the development of a model suitable for mental health services in general hospitals, that is, a large flow, rapid and efficient identification of the process or service model for intervening patients; reforming the talent training program of higher medical schools, opening up a diversified on-the-job training platform, and building a professional talent team, Improve the mental health knowledge level and service ability of medical staff; emphasize the breakthrough of the traditional concept of "seeing the sick but not seeing people". In addition to the physiological point of view, the occurrence and development of the disease should also be considered from the psychosocial aspect, and the emotional and psychological needs of patients should be paid attention to.

### **Significance of Research**

Literature studies have shown that experts have reached a consensus on the application of care pathways for pregnant women with hepatitis B virus carriers. It can use the best evidence to provide services for pregnant women with hepatitis B virus carriers, and can promote comfortable and prospective management of patients. Discuss nursing goals with patients, family members, and multidisciplinary teams<sup>1, 15</sup>. It also gives medical staff appropriate rights to structure the nursing operation procedures and save the time for nurses to record documents. It promotes communication among multidisciplinary personnel, including patients, family members, and nursing team members, and provides guidance for the formulation of methods for pregnant women with hepatitis B virus carriers and their families. In the

end-of-life care of pregnant women with hepatitis B virus carriers, accurate prediction of survival period can provide great help to the quality services of pregnant women with hepatitis B virus carriers. Due to the symptoms of pregnant women with hepatitis B virus and the specificity of not being cured, the nursing path is not based on the standard of reducing the patient's hospital stay and less medical expenses.

The main purpose is to improve the symptoms of the patients and reduce the quality of life of the patients. The symptoms of illness are evaluated in time and effectively alleviated. Pay attention to the special group of patients' family members, and provide support to patients and their families in various aspects such as physiology, psychology, spirituality, and society, so as to make patients' lives more peaceful and make their families more peaceful. It is easier to accept the patient's condition and reduce the grief of family members<sup>10</sup>. When special circumstances occur, the care plan and goals for the patient should be changed in time, and the clinical care path can provide guidance for special care. Based on the research and application of nursing pathways for pregnant and lying-in women with hepatitis B virus in foreign countries, and combining with our country's national conditions, this article develops a localized care pathway for pregnant and lying-in women with hepatitis B virus to improve the quality of life and nursing services for patients<sup>16</sup>. The research team expects that the construction and application of nursing pathways for pregnant and lying-in women hepatitis B virus carriers can standardize the professional nursing operations of nurses, improve the quality of life of pregnant and lying-in women hepatitis B virus carriers, and promote psychological care for pregnant and lying-in women hepatitis B virus<sup>17</sup>.

## THE RESEARCH METHOD OF THE INFLUENCE OF PSYCHOLOGICAL NURSING ON THE PSYCHOLOGICAL STATUS OF PREGNANT WOMEN WITH HEPATITIS B VIRUS

### Research Object

This article is based on 400 pregnant women

with hepatitis B virus carriers in the outpatient and inpatient departments of a Chinese University Hospital affiliated to a domestic university. The selected conditions are: 1. Female pregnant women who are diagnosed as carriers of hepatitis B virus 2. Adults with autonomous behavior ability; 4. Pregnant women who know the condition of hepatitis B; 5. Consciousness, no history of mental illness, and able to fill out the questionnaire independently; 6. Patients with informed consent and willing to participate in this project. A questionnaire survey on the psychological scale of selected pregnant women with hepatitis B virus was carried out. Before the survey, the purpose of the survey was clarified to the respondents, the anonymity of the questionnaire was ensured, and the patients were informed that the survey data was strictly confidential. For patients with a higher level of education and good comprehension ability, the patients are given enough time to complete the questionnaire on the spot independently.

When the patient does not understand certain items, the investigator will give appropriate non-stance prompts, and the questionnaire will be taken back on the spot after the completion of the questionnaire. For patients with a low level of education and poor comprehension, the investigator will use non-stance, non-inducing, and neutral sentences to explain the questionnaire items to the patient, and use question and answer methods to assist in completing the questionnaire, and the questionnaire will be taken back on the spot after the completion of the questionnaire. Finally, the statistician will evaluate whether the questionnaire is qualified. Questionnaires with missing content or obvious falsehoods are considered invalid. This questionnaire consists of general information and five psychological scales. The scales include depression scale, anxiety scale, maternal hepatitis B virus carrier body image questionnaire, maternal hepatitis B virus carrier quality of life scale and social support rating scale. It focuses on the five aspects of anxiety, depression, body image, quality of life and social support for pregnant and lying-in women hepatitis B virus carriers.

### Depression Scale and Anxiety Scale

Carriers of hepatitis B virus are often troubled by a series of psychological and mental problems, which are not only related to the side effects of surgery, radiotherapy and chemotherapy, and other adjuvant treatments, but also related to financial burden, family support, physical loss, inconvenience of life, etc. Because of the special significance of children to women, mental and mental problems are more prominent among pregnant women with hepatitis B virus. Studies have shown that among hepatitis B virus carriers, depression is the most common, and hepatitis B virus carriers in pregnant women are particularly vulnerable, followed by generalized anxiety.

Depression and Anxiety Scales are currently internationally used, simple, fast, and highly operable screening scales for depression and anxiety. It has been confirmed that it has good screening value in general hospitals in my country, and has good reliability and validity, and has good applicability for pregnant women with hepatitis B virus carriers. In addition, the self-rating depression scale, self-rating anxiety scale, Hamilton anxiety scale, etc. are widely used internationally, but the questionnaire itself is slightly complicated. If it contains a question, the patient needs to answer one by one. The maneuverability is relatively general and suitable. Professional psychological assessment is not suitable for preliminary screening. However, this article is only a preliminary screening for depression and anxiety, using a negative score of 0-3, and a total score of less than 6 is judged as anxiety and depression. The calculation of these scales is based on the network, which can be considered as a generalization of linear or logistic regression. The activation function  $f$  in this network represents a linear combination of some input  $x$  and a set of learning parameters  $w$  and  $b$ , followed by a nonlinear Element product:

$$f = \partial(W^T X + b)(1)$$

For the output layer:

$$\delta^n = -(\nabla_{\delta^n}) \times f(Z^n)(2)$$

For the hidden layer:

$$\delta^l = (W^l)^T \delta^{l+1} f(Z^l)(3)$$

### Quality of Life Measurement Scale for Pregnant Women Carriers of Hepatitis B Virus

With the transformation of the medical model to the social-psychological-biomedical model, the international medical consensus on the treatment of hepatitis B virus carriers is gradually changing: while striving to extend the life of patients with comprehensive treatment plans, efforts are made to improve the quality of life of patients. In recent years, combined with adjuvant treatments such as chemotherapy, radiotherapy, and endocrine targeting, the quality of life of pregnant women with hepatitis B virus carriers after treatment has become higher and higher, and more and more attention has been paid by everyone. The most popular scale used to assess the quality of life is the World Health Organization Quality of Life Questionnaire, but the scale has 100 entries, which is cumbersome and does not target hepatitis B virus carriers. In order to study the quality of life of pregnant women with hepatitis B virus carriers, the quality-of-life measurement scale for pregnant women with hepatitis B virus was born. It was originally developed by the U.S. Outcome Research and Education Center as a system for evaluating the function of symptom treatment. After translation back translation and cultural adjustment by domestic scholars such as Wan Chonghua, the Chinese version of FACT-B scale B01, which is in line with Chinese patients, was finally completed.

Studies have proved that the Chinese version of the scale has good reliability, validity and response. There are 36 items in the Chinese version, covering five aspects: physiological condition, social and family condition, emotional condition, functional condition and additional attention. The questionnaire uses a 0-4 negative scoring method. The higher the score, the worse the quality of life. Because there were too many items in the original scale questionnaire, and the article only focused on its total score, combined with the actual situation of the patient, several items were simplified in each subscale, and finally a total of 23 items were retained to ensure that the five aspects are reflected,

and the scoring method changed to 1-5 negative scoring, because it is not a graded evaluation method, this change does not affect the final result. The quality-of-life measurement scale is similar to a physical system, and the specific state energy function of the input and hidden units can be defined as (x, h):

$$E(x, h) = h^T Wx - c^T x - b^T h \quad (4)$$

Where c and b are bias terms. The probability of a system state is achieved by simply putting the energy equation into an exponential function and normalizing each possible state:

$$P(x, h) = \frac{1}{Z} \exp\{-E(x, h)\} \quad (5)$$

The conditional probability of x versus h is expressed as:

$$P(h_j | x) = \frac{1}{1 + \exp\{-b_j - W_j x\}} \quad (6)$$

The hidden layer distribution of v and L is:

$$P(v, h) = P(h^{(l)} | h^{(l+1)}) p(h^{(l-1)}, h^{(l)}) \quad (7)$$

### Body Image Questionnaire and Social Support Scale for Pregnant Women with Hepatitis B Virus Carriers

Body image refers to the knowledge of one's own body, including the evaluation of one's own body shape and size, the evaluation of one's own attractiveness, including the evaluation of sexual attractiveness, and the evaluation of the feelings of one's own body. In a natural society, generally speaking, compared with men, women pay more attention to their bodies including appearance and weight. Therefore, pregnant women with hepatitis B virus carriers often have more serious psychological distress when facing their own conditions. Studies have shown that the body image of pregnant women with hepatitis B virus carriers is closely related to their depression, anxiety and quality of life. The body image questionnaire for pregnant and lying-in women hepatitis B virus carriers is currently the only international body image questionnaire for pregnant and lying-in women hepatitis B virus carriers. The scale consists of 53 items, divided into disease susceptibility, body shame, and functional limitation. There are six

subscales, physical attention, perspective attention, and affected arm attention, with a five-level negative score of 1-5 points. Because there are too many items in the scale questionnaire, the operability is not strong, and this article only focuses on its total score, so a number of items are simplified in each subscale, and finally a total of 21 items are retained, still ensuring that all six subscales are available. Reflect, the rest remains the same. Pregnant women with hepatitis B virus carriers have endured enormous physical and psychological pressures from the time they were diagnosed. The discomfort and side effects of treatment, fear of future life and worries about their own diseases, often overwhelm the patients. The support of family, friends and even society is crucial. Therefore, it is very necessary and meaningful to study the social support status of pregnant women with hepatitis B virus. Research shows that good social relationships are good for physical and mental health. Social support is of great significance for protecting physical and mental health and maintaining a good mood. At present, the scales used to determine social support in the world are all from foreign countries, and they are not suitable for Chinese people. Domestic scholars have drawn a simpler scale with clear entries based on the social support scale commonly used abroad and combined with the situation of Chinese people, which has good reliability and validity. The scale consists of 10 items, including three dimensions: objective support, subjective support, and use of support. The questionnaire scoring method is more complicated. Because this study only calculates its total score to observe the patient's preliminary social support status, the scoring method is simplified to a 1-4 positive score. The higher the score, the better the social support status. In addition, the specific 2 multiple-choice items in the objective support were deleted, leaving 8 single-choice items to facilitate scoring. Because it is not a graded evaluation method, and only the total score does not need to analyze the score of a single item, this change does not affect the final result interpretation. Non-linear mapping of body image questionnaire and social support scale:

$$h_t = \sigma W x_t + R h_{t-1} + b \quad (8)$$

The loop formula is:

$$P(Y = y | x_1, x_2, \dots, x_t; \theta) = \max(h_t; w b_t) \quad (9)$$

The calculation formula of the patient's feeling:

$$RF = (\text{out} - 1)\text{stride} + \text{fsize} \quad (10)$$

## RESULT ANALYSIS

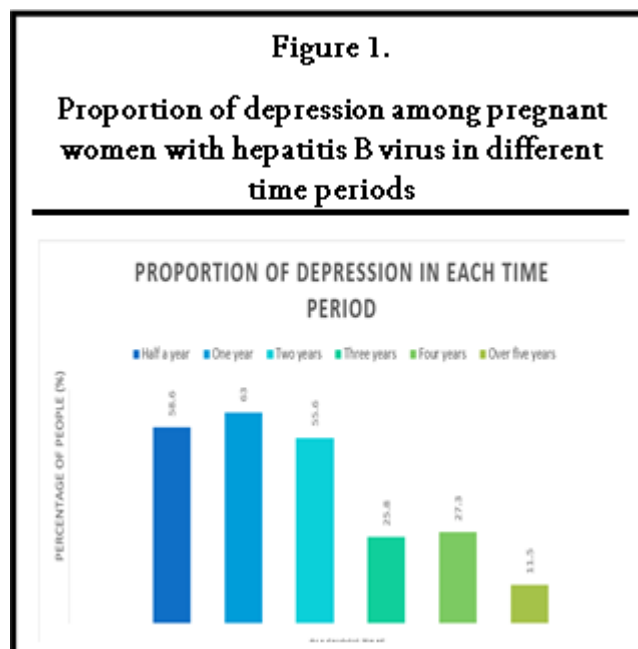
In this article, 400 questionnaires were distributed in the outpatient and inpatient departments of the Zhongda Hospital affiliated to a certain university in China, and 374 valid questionnaires were returned, and the effective response rate was 93.5%. Twenty-eight of them were excluded because they did not meet the requirements, and a total of 346 survey subjects were eventually included in this study.

The Results of the Survey on the Incidence of Depression and Anxiety Among Pregnant Women with Hepatitis B Virus Carriers are Shown in Table 1.

Table 1. Prevalence of depression and anxiety among pregnant women with hepatitis B virus carriers				
	Depression		Anxiety	
	Have	No	Have	No
Number of people	138	208	134	212
Percentage	39.9%	60.1%	38.7	61.3

According to the data in Table 1, 346 questionnaires were finally included in the survey. When assessing the depression status of pregnant women with hepatitis B virus carriers, the total score of 6 points or more (including 6 points) means depression, 6 points the following is no depression, 346 of the 138 people have depression, 208 people have no depression, and 39.9% of them have depression. To evaluate the anxiety of pregnant women with hepatitis B virus carriers, a total score of 6 or more (including 6 points) is anxious, and a score of less than 6 is no anxiety. There are 346 people out of 134 who are anxious, and 212 people are not anxious and have anxiety,

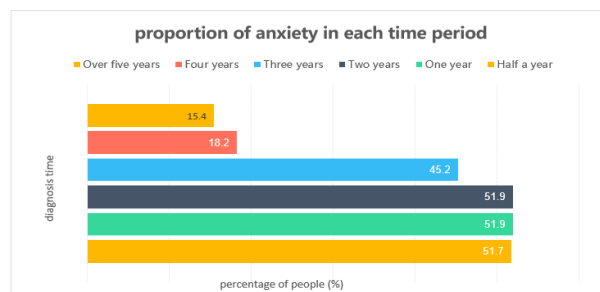
accounted for 38.7%.



According to Figure 1, the depression assessment of each group is a half-year group: 58 people have depression accounted for 58.6%; one-year group: 54 people have depression accounted for 63%; two-year group: 54 people have depression accounted for 55.6%; Three-year group: 62 people have depression accounted for 25.8%; four-year group: 66 people have depression accounted for 27.3%; five years and above group: 52 people have depression accounted for 11.5%. The chi-square method was used for pairwise comparison between the groups. The results showed that there was no statistical difference between the half-year group, the one-year group, and the two-year group. There was no statistical difference between the three-year group, the four-year group, and the five-year or more group. There are statistical differences between the half-year group, the one-year group, the two-year group, the three-year group, the four-year group, and the five-year or more group. That is, the proportion of depression among pregnant women with hepatitis B virus carriers has dropped significantly since the diagnosis was made three years ago, and this decline is statistically different.



**Figure 2.**  
Proportion of anxiety among pregnant women with hepatitis B virus in different time periods



According to Figure 2, the anxiety assessment of each group is the half-year group: 51.7% of 58 people have anxiety; the one-year group: 54 people have anxiety accounted for 51.9%; the two-year group: 54 people have anxiety accounted for 51.9%; three-year group: 62 people with anxiety accounted for 45.2%; four-year group: 66 people with anxiety accounted for 18.2%; five-year and above group: 52 people with anxiety accounted for 15.4%. The chi-square method was used for pairwise comparison between the groups. The results showed that there was no statistical difference between the half-year group, the one-year group, the two-year group, and the three-year group. There are statistical differences between the half-year group, the one-year group, the two-year group, the three-year group and the four-year group, and the five-year or more group. That is, the proportion of anxiety among pregnant women with hepatitis B virus carriers has decreased significantly since the diagnosis was made four years ago, and this decrease is statistically different.

The Quality-of-Life Assessment of Pregnant Women with Hepatitis B Virus in Different Time Periods is Shown in Table 2 and Table 3.

**Table 2.**  
Evaluation of the quality of life of pregnant women with hepatitis B virus in different time periods

Time of diagnosis	Number of people	Average quality of life score
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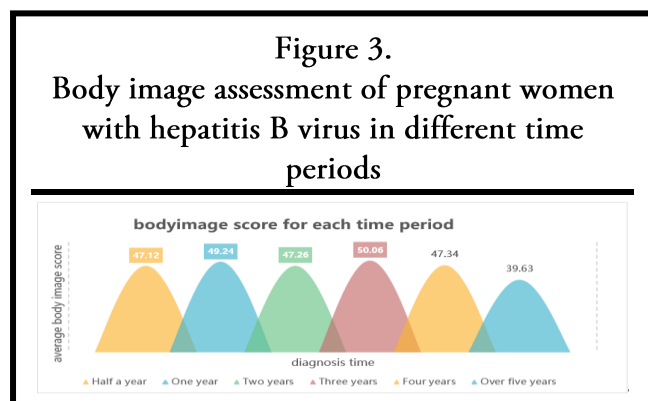
Half a year	58	49.62
One year	54	49.14
Two years	54	48.85
Three years	62	51.64
Four years	66	50.08
Over five years	52	44.21

As shown in Table 2, the Chinese version of FACT-B is used to assess the quality of life of pregnant women with hepatitis B virus. There are 27 factors, including five physical conditions, social and family conditions, emotional conditions, functional conditions and additional concerns. Use 1-5 negative scoring, that is, the higher the score, the worse the quality of life. A total of 346 subjects were included in this study. After grouping according to the length of diagnosis, the quality-of-life scores in each group were 49.62 points in the half-year group, 49.14 points in the one-year group, 48.85 points in the two-year group, and 51.64 in the three-year group, the average of 50.08 points for the four-year group, and 44.21 points for the five-year and above group. The chi-square method was used for pairwise comparison between the groups. The results showed that there was no statistically significant difference between the half-year group, the one-year group, the two-year group, the three-year group, and the four-year group. That is, the diagnosis time has reached five years or more, and the patient's quality of life has improved compared with the previous period. The specific results are shown in Table 3.

**Table 3.**  
Comparison of each group using chi-square split method

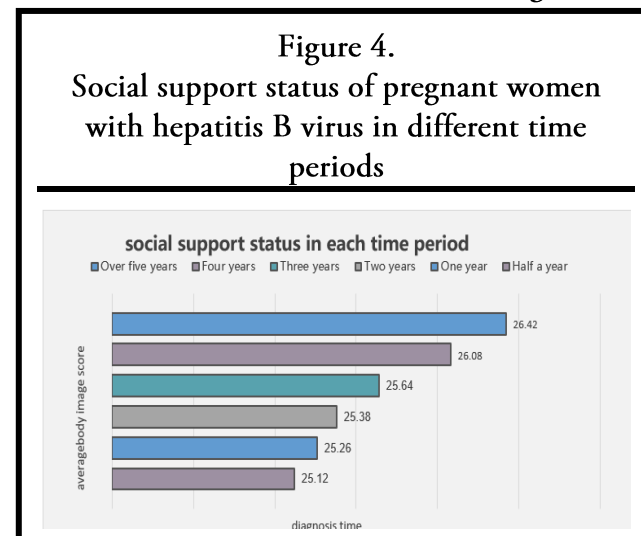
Time of diagnosis	Half a year	One year	Two years	Three years	Four years	over five years
Half a year	-	0.762	0.468	0.624	0.796	0.003
One year	0.762	-	0.692	0.424	0.892	0.008
Two years	0.468	0.692	-	0.246	0.602	0.021
Three years	0.624	0.424	0.246	-	0.475	0.001
Four years	0.796	0.892	0.602	0.475	-	0.004
Over five years	0.003	0.008	0.021	0.001	0.004	-

**Figure 3 Shows the Body Image Assessment of Pregnant Women Hepatitis B Virus Carriers at Different Time Periods.**



As shown in Figure 3, the simplified BIBCQ-C questionnaire was used to assess the body image of the patient. There were 21 questionnaires, including six aspects of disease susceptibility, physical shame, functional limitation, physical attention, perspective attention, and affected arm attention. Take a five-level negative score of 1-5 points. That is, the higher the score, the worse the evaluation of the pregnant women's hepatitis B virus carriers on their body images. A total of 346 subjects were included in this study. After grouping according to the length of diagnosis, the quality-of-life scores in each group were 47.12 points in the half-year group, 49.24 points in the one-year group, 47.26 points in the two-year group, and 50.06 points in the three-year group. The average of 47.34 points for the four-year group and 39.63 points for the five-year and above group. The chi-square method was used for pairwise comparison between the groups. The results showed that there was no statistically significant difference between the half-year group, the one-year group, the two-year group, the three-year group, and the four-year group. That is to say, the diagnosis time has reached five years or more, and the patient's evaluation of the body image has improved<sup>18</sup>.

**The Results of the Survey of Social Support for Pregnant Women with Hepatitis B Virus in Different Time Periods are Shown in Figure 4.**



As shown in Figure 4, the scale assesses the social support status of pregnant women with hepatitis B virus. There are 8 items in total. The scoring method is a 1-4 level positive score. The higher the score, the better the social support status. A total of 346 subjects were included in this study. After grouping according to the length of diagnosis, the quality-of-life scores in each group were 25.12 points in the half-year group, 25.26 points in the one-year group, 25.38 points in the two-year group, and 25.64 points in the three-year group. The average of 26.08 points in the four-year group, and 26.42 points in the five-year and above group. It can be clearly seen that the social support and time for psychological care of pregnant women with hepatitis B virus carriers have increased.

**The Related Psychological Factors that Affect the Quality of Life of Pregnant Women with Hepatitis B Virus are Shown in Table 4.**

Table 4. Correlation coefficients of multiple linear regression models		
Independent variable	Correlation coefficient	Ag value
Constant	46.805	0.000
Depression	2.586	0.016
Anxiety	4.364	0.000
Body image	0.268	0.000
Social support	-0.621	0.000

As shown in Table 4, with the quality of life as the dependent variable, through single factor difference analysis and screening, whether

depression, anxiety, body image score, and social support score are included as independent variables. The dependent variable is a continuous variable, and the independent variables are greater than 2, so multiple linear regression analysis is used, and the following hypotheses are satisfied after testing: 1. After checking the data for many times, the observations are independent of each other. 2. The tolerance of the independent variables is greater than 0.1, the correlation of the independent variables is less than 0.7, and there is no multicollinearity. 3. Use scatter plots to verify that there is a linear relationship between the independent variable and the dependent variable. 4. No significant outliers were found. 5. Equal variance. 6. The residuals are approximately normally distributed. Run the model with SPSS 21.0, get R value of 0.754, R square value of 0.569, adjusted R square value of 0.559, explaining 56.9% of the quality-of-life variation, suggesting that there is a moderately strong correlation. The F test shows that the Ag value is less than 0.001, indicating that the regression model is statistically significant. The depression correlation coefficient is 2.586, and the Ag value is less than 0.001, which is statistically significant, that is, whether depression and quality of life are positively correlated. Depressed pregnant women with hepatitis B virus carriers live better than non-depressed pregnant women with hepatitis B virus carriers low quality. The anxiety correlation coefficient is 4.364, and the Ag value is 0.016 less than 0.05, which is statistically significant, that is, whether anxiety and quality of life are positively correlated. Anxious pregnant women with hepatitis B virus carriers have better quality of life than non-anxious pregnant women with hepatitis B virus carriers difference. The body image correlation coefficient is 0.268, and the Ag value is less than 0.001, which is statistically significant, that is, body image and quality of life are positively correlated. The higher the evaluation of the body image of pregnant women with hepatitis B virus, the better the quality of life. The correlation coefficient of social support is -0.621, and the Ag value is less than 0.001, which is statistically significant, that is, the better the social support, the better the quality of life of patients.

## CONCLUSIONS

The influence of psychological factors on the development and prognosis of hepatitis B virus carriers has been paid more and more attention, and psychotherapy has become an important part of the treatment of hepatitis B. In addition to physical symptoms, pregnant women with hepatitis B virus carriers also have a series of psychological problems. And these bad psychological conditions can indirectly lead to an increase in the mortality of patients. Pregnant women with hepatitis B virus carriers always have to bear the double blow of the body and the mind. The loss of normal body functions, the side effects of radiotherapy and chemotherapy, and the impact of the family's heavy stress disease on the patient's own life and work can lead to a series of related psychological problems. One of the most common is depression, followed by anxiety. The incidence of these symptoms in pregnant women with hepatitis B virus carriers is significantly higher than that of normal people. However, they often fail to receive proper diagnosis and treatment because they cannot be correctly identified. This article takes the quality of life as the dependent variable, incorporates depression, anxiety, body image, and social support into independent variables, and uses multiple linear regression analysis. The results show that negative emotions such as depression and anxiety will lead to a decline in the quality of life. Bad evaluation also has a negative impact on the quality of life, while social support has a positive impact on the quality of life. The better the social support, the better the quality of life.

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