

BMJ Open Challenges and ways of coping of parturient women with chronic hepatitis B in Ghana during COVID-19 pandemic: a qualitative inquiry

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ABSTRACT

Objective To explore the psychosocial concerns and ways of coping of pregnant women with chronic hepatitis B infection in Ghana.

Setting Participants were selected from public health facilities in the Tema Metropolis.

Design Exploratory descriptive qualitative design was employed.

Participants Fourteen pregnant women were purposively selected to participate in face-to-face interviews. The data were analysed using the content analysis procedure.

Results The participants' psychosocial concerns and coping strategies were diverse. A significant number of the participants were concerned about the impact their hepatitis B seropositivity would have on their relationships, finances, and general well-being. Specifically, they feared that their social network, especially their spouses, would perceive them as having led a promiscuous lifestyle in the past to acquire hepatitis B infection. Also, fear of transmitting the infection to their infants and the effects of the infection on their infants later in life were identified as major concerns by nearly all participants. The participants further reported feelings of distress and diminished self-esteem. These psychosocial afflictions reported were attributed to lack of pre-test counselling during the antenatal care period. However, the participants coped using different strategies, including avoidance/denial, spirituality, and alternative treatment use.

Conclusion To achieve optimal psychological and social well-being of pregnant women with chronic hepatitis B, it is important that their unique challenges are considered in their care and treatment cascade. Explicitly, protocols for supportive care addressing the specific needs of pregnant women with chronic hepatitis B should be implemented in the study setting

INTRODUCTION

Hepatitis B virus (HBV) is a potentially fatal liver disease.¹ In 2019, the World Health Organization (WHO) estimates that approximately 298 million people worldwide have chronic hepatitis B.¹ The prevalence of HBV in sub-Saharan Africa is about 5%–10% of

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This study is the first to documents the psychosocial concerns and ways of coping of parturient women with chronic hepatitis B in Ghana.
- ⇒ The outcome of this study will inform a context specific intervention that would improve the psychological wellbeing of parturient women with hepatitis B.
- ⇒ Although this study highlights some challenges faced by parturient with chronic hepatitis B, we recommend a larger population-based study to confirm the extent in which these challenges affect their pregnancy outcomes.
- ⇒ Data collection during the COVID-19 pandemic was challenging due to mobility restrictions.

the adult population.² In Ghana, Abesig and colleagues reported hepatitis B prevalence of 7.44% among pregnant women.³

Hepatitis B presents a significant burden for pregnant women by virtue of its transmission, management and complications.^{4–6} Infact, diagnosis of HBV marks the beginning of a series of events across a spectrum of experiences for patients because pregnancy in itself is demanding.⁷ Due to the seemingly endless list of challenges faced by pregnant women, the burden of being pregnant and being diagnosed with hepatitis B, can be very daunting and distressing.^{7,8} According to Chirk *et al*, people with were emotionally affected following diagnosis due to their lack of readiness for the screening outcome.⁹ Other scholars also report that HBV diagnosis is characterised by shock, surprise, fear and worry at the time of diagnosis.^{4,10–12} Some studies give credence to the assertion that living with chronic hepatitis B is associated with negative psychosocial experiences, ranging from psychological instability to feelings of fear and passivity and a great deal stigma-related problems.^{13–15} These feelings are more intense in the days following

diagnosis due to the simple lack of knowledge and awareness among patients and general population.^{8 12 16 17}

Despite the high prevalence of HBV among pregnant women in Ghana (7.44%), not much is known about the challenges they face with their HBV positivity as well as how they cope with the infection. Thus, this study documents the psychosocial challenges as well as the ways of coping by pregnant women with hepatitis B in some selected public health facilities in the Tema Metropolis of Ghana.

METHODS

Study design, setting and period

An explorative descriptive qualitative study was conducted in the Tema Metropolis from October 2020 to September 2021. This design was chosen to broadly explore in details the psychosocial concerns of pregnant women with chronic hepatitis B that has not been previously explored in the study area.

Population, sampling and data collection

The study was conducted among pregnant women with chronic hepatitis B infection who access antenatal care at three public health facilities within the Tema Metropolis of Ghana.

Inclusion criteria

Persons included in this study were all consenting pregnant women with chronic hepatitis B diagnosed more than 6 months prior to the study and attending any of the three selected public health facilities.

Exclusion criteria

Pregnant women who did not have enough energy to go through the interview session were excluded.

Patient and public involvement

Patients and the public were not involved in the research process. However, the findings will be shared with the participants and other duty bearers.

Data collection

Interviews were conducted with 14 pregnant women with chronic hepatitis B infection. The pregnant women were selected using the purposive sampling technique. Selected participants were given the study information sheets for a detailed explanation, after which informed consent was obtained. Data were collected through face-to-face in-depth interviews conducted in English using a semistructured interview guide (see online supplemental file 1). The interviews were audiorecorded with the prior consent of the participants after ensuring anonymity. The National protocol for COVID-19 was strictly adhered to throughout the interview process, including social distancing, hand washing, sanitisation of hands and wearing of a face mask.

Data analysis

Data were analysed using the content analysis procedure. Familiarisation was achieved by listening to the audio-recorded interviews several times to become conversant with its contents to understand and make meaning of each interview. The interview was then transcribed verbatim, read and reread to know the depth and breadth of the data. Emerging ideas in the data were highlighted to assist in the analysis of the data. Codes that capture meanings in each sentence were generated. The identified codes were then analysed to determine how different codes support each theme guiding the data analysis. After identifying the codes, it was compared with the original data to see whether they reflected or were congruent. Codes that did not appear to fit into the themes were noted. A detailed narrative of the study results was written to provide an in-depth understanding of the experiences of pregnant women.

RESULTS

Fourteen pregnant women with chronic hepatitis B infection with ages ranging from 26 to 40 participated in the study. The years of diagnosis for chronic hepatitis B ranged from 10 months to 7 years. All the participants were pregnant women with gestational ages of 36–41 weeks: 3 primiparous (first-time mothers) and 11 multiparous women (had delivered before). They were all married women except one who was single. The summary of demographic characteristics is presented in [table 1](#)

Organisation of the themes and subthemes

Data were analysed under three major themes, namely, psychological experiences, social experiences and coping strategies. Each of the major themes had subthemes

Table 1 Sociodemographic data of participants

	Frequency (average)	Range
Age	(29.7)	26–40
Parity		
No child	3	
1 child	3	
2 children	4	
3 children	3	
4 children	1	
Marital status		
Married	13	
Unmarried	1	
Duration of diagnosis		
Less than 1 year	1	
1–2 years	8	
3–4 years	2	
5 and more	3	

Table 2 Themes and sub-themes

Themes	Sub-themes
1. Psychological experiences	<ul style="list-style-type: none"> ▶ Emotional reaction to diagnosis ▶ Self-stigma and self-isolation
2. Social experiences	<ul style="list-style-type: none"> ▶ Disclosure ▶ Family relationship and support ▶ Interpersonal and social relationship
3. Coping strategies	<ul style="list-style-type: none"> ▶ Avoidance and denial ▶ Spirituality ▶ Use of alternative treatment

where specific findings were discussed. The major themes and its corresponding subthemes are shown in [table 2](#).

Psychological experiences

This theme describes the psychological experiences faced by participants. The study discovered that pregnant women with chronic hepatitis B go through numerous psychological challenges. These include emotional reaction to the diagnosis and feelings of self-worth.

Emotional reaction to diagnosis

Participants stated that they had varied reactions to their diagnosis because they were not aware of the specific laboratory test, they were asked to do until they were told about the result of their test. They mostly had negative emotional reactions, including shock, confusion, anxiety and worry:

When I got pregnant, I came to the hospital, I was told to go and do lab tests, so when I went to do the lab test, I was told that I have the infection. I actually brought the result to the midwife who told me that I have the infection (PWCH 2, 30YEARS).

When they said it, it got to me; I was shocked, I was so shocked that I started to panic. (PWCH 6, 32YEARS).

Some participants were so scared to the extent of showing clinical symptoms that were not real because of what they heard and their perception of the HBV:

I was scared. It was because of that, that's why my pressure (BP) was going up because it was making me think a lot; I asked myself how I got it because I heard that through this sickness, you could get heart problem. (PWCH 7,40 YEARS).

Other participants also expressed confusion about the source of their infection. They had no idea how they got the infection. This made them feel disturbed and depressed, as shown in the following responses:

When she (the Healthcare provider) told me I was not fine, I was disturbed. I didn't know how I got to get the infection. So, I was a little disturbed. It has been my worry since my last delivery. (PWCH 1,29 YEARS).

Honestly, I was confused because, I did not know how I had the infection. I was not happy because anything you hear about the infection is not good. (PWCH 2,30YEARS)

Some participants expressed anxiety about the implications of the diagnosis on various aspects of their life such as marriage, finances and health. They were afraid of how their husbands would take the news because they believed their husbands would think they were being promiscuous:

My concern is how my husband will take the news. He will think that I got it [Hepatitis B] from being promiscuous. (PWCH 1, 29YEARS).

Another issue that gave participants so much anxiety was their concern about how much money they had to pay for their baby's birth dose vaccine plus immunoglobulin which is required to prevent mother-to-child transmission:

Right now, my problem is being able to get money to buy the drug which will be given to my baby. I'll think about how to care for myself after delivery. (PWCH 5,33 YEARS).

The main issue causing them the anxiety was their concern about how to get rid of the infection so they could resume their everyday life. They were anxious to know the things they could do to get rid of the disease:

My greatest concern was how I could get cured and go back to my normal self. So, I even asked about things that I should eat, those that I should not eat. (PWCH 12, 32 YEARS).

Even though all the above people had anxiety behaviours, they all had varied reasons for that. The fear of transmitting the infection to their babies, the effect of chronic hepatitis B on their babies and how the transmission could be prevented was major source of anxiety:

Yeah, my greatest concern now is not transferring it [Hepatitis B] to my baby. (PWCH 4, 27 YEARS).

The question I asked the midwife was if hepatitis would affect my child? She told me there's a vaccine for the baby, so I shouldn't be worried. (PWCH 11, 32 YEARS)

Participants were not only concerned about infecting their newborns, but they were also afraid of infecting others, most especially their partners. They were afraid that they might transfer to them:

I asked the man if my husband could get the infection because of me, he said yes. But for now, he can't

tell whether he has it or not because he hasn't come to do the test. (PWCH 6, 32 YEARS).

Self-stigma and self-isolation

After the diagnosis of hepatitis B, participants stated that their self-image has been negatively impacted which influenced how they interact with others. Most participants showed self-stigma by isolating themselves from others, fearing infection from sweat and saliva. A typical PWCH 10 response shows low self-esteem. She left her husband to avoid infection. She expected her husband to be there for their kids if she dies:

... I stayed away from him [husband] because I didn't want him to get affected so that even if I die, he would be alive to take care of the kids...I was staying away from friends. I stopped eating with them because I don't want them to be infected... I was just protecting people so that people would not get. (PWCH 10,35YEARS).

Another response from participant affirms the above statement of participants deciding to stay away from people. They believed they were so sick that they must protect others since they did not know how strong their immune system was:

After I was told I had HBV. I read that you can get it through sweat; I made sure that when I am sweating, I don't get close to anyone. After all, I don't want to affect anyone because I don't know another person's system. Hence, I made sure I didn't spit around, I also don't share my things with people. (PWCH 11,32YEARS).

Social experiences

Disclosure

Disclosure of HBV status was a major issue for participants. Participants showed interesting differences in disclosure patterns. Some participants readily disclosed their diagnoses:

Ooh, that day, I went to the hospital with him [Husband]; I wanted him to know everything about me, so he knows everything. This was even before we married. (PWCH 12,32 YEARS).

Oh, my husband knows; all my siblings also know. They are all aware. (PWCH 7,40 YEARS).

Others were hesitant to tell their spouses or families because of the negative public perception about HBV infection and the anticipated unfavourable reactions:

... No, I didn't tell anybody. I didn't tell anybody because you see, people react differently to issues, so you would have to know when and how is the best time to tell them so they can receive the news well. (PWCH 5, 33 YEARS).

... but my immediate siblings, I never told them because of how my sister usually speaks about hepatitis.

If she was aware that I had it, the way she will react, that was the reason why I never told her. (PWCH 10,35 YEARS)

Participants were also hesitant to disclose, but the lack of discretion and confidentiality by healthcare providers (HCP's) resulted in people knowing about their status which was unpleasant to them:

The first time, that was my last delivery, I told my mother-in-law that the baby needs to be given an injection after delivery. The midwife on duty unfortunately, told her what infection it was. So, for now, she was the only one who knew about it previously, but currently, I've not told anyone. (PWCH 1, 29 YEARS).

Family relationships and support

Some participants stated that partners and family members gave them support after disclosure. Participant PWCH 9 was fortunate to have a supportive spouse who was willing to purchase the injection for the baby:

My husband has been supportive. He even said it is okay because some people have HIV, I can only thank God. The injection for the babies, he buys all of them...my husband keeps reassuring me that everybody and their peculiar problems... [participant cries]. (PWCH 9, 28YEARS).

In addition, participant PWCH 11 had a supportive family who were very particular about her nutrition and health:

They have been supportive, taking care of my food and ensuring I don't eat a lot of fat. So, I've stopped eating fatty foods. I was assured that when I give birth, I would be fine. (PWCH 11, 32YEARS).

Participants indicated that the needed support was important to them because the diagnosis of hepatitis B is mentally exhausting. While some participants had support, others reported not to have support. Participants stated that they already have marital problems, and that their partners are not psychologically supportive because they are unhappy with the pregnancy and are also unwilling to even assist them financially:

Hmmm, the fact that am pregnant is a big issue at home. He is not happy that am pregnant again, and to talk of telling him about the infection and requesting for financial help is really a difficult and frustrating experience for me. There is no other person who can help me (PWCH 1, 29YEARS).

I don't have anybody, nobody at all. Last month when I came to the hospital, they asked me to do labs; I went to ask him for money, he said he didn't have money. I went to tell his sister about it, his sister called him about it, he got angry that I went to tell his sister. He gave me the money for the lab later. Again, last month, I asked him for money when I was coming,

he said he didn't have, 10 cedi is what he gave me. (PWCH 5,33YEARS).

Interpersonal/social relationships

Following disclosure, participants shared their interpersonal relationship stories. They encountered societal stigma which had an impact on their relationships. A participant's response stated that after her sister eavesdropped on a phone conversation between her and her husband, she would insult her with the HBV virus and tell her she would die. This wasn't very pleasant for her because the insult came from a blood relative:

When I found out that I was positive, I called my husband; I called him because, at that time, I was not staying with him so that he could also go for the checkup. Not knowing, she [younger sister] heard my conversation, so any minor issue, she will insult me with it that "you are coming to die very soon" In fact, the moment she says that, that day, I will not eat. (PWCH 10,35YEARS).

Stigmatisation did not only come from their families; HCPs also stigmatised some. HCPs were identified to immediately wash their hands and sanitise their tables and pens. According to participant PWCH 7. She was so upset by the HCP's reaction that she simply sighed and walked away:

Three years ago, the first midwife who saw me was excellent; the way she will talk to you will calm you... she took her time for me. There was a time she was on a small leave. Another midwife took over; It's like she is afraid of me because of the disease. Immediately she finished seeing me, she [the healthcare provider] quickly went to wash her hands, cleaning the table and her pen; the way she behaved made me feel some way; I felt bad and terrible. I asked myself if the disease is that bad to make her react like that sighed... then I walked away. (PWCH 7, 40YEARS).

Because of the stigmatisation, some participants claimed that they would rather not receive unfavourable reactions from others, so they kept to themselves and did not reveal their status. For instance, participant PWCH 6 chose not to inform anyone since she does not want people to think or see her in any way:

No, I did not want that. That is why I didn't tell anybody. I don't want anybody to think of me or see me in any way (PWCH 6,32YEARS).

Coping strategies

Participants stated that they had developed their own coping and adaptation strategies to manage and deal with the stress of HBV diagnosis. These include defence mechanisms, spirituality and finding alternative treatment methods.

Participants used defence mechanisms such as denial and avoidance to cope with the stress of being diagnosed

with HBV infection. They used avoidance coping by not thinking about getting the virus since it gives them anxiety:

... I don't think about it [Hepatitis B] because I am concerned that I have the disease, especially how I got it, but I try not to think about it because my heart starts beating fast anytime I remember. (PWCH 1,29 YRS).

They also turned to spirituality and religion to cope by praying to God for healing. Their faith aided them in coping with the diagnosis. The following participants' responses confirm this:

I believe that God heals so, maybe God will heal through a doctor or medicine. Because if you have that faith, no matter what... (PWCH 12,32 YEARS)

I went to a pastor for prayers to see if a miracle would happen for me to be healed. I saw the pastor on TV. But it didn't work. I told myself that whatever happens, I will wait and see what God will do... (PWCH 8,26 YEARS)

Alternative therapies or cures were sometimes mentioned as a way to cope. Herbal mixtures, diet management and other behaviours are based on a recommendation from a friend or radio/television hearsay. Trying these therapies gave them hope for a cure:

There was a herbalist who comes on Adom TV, I was going to him. They mix the herbal concoction themselves; I took the medicine for almost a year, but I got to a point, I got fed up... (PWCH 7,40 YEARS).

Normally I take charcoal, the doctor also wrote some medicines for me, but I add charcoal. I was using the charcoal before I realized I was pregnant and came to the hospital for antenatal. (PWCH 12,32 YEARS).

These quotes reflect the psychosocial experiences of pregnant women with chronic hepatitis B infection.

DISCUSSION

The study investigated the psychosocial experiences and coping strategies of pregnant women with chronic hepatitis B from a selected Metropolis in Ghana. First, findings revealed that participants had varied emotional reactions to the diagnosis, like shock, anxiety, worry and fear. These reactions were unsurprising given that the diagnosis mostly occurred during routine antenatal screening without any pretest counselling even though participants had no insight and limited knowledge of the infection. These findings were largely distressing to the pregnant women leading to negative feelings of self-worth where participants were self-stigmatising and self-isolating themselves. A study done in Iran indicated shock and denial as post-diagnosis emotions of patients.⁴ In Malaysia and Cameroon, studies revealed that patients reacted with shock when unexpectedly diagnosed with hepatitis B.^{11 18}

These reactions were due to an unexpected HBV diagnosis.¹² A similar study in Ghana reported that individuals were astonished to identify that they had hepatitis B.¹⁰ In relation to pregnancy, studies highlighted that pregnant women with chronic hepatitis B infection had higher levels of anxiety and stress than healthy pregnant women.¹⁹ This is mostly because they are usually terrified about the possibility of infecting others, especially their spouses and close relatives.^{18 20} Studies have highlighted negative feelings of self-worth which are manifested in low self-confidence, a negative mental image of self and social withdrawal due to the diagnosis of hepatitis B.^{7 10 20 21}

We also found disclosure as a major issue where participants exhibited varied disclosure patterns, including outright refusal to disclose and disclosure hesitancy driven by fear of anticipated negative social reactions to the diagnosis. The findings revealed the effect of the diagnosis on families and social relations. There were different reactions from family members and spouses after disclosure. Some were fortunate to have supportive husbands and relatives, while others faced stigma even from HCPs. A study indicated that the diagnosis and disclosure of hepatitis B have a major impact on sexual relationships due to stigma, making it difficult for participants to disclose it.⁵ On the other hand, a study showed that hepatitis B is viewed as a family disease; hence members with the infection received more acceptance from family members,²² but the majority of studies revealed that patients face negative societal attitudes and prejudices from healthcare personnel's.^{8 12 14 19 23 24} Other evidence indicates that avoidance was used as a method of stigmatising chronic hepatitis B patients. Findings from the same study also discovered inappropriate discussion of patients' health information on a personal level,²⁴ which is in line with the findings of Thieu *et al* highlighting that respondents felt discriminated against by HCP in the healthcare setting where HCPs became extra cautious by cleaning their workspace and tools thoroughly.¹⁷ According to Zabihi, people are terrified of hepatitis due to several environmental and cultural reasons, which are caused by fear and misconceptions resulting in the negative feelings of self-worth of participants hampering relationships in the end.⁴ For those who disclose, findings showed that it is mostly done to get social and financial support.²⁵

The results of the study also showed some coping strategies used by participants following their diagnosis. The coping strategies included denial, avoidance, spirituality and seeking alternative treatment methods. Denial and pretence were used to avoid infection-related thoughts and news. After hearing the bad news of their diagnosis, participants avoided thinking and talking about it because it makes them anxious; avoidance of the thought helps to reduce the anxiety that comes from thinking about it. According to Adjei *et al*,²⁶ defence mechanisms are unconscious coping techniques that reduce anxiety after a catastrophic event. Defence mechanism has been persistently used by patients with chronic hepatitis B as a way of coping.^{10 21}

Apart from defence mechanism, the use of religiosity was also identified as a coping strategy. The findings showed that participants chose to pray and seek spiritual healing from pastors and herbalists due to the non-availability of hospital-based management. The use of religious coping is an important phenomenon among Ghanaians due to the attribution of life occurrences to spiritual influences.¹⁰ There are increased religious rituals with the aim of getting closer to God after diagnosis of a serious illness.^{10 20 25 27} While some prayed for healing because they believed it was God's will¹⁰, others saw it as a punishment from God.²⁰ Others believed it was caused by witchcraft which could be cured by spiritual leaders, prophets, traditional priests and/or herbalists. However, in most cases, the alternative healing providers are unable to cure; rather, they financially exploit them using their vulnerability. These activities in turn, delay them from seeking medical management or treatments for ailments, including hepatitis B.^{10 20}

Participants in this study also coped by seeking alternative treatment from herbalists and pastors seen on TV. They also resorted to the use of herbal medications, diet management and various practices recommended by friends and relatives, and the media. Trying those treatment methods gave them hope that their condition may get better. Numerous studies have linked herbal medicine to illness survival. As such, pursuing various healing options gave participants optimism of getting healed mostly due to the lack of access to hepatitis B treatment choices in hospitals.^{10 14 28}

COVID-19 was also identified as a major compounding factor affecting finances in recent years among participants. The study revealed that participants who previously could have afforded treatment easily now have limited finances. Participants stated that their spouses were laid off from work, some could not go to work because of the restrictions, and they themselves are not making enough because people are not buying like they used to. This is because everybody is trying to manage and survive on the little resources left. Studies have shown that COVID-19 has been imposing a heavy economic burden on the countries and health systems directly and indirectly.²⁹⁻³¹

The study collected qualitative data from 14 participants in the selected Metropolis of Ghana. Although data were collected from this number of participants, it is not uncommon for a qualitative study. However, generalisability should be done with caution. Data collection was also done only in government facilities since it is a preliminary study, and in Ghana, these government facilities serve a greater percentage of the population.

CONCLUSION

The study findings indicate that pregnant women with chronic hepatitis B experience substantial psychological and social consequences following diagnosis. It is therefore recommended that protocols for supportive care addressing the specific needs of pregnant women with

chronic hepatitis B are implemented and considered in their care and treatment cascade. As a recommendation for policy, the supportive care protocol should be standardised across the country and implementation led by the Ministry of Health.

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REFERENCES

- WHO. Hepatitis B, 2021. Available: <https://www.who.int/news-room/fact-sheets/detail/hepatitis-b>
- WHO. Hepatitis B key facts; 2018.
- Abesig J, Chen Y, Wang H, *et al*. Prevalence of viral hepatitis B in Ghana between 2015 and 2019: a systematic review and meta-analysis. *PLoS One* 2020;15:e0234348.
- Valizadeh L, Zamanzadeh V, Negarandeh R, *et al*. Psychological reactions among patients with chronic hepatitis B: a qualitative study. *J Caring Sci* 2016;5:57–66.
- Friedman LE, Gelaye B, Sanchez SE, *et al*. Association of social support and antepartum depression among pregnant women. *J Affect Disord* 2020;264:201–5. doi:10.1016/j.jad.2019.12.017
- Jarrett PM. Pregnant women's experience of depression care. *J Ment Heal Training, Educ Pract* 2016;11:33–47.
- Kwong AJ, Chang MS, Tuomala RE, *et al*. Peripartum care for mothers diagnosed with hepatitis B during pregnancy: a survey of provider practices. *Matern Child Health J* 2018;22:1345–51.
- Valizadeh L, Zamanzadeh V, Bayani M, *et al*. The social stigma experience in patients with hepatitis B infection: a qualitative study. *Gastroenterol Nurs* 2017;40:143–50.
- Ng CJ, Low WY, Wong LP, *et al*. Uncovering the experiences and needs of patients with chronic hepatitis B infection at diagnosis: a qualitative study. *Asia Pac J Public Health* 2013;25:32–40.
- Adjei CA, Naab F, Donkor ES. Beyond the diagnosis: a qualitative exploration of the experiences of persons with hepatitis B in the Accra Metropolis, Ghana. *BMJ Open* 2017;7:e017665.
- Giles-Vernick T, Hejoaka F, Sanou A, *et al*. Barriers to linkage to care for hepatitis B virus infection: a qualitative analysis in Burkina Faso, West Africa. *Am J Trop Med Hyg* 2016;95:1368–75.
- Zabihi A, Valizadeh L, Zamanzadeh V, *et al*. The process of social interactions in patients with hepatitis B infection: a Grounded theory study. *JCCNC* 2017;3:231–7.
- Berglas NF, Kimport K, Williams V, *et al*. The health and social service needs of pregnant women who consider but do not have abortions. *Women's Health Issues* 2019;29:364–9. doi:10.1016/j.whi.2019.07.002
- Mokaya J, McNaughton AL, Burbridge L, *et al*. A blind spot? Confronting the stigma of hepatitis B virus (HBV) infection - A systematic review. *Wellcome Open Res* 2018;3:29. doi:10.12688/wellcomeopenres.14273.1
- Valery PC, Powell E, Moses N, *et al*. Systematic review: unmet supportive care needs in people diagnosed with chronic liver disease. *BMJ Open* 2015;5. doi:10.1136/bmjopen-2014-007451. [Epub ahead of print: Available from] <http://bmjopen.bmj.com/>
- Lemoine M, Eholié S, Lacombe K. Reducing the neglected burden of viral hepatitis in Africa: strategies for a global approach. *J Hepatol* 2015;62:469–76. doi:10.1016/j.jhep.2014.10.008
- Le TV, Vu TTM, Mai HT, *et al*. Social determinants of stigma and discrimination in Vietnamese patients with chronic hepatitis B. *Int J Environ Res Public Health* 2019;16. doi:10.3390/ijerph16030398. [Epub ahead of print: 31 01 2019].
- Chabrol F, Noah Noah D, Tchoumi EP, *et al*. Screening, diagnosis and care cascade for viral hepatitis B and C in Yaoundé, Cameroon: a qualitative study of patients and health providers coping with uncertainty and unbearable costs. *BMJ Open* 2019;9:e025415.
- Zhou F, Li J, Lin K, *et al*. Across-sectional study on anxiety and stress in pregnant women with chronic HBV infection in the people's Republic of China. *Neuropsychiatr Dis Treat* 2015;11:2225.
- Taheri Ezbarami Z, Hassani P, Zagheri Tafreshi M, *et al*. A qualitative study on individual experiences of chronic hepatitis B patients. *Nurs Open* 2017;4:310–8.
- Freeland C, Farrell S, Kumar P, *et al*. Common concerns, barriers to care, and the lived experience of individuals with hepatitis B: a qualitative study. *BMC Public Health* 2021;21:1004. doi:10.1186/s12889-021-11093-0
- Rafique I, Saqib MAN, Siddiqui S, *et al*. Experiences of stigma among hepatitis B and C patients in Rawalpindi and Islamabad, Pakistan. *East Mediterr Health J* 2014;20:796–803.
- Valizadeh L, Zamanzadeh V, Zabihi A, *et al*. Qualitative study on the experiences of hepatitis B carriers in coping with the disease. *Jpn J Nurs Sci* 2019;16:194–201. doi:10.1111/jjns.12229
- Wallace J, Pitts M, Liu C, *et al*. More than a virus: a qualitative study of the social implications of hepatitis B infection in China. *Int J Equity Health* 2017;16:1–7.
- Adjei CA, Stutterheim SE, Naab F, *et al*. Barriers to chronic hepatitis B treatment and care in Ghana: a qualitative study with people with hepatitis B and healthcare providers. *PLoS One* 2019;14. doi:10.1371/journal.pone.0225830. [Epub ahead of print: Available from] <https://dx.plos.org/>
- Adjei CA, Stutterheim SE, Naab F, *et al*. "To die is better than to tell": reasons for and against disclosure of chronic hepatitis B status in Ghana. *BMC Public Health* 2020;20:1–9. doi:10.1186/s12889-020-08811-5
- Mude W, Fisher C, Richmond J, *et al*. A qualitative investigation of barriers, support-seeking and coping among South Sudanese people with chronic hepatitis B in Australia. *Aust J Prim Health* 2019;25:264–74.
- Abraham SA, Agyemang SO, Ampofo EA, *et al*. Living with hepatitis B virus infection; media messaging matters. *Int J STD AIDS* 2021;32:591–9. doi:10.1177/0956462420965837
- Di Fusco M, Shea KM, Lin J, *et al*. Health outcomes and economic burden of hospitalized COVID-19 patients in the United States. *J Med Econ* 2021;24:308–17.
- Ghaffari Darab M, Keshavarz K, Sadeghi E, *et al*. The economic burden of coronavirus disease 2019 (COVID-19): evidence from Iran. *BMC Health Serv Res* 2021;21:132.
- Jin H, Wang H, Li X, *et al*. Economic burden of COVID-19, China, January–March, 2020: a cost-of-illness study. *Bull World Health Organ* 2021;99:112–24.

INTERVIEW GUIDE

DEMOGRAPHICS

1. Age
2. Marital status
3. Educational status
4. Number of children

PREAMBLE

5. Tell me what you know about Hepatitis B
 - a. Mode of transmission
 - b. Signs and symptoms
6. How did you get to know about your Hepatitis B status?
 - a. What information's were you given before you went to do the labs?
 - b. What was your experience with the diagnosis?

PSYCHOLOGICAL EXPERIENCES

7. Tell me where the result communicated to you?
8. Tell me how the result was communicated to you?
9. How did you react to the diagnosis?
10. How has it affected you till now?
 - a. Share with me some of the questions you asked about the infection?
 - b. Share with me some of your worries after diagnosis?
 - c. How about your general wellbeing after?
11. How has been your experience with the diagnosis till now?
12. Share with me some of your concerns about the infection?
13. Tell me about this disease and its effect on the baby?
 - a. What concerns do you have about your baby and the infection?
14. How are you living and dealing with the infection?

INFORMATIONAL NEEDS

15. Share with me what you were told about the infection?

16. How helpful were the information?
17. What were your expectations with the information?
18. Tell me what your expectations were?

SOCIAL EXPERIENCES

19. Have you discussed your diagnosis with anybody? partner/family/friends?
20. How was their reaction after the disclosure?
21. How is your current relationship with your partner or family?
22. Tell me about the support you received after diagnosis (HCP, partner/family)
23. How has the diagnosis affected your social life? (like how you relate to others, to your family, things you do/don't do?)

FUNCTIONAL NEEDS

1. What kind of assistance do you need in caring for yourself and the baby?
2. How is your financial situation with regards to affording treatments for yourself and baby?
3. Tell me about how the disease has affected your finances?
4. Tell me about the care you received from the healthcare providers
 - a. What assistance did you receive?
 - i. Care linkage, follow up care, post serology testing for baby, arrangement for vaccination?
5. What could have been done better?
6. What else would you like to share with me