PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Chronic Hepatitis B stigma in Ghana: a qualitative study with patients and providers
AUTHORS	Adjei, Charles; Stutterheim, Sarah; Naab, Florence; Ruiter, R

VERSION 1 - REVIEW

REVIEWER	Gitau Mburu Lancaster University, United Kingdom.
REVIEW RETURNED	02-Aug-2018

GENERAL COMMENTS	It is a privilege to contribute to the peer review of this paper, which concerns an area of increasing importance related to HBV stigma. I commend the authors for this draft. Below are a set of comments related to the paper which could improve the paper even further: 1. Abstract: The abstract could include a statement of the period that the data were collected so that readers can tell how recent the data are. 2. Abstract: as the authors know, when stigma is enacted, it is termed discrimination. Authors should use this term in the abstract (or in the manuscript) when actioned stigma is described e.g. isolation, to give these actions the descriptive importance they deserve. 3. Background: Goffman's seminal work on stigma emerged in the 1970's – authors could use the seminal reference followed by phlelan's elaboration of motivations of stigma. 4. Methods: authors should adhere to RATS supplementary reporting of qualitative studies and attach this as a checklist. The checklist can be found here: Allison Tong, Peter Sainsbury, Jonathan Craig; Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups, International Journal for Quality in Health Care, Volume 19, Issue 6, 1 December 2007, Pages 349–357, https://doi.org/10.1093/intqhc/mzm042. However, this should not prevent publication of the paper. 5. Settings: a note of the health beliefs in the study context could be useful to contextualise the study better. At present the study setting focusses mostly on administrative data, but actually social context is more relevant given the focus of the study 6. Inclusion criteria: "for at least 6 months" do the authors mean been tested positive for HBV at 6 months prior to recruitment? The current wording gives the impression that testing was done monthly and those that tested positive for at least 6 of those were included. If this is the intended meaning that's fine, but it doesn't seem that it would be.

	7. Exclusion criteria: the authors should discuss ways in which excluding those with terminal stages of the disease affects their findings, given the motivations and known drivers of stigma. 8. Exclusion criteria: given the potential for the above, the authors should give an indication of how many PW terminal HB were turned away / excluded. 9. Sampling: saturation and sampling is well described, even though triangulation has its own epistemological/ontological contentions. However, the authors could provide rationale for combining IDIs and FGDs to give readers a better sense of reasons for their approach. 10. Analysis: I am not clear how the analysis described differs from inductive thematic analysis. Increasingly, content analysis is being used to refer to analysis of printed, social media and the like. However, this shoud not prevent publication of the paper as it concerns a matter of opinion. 11. Results: given that two PWHB declined participation, the demographic characteristics should probably be based on the 16 that participated. 12. Results: Given the authors describe that they coded the data and identified emerging themes, the authors should present a table with codes and emergent themes which were supported by these codes, so that it's a little clearer to readers how these themes were arrived at. 13. Discussion: the discussion is strong, but there is a bit of repetition with the background, where the authors report the stigma reported in other settings in both sections. The authors should put that information in the background section, and use the discussion to show what their study adds or is different than what has been documented in literature before. Even though the authors suggest that this is the first study to look at stigma related to HBV then then cite Ghanaian sources of studies related to potentially stigmatising perspectives of superstitions etc. As such when you discuss your findings, it is not immediately clear what the contribution to the literature then is, and I think this can be strengthened. 14. Discussion/implications: given the findings, the authors could suggest whether, or not, or how, PWHB can themselves cope with the stigma. A large body of literature shows that perception of stigma (and its internalisation) can be modified for example through practical peer support methods. These can be a basic extension of education specifically for those with the virus. The authors could make it clear what their interpretations of the results meant for internalised stigma before suggesting intervention for it. 15. Limitations: Under limitations, the author should consider ways in which recruitment of participants affected their study as noted above. Currently, the authors emphasize on generalisability of their findings when representativeness is the pursuit of qualitative approaches. The purpose of this study was not to determine the extent of stigma (whereas larger and quantitative studies could arrive at that) but the various ways in which it is experienced/or actioned, therefore the shortcomings of this study can hardly be remedied by a quantitative study looking at its prevalence. The authors are being a bit hard on themselves. I would focus more on how the exclusion of certain perspectives (e.g. older/more severe cases) affects representativeness of the results. I hope that the authors will find these suggestions useful.

REVIEWER	Nora Hamdiui National Coordination Centre for Communicable Disease Control, Centre for Infectious Disease Control, National Institute for Public Hea 17-Aug-2018lth and the Environment, Bilthoven, The Netherlands
REVIEW RETURNED	17-Aug-2018

GENERAL COMMENTS	This is the first qualitative study exploring perspectives of PWHB and HCPs on hepatitis B stigma in Ghana, which is very relevant, as stated by the authors, hepatitis B stigma can lead to many consequences, such as less health care seeking behaviour. The results of this manuscript are interesting and have many implications regarding future hepatitis B prevention measures in Ghana. However, major improvements are needed, since the manuscript lacks theoretical support on several aspects and the Discussion lacks a strong reflection on what the researchers found. Below, you can find my comments point by point. Abstract Page 1, line 49: What types of physicians/nurses are meant? Primary care or are they specialised in hepatitis B care? Page 2, line 4: By only stating ''silence'' in the abstract it is unclear what you mean. Please elaborate more on this manifestation of stigma. Page 2, line 6-10: The conclusion section is too general. Why should the awareness of the public be increased and why is capacity training needed? The finding of inadequate knowledge is not mentioned in the Results section of the abstract, and therefore, your conclusions are hard to follow. Also, for line 10, why should stigma be reduced? And can you give a few examples of so-called "stigma reduction interventions"? Page 2, line 22-23: "[...] added richness to the findings." Please explain. What kind of richness did it add? Page 2, line 24-25: I do not think verbatim quotes of the participants are a specific strength of the study, as qualitative studies should always present participants' quotes verbatim. Page 2, line 27-28: Usually, by conducting qualitative research, the aim is not to generalise findings to the entire population. Please rephrase this limitation, for example by stating, "Although this study provided insight into […], we recommend confirming these results quantitatively in a large representative sample of the Ghanaian population." Page 2, line 31: Please elaborate more on why you recognise the possibility of recall bias.

	Introduction In the introduction, an explicit definition of stigma is lacking, which makes it difficult to understand the theoretical basis of your interview approach/guide. Page 3, line 8-12: The three motivations for stigmatisation are interesting and should definitely have a place in this manuscript. However, as stated now, it is not clear what is meant. Especially exploitation and domination are not clear for me. Please elaborate more. Page 3, line 16-17: "Stigmatisation may also be motivated [...] of promiscuous behaviour." What is the context of this sentence? To enforce which social norms, where, and in which context? Is the promiscuous behaviour seen as wrong in a religious sense? Page 3, line 18-19: Please state how that ignorance contributes to stigma instead of stating that there is data about that only. Methods The Methods section does not give any indications on which theoretical framework was used and how themes were generated. Did you make use of a deductive or inductive approach? Page 4, line 13-14: Do you have specific reasons for choosing one tertiary hospital in the south and one regional hospital in the north? In addition, did you expect different results for each type of hospital and for the different regions based on the type of people living there? Please also elaborate in the results if there were differences in perspectives for type of hospital and region. Page 4, line 21-22: “Inclusion of HCPs was deemed appropriate as they play an important role in the provision of care to PWHB.” This explanation is insufficient. What is your reasoning regarding the link between their important role in care and your research objective of studying perspectives of hepatitis B stigma and manifestations of this stigma? Page 4, line 27-30: How did you assess that inclusion criteria were met? Page 4, line 40: Please explain what a purposeful homogenous sampling technique is and why you specifically employed this technique. Page 4, line 45: How many of those recruited via advertisements/nurses were PWHB/HCPs? Page 4, line 51-53: - Why did you choose to use both interviews and FGDs? Interviews and FGDs are different methods, usually used for different aims. What is the added value of one or the other? Moreover, did you see different results for FGDs compared to interviews?

	- I agree with your reasoning about FGDs not being appropriate for PWHB, but why did you think that they are appropriate for HCPs? HCPs also share quite personal matters (for example regarding their negative perceptions that may compromise their professional ethics). Was it possible for (direct) colleagues to be recruited for the same FGD? If so, everything they say during such a discussion may influence their relationship with their (direct) colleagues and may affect their work atmosphere. Page 5, line 16-17: "Data saturation was reached after [...] HCP." If I understand it correct, the interviews were sufficient to reach data saturation. Why did you still choose to add FGDs? Page 5, line 23: Please state which empirical literature on hepatitis B stigma the protocol was based upon. Page 5, line 40: What do you specifically mean with content analysis? As I read your methodology, I think you used thematic analysis instead. Although thematic analysis is a form of content analysis, please be as specific as possible. (See also the article: Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study of Vaismoradi et al). Results Overall, it is unclear how often aspects are mentioned. Please clearly structure the quotes per group (PWHB and HCPs). Additionally, are there results on why individuals believe certain aspects, such as the transmission via sweat? The underlying factors of certain (mis)beliefs are lacking. Page 6, section Demographic Characteristics: Did you assess the educational level of the participants? This might give some indications on whether selection bias might have occurred and if the inadequate knowledge on hepatitis B is associated with educational level. The same holds for their religion. This might give some indications on the association between religion and certain hepatitis B associated beliefs (e.g. cursed for wrongdoing). Page 8, line 53: What kind of possible effect of the disease do you mean here? Page 9, line 8-10: "In addition to reporting common beliefs [...] specifically in health care settings." In my opinion, ways in which hepatitis B stigma manifests are not discussed for healthcare settings specifically, here. Later on, you added a section "Stigmatisation in health care settings" where it is indeed discussed. What is the difference between the perceptions of HCPs in these two sections? I think the first section is more about the perceptions of HCPs regarding colleagues with hepatitis B and experiences with family settings during their work. However, that difference is not clear in the manuscript now. Please structure these sections more clearly. Page 9 and 10: The content in the sections about avoidance and physical distance seem overlapping. Is there a difference between these two

	themes? If so, please use other terms and clearly structure content to avoid duplication. Page 12, line 13-14: ""Some HCPs reported that [...] their professional ethics." This is not represented by the quote. The quote does not say anything about professional ethics or compromising. Page 13, line 31-39: I do not understand the theme "silence" and the quote does not make it clear for me. Maybe another term is needed, or more explanation about what the authors mean with silence. It seems to represent the "fear of getting infected", which is not a manifestation of stigma, but might be a consequence of the first belief about hepatitis B (as highly contagious). Discussion In this section, please reflect on whether the mentioned perspectives/beliefs are correct or incorrect. Please reason why you think such beliefs are present in this community. In addition, the authors compare their study with previous studies in various settings (e.g. United States, Japan). These settings are not comparable with the setting of this manuscript. I would recommend the authors to look for literature on hepatitis B perspectives in comparable settings. Although literature is limited on hepatitis B stigma in Ghana, the study can be compared with studies among Ghanaians in other countries or with comparable populations. You might use studies on hepatitis B perspectives among Ghanaian or African migrant populations in Europe as well. Furthermore, please elaborate on the current hepatitis B screening activities or programmes in Ghana. Are there hepatitis B vaccination policies or screening programmes in place for health care providers in Ghana or for those pregnant? Page 14, line 13-18: Please reflect on the common belief of HBV transmission by sweat. What is the rationale of believing that sweat is a vehicle for HBV transmission? Has this been reported by previous studies? Page 14, line 25-26: "They found that physicians perceived hepatitis B as very serious." Was this perceived severity linked with or did it contribute to stigmatisation? Page 14, line 26-32: The authors reported that hepatitis B was perceived to be even more severe than HIV and attributed it to the fact that hepatitis B is not optimally managed in Ghana. How is the management of HIV in Ghana (to understand your point, as a reader)? Please add this information in the manuscript. Page 15, line 26-27: "Given the prevalence of incorrect knowledge […] we recommend public awareness campaigns that emphasize hepatitis B transmission routes." Is there literature on possible interventions to decrease stigma? Did you think about possible side effects of the proposed intervention, and how to handle these effects? Increasing awareness and knowledge regarding hepatitis B transmission routes may further increase stigma, since possible

	transmission routes include sexual contact and intravenous drug use, which might be associated with wrongdoing. Page 15, line 31-33: “Additionally, we recommend efforts to increase […] when caring for PWHB.” In order to understand the context of this sentence, please elaborate about the current hepatitis B prevention measures in Ghana. Are these measures free or paid (if paid, how much does it cost?). Are there vaccination policies in place for HCPs, either during their education or career? If not, would the authors recommend something in this regard, rather than to increase health literacy? Why are efforts to increase health literacy recommended? Page 15, line 37-45: If you did not study the underlying factors of reported beliefs (since not reported in this manuscript), I would recommend researching these first, prior to conducting a quantitative study that can quantify the extent to which hepatitis B stigma is present in Ghana. Overall, I have a number of general comments to add: - Please replace "clients" with "patients". - Please replace "isolation" with "social isolation". - Please state whether you mean acute or chronic hepatitis B throughout the manuscript. - This paper has numerous grammar and language issues, which need to be addressed. Please carefully proofread spell check to eliminate grammatical errors. - A religious context is lacking in this manuscript. To my knowledge, Christianity and Islam are the largest religions in Ghana and since hepatitis B can be a sexually transmitted disease and may be transmitted via intravenous drug use, I would expect perspectives in relation to their religion. Do you have any views on the participants' religion and what effect it had on their perspectives? - In relation to my previous comment, what is meant by bad deeds/wrongdoing and in which context are they perceived as wrong or bad? Since the authors state that it is seen as punishment from gods, I think you mean a religious context, but it is not clear in which religious context and if these bad deeds are related to actual hepatitis B transmission routes (e.g. sexual contact, intravenous drug use)? - Were transcripts returned to participants for comment and/or correction? If not, this may have led to reduced internal validity and should be mentioned as limitation of the study. - Not all items of the COREQ Checklist are reported (items 3, 4, 5, 7, 23, 28). - A number of questions in the interview guide seem to be guiding respondents into specific answers. For example, by asking question 3a “Can you share with me about a situation in which you were treated differently (stigma), or discriminated against because of your HBV positive status?”, the researcher assumed that the individual was treated differently because of his/her HBV positive status. This may have led to biased results.

REVIEWER	Ali Zabihi Babol University of Medical Sciences, Iran
REVIEW RETURNED	26-Nov-2018

GENERAL COMMENTS	1. On page 5, in a sentence, describe QSR Nvivo. 2. The part of the method is long. Please correct. 3. The results section is too long and is expressed in 8 pages. It is suggested that the main concepts or the main themes and sub themes and primary concepts be expressed in a table. 4. Please provide the main questions in the interview in the text of the article as a table. 5. The number of referrals is high. Pleas remove older references.

VERSION 1 – AUTHOR RESPONSE

Reviewer's Comment	Author's Response	Page number
Reviewer: 1		
Abstract		
1.The abstract could include a statement of the period that the data were collected so that readers can tell how recent the data are.	We have added the date for data collection to the abstract as suggested	1
2. As the authors know, when stigma is enacted, it is termed discrimination. Authors should use this term in the abstract (or in the manuscript) when actioned stigma is described e.g. isolation, to give these actions the descriptive importance they deserve.	We appreciate the reviewer's comment. The description of the type of stigma (i.e. enacted) has been clearly stated as suggested by the reviewer	Abstract
Background		
3. Goffman's seminal work on stigma emerged in the 1970's – authors could use the seminal reference followed by phlelan's elaboration of motivations of stigma.	We agree that Goffman's seminal work should be included in the background. This has been included in the manuscript accordingly.	3
Methods		
4. Authors should adhere to RATS supplementary reporting of qualitative studies and attach this as a checklist. The checklist can be found here: Allison Tong, Peter Sainsbury, Jonathan Craig; Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups, International Journal for Quality in Health Care, Volume 19, Issue 6, 1 December 2007, Pages 349– 357, https://doi.org/10.1093/intqhc/mzm042. However, this should not prevent publication of the paper.	Thank you for this comment. COREQ 32 items has been used in reporting the methods.	3 - 5 4

5. Settings: a note of the health beliefs in the study context could be useful to contextualise the study better. At present the study setting focusses mostly on administrative data, but actually social context is more relevant given the focus of the study	We appreciate the comment of the reviewer. We have included some health beliefs that are perculiar to the study setting.	4
6. Inclusion criteria: "for at least 6 months" do the authors mean been tested positive for HBV at 6 months prior to recruitment? The current wording gives the impression that testing was done monthly and those that tested positive for at least 6 of those were included. If this is the intended meaning that's fine, but it doesn't seem that it would be.	We appreciate the comment about the inclusion criteria. The sentence has been reworded. It now reflects that "the participants with hepatitis B had tested Hepatitis B surface antigen (HBsAg) positive at least 6 months prior to recruitment".	4
7. Exclusion criteria: the authors should discuss ways in which excluding those with terminal stages of the disease affects their findings, given the motivations and known drivers of stigma.	We appreciate the comment of the reviewer. Although we recognised the effect of exclusion of people in their terminal stage of the disease, it is worth mentioning that only one person was seen in the terminal stage of the disease and was not recruited. We therefore recognise this exclusion criteria as a limitation of our study and therefore the findings may not reflect the stigma experiences of PWHB in the terminal stage of hepatitis B. This has been added to the manuscript.	4
8. Exclusion criteria: given the potential for the above, the authors should give an indication of how many PW terminal HB were turned away / excluded.	Thank you for this comment. Only one person was identified to be in the terminal stage of the disease and was excluded. This particular person was	5
9. Sampling: saturation and sampling is well described, even though triangulation has its own epistemological/ontological contentions. However, the authors could provide rationale for combining IDIs and FGDs to give readers a better sense of reasons for their approach.		1 & 5
10. Analysis: I am not clear how the analysis described differs from inductive thematic analysis. Increasingly, content analysis is being		

used to refer to analysis of printed, social media and the like. However, this should not prevent publication of the paper as it concerns a matter of opinion.	experiencing dyspnoea (breathlessness) which made it impossible to interview him. We appreciate this comment. The combination of interviews and FGD for HCP was to assist in understanding the phenomenon comprehensively in terms of depth and breadth and also further ensure trustworthiness of the findings (Lambert &Loiselle, 2008). Regarding the question about inductive thematic analysis, we share the same view as the reviewer as these are matter of opinion, but in effect, we used inductive thematic analysis. Revision done, and reference added.	
Result		
11. Given that two PWHB declined participation, the demographic characteristics should probably be based on the 16 that participated. 12. Given the authors describe that they coded the data and identified emerging themes, the authors should present a table with codes and emergent themes which were supported by these codes, so that it's a little clearer to readers how these themes were arrived at.	We appreciate this comment. The two PWHB who declined to participate in the study were not part of the 18 PWHB interviewed. This has been clearly indicated in page 5 of the manuscript.	5 Table 1

	Summary of themes and sub-themes presented in table 1.	
Discussion		
13. The discussion is strong, but there is a bit of repetition with the background, where the authors report the stigma reported in other settings in both sections. The authors should put that information in the background section, and use the discussion to show what their study adds or is different than what has been documented in literature before. Even though the authors suggest that this is the first study to look at stigma related to HBV then then cite Ghanaian sources of studies related to potentially stigmatising perspectives of superstitions etc. As such when you discuss your findings, it is not immediately clear what the contribution to the literature then is, and I think this can be strengthened. 14. Discussion/implications: given the findings, the authors could suggest whether, or not, or how, PWHB can themselves cope with the stigma. A large body of literature shows that perception of stigma (and its internalisation) can be modified for example through practical peer support methods. These can be a basic extension of education specifically for those with the virus. The authors could make it clear what their interpretations of the results meant for internalised stigma before suggesting intervention for it.	We appreciate this comment and revision done accordingly. The two Ghanaian studies cited only reported superstitious beliefs as a cause of hepatitis B and not as a determinant of stigma. It can therefore be contended that our current study is the only study that has documented this observation in the study setting. We appreciate this comment. It is worth mentioning that this paper is part of a large study on hepatitis B in Ghana. How PWHB cope with hepatitis B stigma in the study area is a separate paper. This current paper only sought to document the perspectives of PWHB and HCPs on the beliefs contributing to Hepatitis B stigma in Northern and Southern Ghana and the ways in which Hepatitis B stigma manifests. The question regarding how PWHB could deal with internalised stigma has also been addressed.	16
Limitations		
Under limitations, the author should consider ways in which recruitment of participants affected their study	We appreciate the comment by the	15

as noted above. Currently, the authors emphasize on generalisability of their findings when representativeness is the pursuit of qualitative approaches. The purpose of this study was not to determine the extent of stigma (whereas larger and quantitative studies could arrive at that) but the various ways in which it is experienced/or actioned, therefore the shortcomings of this study can hardly be remedied by a quantitative study looking at its prevalence. The authors are being a bit hard on themselves. I would focus more on how the exclusion of certain perspectives (e.g. older/more severe cases) affects representativeness of the results.	reviewer. We have further added some additional limitations particularly on recruited as suggested by the reviewer.	
Reviewer: 2		
Abstract		
Page 1, line 49: What types of physicians/nurses are meant? Primary care or are they specialised in hepatitis B care? Page 2, line 4: By only stating ''silence'' in the abstract it is unclear what you mean. Please elaborate more on this manifestation of stigma. Page 2, line 6-10: The conclusion section is too general. Why should the awareness of the public be increased and why is capacity training needed? The finding of inadequate knowledge is not mentioned in the Results section of the abstract, and therefore, your conclusions are hard to follow. Also, for line 10, why should stigma be reduced? And can you give a few examples of so-called "stigma reduction interventions"? Page 2, line 22-23: "[...] added richness to the findings." Please explain. What kind of richness did it add? Page 2, line 24-25: I do not think verbatim quotes of the participants are a specific strength of the study, as qualitative studies should always present participants' quotes verbatim. Page 2, line 27-28: Usually, by conducting qualitative research, the aim is not to generalise findings to the entire population.	Thank you for the comment. Revision done accordingly. The physicians were primary care physicians. We appreciate this comment. The silence is one of the manifestations expressed by one of the healthcare providers particularly during surgery involving a patient with hepatitis B. We feel that it is of less important since there is nothing wrong being quiet during a surgical procedure. We have therefore deleted it from the entire manuscript. We appreciate the comment of the reviewer. The conclusion has been revised as suggested by the reviewer. Example of stigma reduction interventions have been added to the manuscript. Refer to page 16.	1 2, 16 2 2, 15

Please rephrase this limitation, for example by stating, "Although this study provided insight into […], we recommend confirming these results quantitatively in a large representative sample of the Ghanaian population." Page 2, line 31: Please elaborate more on why you recognise the possibility of recall bias.	The sentence has been reworded to be more specific. The statement is deleted Thanks for this comment and suggestion. Revision done accordingly. The Participants (i.e. those with hepatitis B) reported how long they have lived with the disease. The duration ranged from 1 to 7 years and therefore we believe that the long duration may potentially influence their ability to retrospectively recall all their stigma experiences. This has been clearly stated in the manuscript.	2, 16
Introduction		
In the introduction, an explicit definition of stigma is lacking, which makes it difficult to understand the theoretical basis of your interview approach/guide. Page 3, line 8-12: The three motivations for stigmatisation are interesting and should definitely have a place in this manuscript. However, as stated now, it is not clear what is meant. Especially exploitation and	We appreciate this comment. Goffman (1963) definition of stigma has been added. Thank you for the comment. Explanation of	3 3

domination are not clear for me. Please elaborate more. Page 3, line 16-17: "Stigmatisation may also be motivated [...] of promiscuous behaviour." What is the context of this sentence? To enforce which social norms, where, and in which context? Is the promiscuous behaviour seen as wrong in a religious sense? Page 3, line 18-19: Please state how that ignorance contributes to stigma instead of stating that there is data about that only.	the other two motivations have been added as suggested by the reviewer. Thank you very much. The statement is based on some published articles in Ghana and Asian American communities in San Francisco. We believe that promiscuous behaviour is perceived as wrong in the Ghanaian context given that a higher proportion of the population are Christians and Moslems and therefore frown on pre-marital sex. However, it is worth mentioning that none of our participants associated promiscuous behaviour to hepatitis B stigma. Thank you for this comment. Revision done accordingly.	3
Methods		
The Methods section does not give any indications on which theoretical framework was used and how themes were generated. Did you make use of a deductive or inductive approach? Page 4, line 13-14: Do you have specific reasons for choosing one tertiary hospital in the south and one regional hospital in the north? In addition, did you expect different results for each type of hospital and for the different regions based on the type of people living there? Please also elaborate in the results if there were differences in perspectives for type of hospital	We appreciate the comment of the reviewer. However, the study was not guided by any theoretical framework. We used the procedure of inductive thematic approach to analyse the data (Vaismoradi, Turunen, Bondas, 2013)	5 Throughout the result section

and region. Page 4, line 21-22: "Inclusion of HCPs was deemed appropriate as they play an important role in the provision of care to PWHB." This explanation is insufficient. What is your reasoning regarding the link between their important role in care and your research objective of studying perspectives of hepatitis B stigma and manifestations of this stigma? Page 4, line 27-30: How did you assess that inclusion criteria were met? Page 4, line 40: Please explain what a purposeful homogenous sampling technique is and why you specifically employed this technique. Page 4, line 45: How many of those recruited via advertisements/nurses were PWHB/HCPs? Page 4, line 51-53: - Why did you choose to use both interviews and FGDs? Interviews and FGDs are different methods, usually used for different aims. What is the added	The selection of one facility in the south and the north was to give us a better perspective about hepatitis B stigma in the two areas. It is worth mentioning that, the northern part of Ghana is very much in tuned with traditions and culture compared with the south and therefore the meanings attach to some diseases differ. It was expected that there will be differences in terms of responses based on the regions and not the facilities. Participants quotes have been described based on the region for the sake of clarity. We appreciate this comment. The inclusion of the HCPs was deemed necessary because the study sought to explore the perspectives of PWHB and HCPs on the beliefs contributing to hepatitis B stigma in Ghana and the ways in which hepatitis B stigma manifests. HCPs are mainly those who provide care for PWHB in the formal system in Ghana and we believed that they might have heard of these beliefs from the patients with hepatitis B to share with us. Also, some of the manifestations of stigma occur in the	4 5 5

value of one or the other? Moreover, did you see different results for FGDs compared to interviews? - I agree with your reasoning about FGDs not being appropriate for PWHB, but why did you think that they are appropriate for HCPs? HCPs also share quite personal matters (for example regarding their negative perceptions that may compromise their professional ethics). Was it possible for (direct) colleagues to be recruited for the same FGD? If so, everything they say during such a discussion may influence their relationship with their (direct) colleagues and may affect their work atmosphere. Page 5, line 16-17: "Data saturation was reached after [...] HCP." If I understand it correct, the interviews were sufficient to reach data saturation. Why did you still choose to add FGDs? Page 5, line 23: Please state which empirical literature on hepatitis B stigma the protocol was based upon. Page 5, line 40: What do you specifically mean with content analysis? As I read your methodology, I think you used thematic analysis instead. Although thematic analysis is a form of content analysis, please be as specific as possible. (See also the article: Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study of Vaismoradi et al).	clinical setting and therefore we believed that they were in a better position to share those experiences with us. Thank you for the comment. Regarding participant's age, we relied on self-report by the participants themselves. We assessed the laboratory result of the participants to confirm their positive status before recruiting them into the study. This was made easier because majority of the PWHB were recruited in the hospitals. The healthcare providers inclusion was based on self-report about their number of years of service. Homogenous was wrongly used. Sentence revised. We appreciate this comment. Overall, 16 participants were recruited through the advertisements and 49 through nurses. PWHB recruited through the advertisement were 6 and the remaining 12 were recruited through nurses in the hospitals. On the other hand, 10 HCPs were recruited through advertisement and 37 of the HCPs were recruited through nurses in the hospitals.	1, 5 6 1, 6

	The combination of interviews and FGD for HCP assisted in understanding and describing the phenomenon comprehensively in terms of depth and breadth and further ensured the trustworthiness of the findings (Lambert & Loiselle, 2008). However, not much different in terms of results were found. One important observation that was made during the FGD was that the participant's built on the ideas of their colleagues which added some details to the data. We appreciate this comment. Clearly, the study was not meant to explore the perception of HCPs regarding their colleagues with hepatitis B in the hospital. Therefore, sensitivity of the issue as far as the HCPs were concern was limited. We agree with the reviewer that it was needless to have continued with the FGD. However, it can be contended that each of the approaches has its weakness and strength	

	and therefore we felt hat the combination of the two approaches will help in understanding and describing the phenomenon better and further ensure trustworthiness of the findings (Lambert &Loiselle, 2008). Thank you. We have added the literature as suggested. We agree with the reviewer than the analysis was inductive thematic analysis. Changes made in the manuscript with reference.	
Results		
Overall, it is unclear how often aspects are mentioned. Please clearly structure the quotes per group (PWHB and HCPs). Additionally, are there results on why individuals believe certain aspects, such as the transmission via sweat? The underlying factors of certain (mis)beliefs are lacking. Page 6, section Demographic Characteristics: Did you assess the educational level of the participants? This might give some indications on whether selection bias might have occurred and if the inadequate knowledge on hepatitis B is associated with educational level. The same holds for their religion. This might give some indications on the association between religion and certain hepatitis B associated beliefs (e.g. cursed for wrongdoing). Page 8, line 53: What kind of possible effect of the disease do you mean here?	Categorisation of quotes per group (HCPs and PWHB) was already done. Also, the locations of the participants have been added. Regarding the question on the underlying factors of certain beliefs, this was done and submitted as another manuscript elsewhere. We appreciate the comment of the reviewer. Data on religion was collected, however, considering the sensitivity of hepatitis B issues in the study area, we intentionally limited the report on those details as a way of providing	Throughout the result session 9

Page 9, line 8-10: "In addition to reporting common beliefs [...] specifically in health care settings." In my opinion, ways in which hepatitis B stigma manifests are not discussed for healthcare settings specifically, here. Later on, you added a section "Stigmatisation in health care settings" where it is indeed discussed. What is the difference between the perceptions of HCPs in these two sections? I think the first section is more about the perceptions of HCPs regarding colleagues with hepatitis B and experiences with family settings during their work. However, that difference is not clear in the manuscript now. Please structure these sections more clearly. Page 9 and 10: The content in the sections about avoidance and physical distance seem overlapping. Is there a difference between these two themes? If so, please use other terms and clearly structure content to avoid duplication. Page 12, line 13-14: ""Some HCPs reported that [...] their professional ethics." This is not represented by the quote. The quote does not say anything about professional ethics or compromising. Page 13, line 31-39: I do not understand the theme "silence" and the quote does not make it clear for me. Maybe another term is needed, or more explanation about what the authors mean with silence. It seems to represent the "fear of getting infected", which is not a manifestation of stigma, but might be a consequence of the first belief about hepatitis B (as highly contagious).	anonymity of the study participants. However, a considerable detail about the participants have been reported in table 2 and 3. Nevertheless, additional data are available which can be provided on request. Thank you. The statement has been revised accordingly to reflect specifically on the effect i.e. possible transmission of the disease to the family members. We appreciate this comment. This paper did not explore the perception of HCPs regarding their colleagues with hepatitis B in the hospital. Aside the stigma manifestations among the general population, we were also interested in finding out stigmatising reaction of HCPs toward patients with hepatitis B and not their own colleagues HCPs. The heading with stigmatisation in healthcare settings report those findings. We appreciate the comment of the reviewer. Physical distance has been replaced with social	Throughout the manuscript 12

	isolation throughout the manuscript. Thank you. Revision done accordingly. We appreciate this comment. The silence is one of the manifestations expressed by one of the healthcare providers particularly during surgery involving a patient with hepatitis B. We feel that it is of less important since there is nothing wrong being quiet during a surgical procedure. We have therefore deleted it from the entire manuscript.	
Discussion		
In this section, please reflect on whether the mentioned perspectives/beliefs are correct or incorrect. Please reason why you think such beliefs are present in this community. In addition, the authors compare their study with previous studies in various settings (e.g. United States, Japan). These settings are not comparable with the setting of this manuscript. I would recommend the authors to look for literature on hepatitis B perspectives in comparable settings. Although literature is limited on hepatitis B stigma in Ghana, the study can be compared with studies among Ghanaians in other countries or with comparable populations. You might use studies on hepatitis B perspectives among Ghanaian or African migrant populations in Europe as well. Furthermore, please elaborate on the current hepatitis B screening activities or programmes in Ghana. Are there hepatitis B vaccination policies or screening programmes in place for health care providers in Ghana or for those pregnant? Page 14, line 13-18: Please reflect on the common belief of HBV transmission by sweat. What is the rationale of	We appreciate this comment. However, it is important to emphasize that limited studies have explore this phenomenon in Ghana and Africa in general. In fact, the perspectives of African Migrant in Europe etc are also lacking. Also, with the exception of Hepatitis B testing which is covered by the national health insurance scheme when requested by physicians, Hepatitis B vaccination is offered at a fee. The only national policy on Hepatitis B prevention in Ghana is the administration of	15

believing that sweat is a vehicle for HBV transmission? Has this been reported by previous studies? Page 14, line 25-26: “They found that physicians perceived hepatitis B as very serious.” Was this perceived severity linked with or did it contribute to stigmatisation? Page 14, line 26-32: The authors reported that hepatitis B was perceived to be even more severe than HIV and attributed it to the fact that hepatitis B is not optimally managed in Ghana. How is the management of HIV in Ghana (to understand your point, as a reader)? Please add this information in the manuscript. Page 15, line 26-27: “Given the prevalence of incorrect knowledge […] we recommend public awareness campaigns that emphasize hepatitis B transmission routes.” Is there literature on possible interventions to decrease stigma? Did you think about possible side effects of the proposed intervention, and how to handle these effects? Increasing awareness and knowledge regarding hepatitis B transmission routes may further increase stigma, since possible transmission routes include sexual contact and intravenous drug use, which might be associated with wrongdoing. Page 15, line 31-33: “Additionally, we recommend efforts to increase […] when caring for PWHB.” In order to understand the context of this sentence, please elaborate about the current hepatitis B prevention measures in Ghana. Are these measures free or paid (if paid, how much does it cost?). Are there vaccination policies in place for HCPs, either during their education or career? If not, would the authors recommend something in this regard, rather than to increase health literacy? Why are efforts to increase health literacy recommended?	Hepatitis B pentavlent vaccine to newborns at the 6, 10, 14 weeks after birth. This has been added to the manuscript . We appreciate the reviewer’s comment. However, the rational of believing that sweat is vehicle for hepatitis B transmission by our participants cannot be explained with a published literature in the study area since none exist. However, by an observation, it appears to be mentioned in various media platform mostly by herbal drug sellers which seems to have been embraced my many as an important mode of HBV transmission in Ghana. May be a future research can focus on this. Thank you. Perceived severity was linked with hepatitis B Thank you. Information added to the manuscript	14 16 15, 16 Throughout the manuscript Throughout the manuscript

Page 15, line 37-45: If you did not study the underlying factors of reported beliefs (since not reported in this manuscript), I would recommend researching these first, prior to conducting a quantitative study that can quantify the extent to which hepatitis B stigma is present in Ghana. Overall, I have a number of general comments to add: - Please replace "clients" with "patients". - Please replace "isolation" with "social isolation". - Please state whether you mean acute or chronic hepatitis B throughout the manuscript. - This paper has numerous grammar and language issues, which need to be addressed. Please carefully proofread spell check to eliminate grammatical errors. - A religious context is lacking in this manuscript. To my knowledge, Christianity and Islam are the largest religions in Ghana and since hepatitis B can be a sexually transmitted disease and may be transmitted via intravenous drug use, I would expect perspectives in relation to their religion. Do you have any views on the participants' religion and what effect it had on their perspectives? - In relation to my previous comment, what is meant by bad deeds/wrongdoing and in which context are they perceived as wrong or bad? Since the authors state that it is seen as punishment from gods, I think you mean a religious context, but it is not clear in which religious context and if these bad deeds are related to actual hepatitis B transmission routes (e.g. sexual contact, intravenous drug use)?	We appreciate your comment. The suggestion has been added to the manuscript. Again, literature on stigma reduction intervention has been added to the manuscript. Refer to page 16. Comment addressed accordingly. We appreciate the reviewer's comment. However, this study is part of a larger study on hepatitis B in Ghana. The underlying factors to the beliefs have been submitted as a separate manuscript elsewhere. Revision done accordingly Revised as suggested by the reviewer Revised accordingly The entire manuscript has been proofread by an English speaker.	Throughout the manuscript 9 6 5, 6 Supplementary material 1

- Were transcripts returned to participants for comment and/or correction? If not, this may have led to reduced internal validity and should be mentioned as limitation of the study. - Not all items of the COREQ Checklist are reported (items 3, 4, 5, 7, 23, 28). - A number of questions in the interview guide seem to be guiding respondents into specific answers. For example, by asking question 3a “Can you share with me about a situation in which you were treated differently (stigma), or discriminated against because of your HBV positive status?”, the researcher assumed that the individual was treated differently because of his/her HBV positive status. This may have led to biased results.	We appreciate this comment. We agree with the reviewer that it will be interesting to know the perspectives of the participants in relation to religion. This was not part of our specific objectives. We will therefore consider this for future research. We appreciate this comment. The wrong doing in this case has nothing to do with promiscuity (sex) and intravenous drug use. These are specific consequences when some cultural beliefs are violated particularly in Northern Ghana. For example, it is believed that people who do not respect their parents or fail to treat their parents well can be cursed by the gods. In most cases, these perceived curses manifest in a form of swollen abdomen and feet similar to the clinical characteristics of end stage liver disease such as hepatitis B. This manifestation is erroneously considered to be curses as a result of wrong doing. This has been clarified in the manuscript.	

	Thank you. The statement about member checking has been included in the manuscript. The comment of the reviewer is acceptable. However, the question referred to by the reviewer was a follow up question to “have you been treated differently by anyone because of your hepatitis B positive status”	
Reviewer 3		
1. On page 5, in a sentence, describe QSR Nvivo. 2. The part of the method is long. Please correct. 3. The results section is too long and is expressed in 8 pages. It is suggested that the main concepts or the main themes and sub themes and primary concepts be expressed in a table. 4. Please provide the main questions in the interview in the text of the article as a table. 5. The number of referrals is high. Please remove older references.	We appreciate the comment of the reviewer. QRS Nvivo is a software used in processing qualitative data. Please refer to page 6. We appreciate this comment. However, the method session was reported following the COREQ 32 Checklist which was recommended by reviewer 1 and 2. Thank you. However, the result is mainly on the objectives of the study. The summary of the themes and sub-themes are presented in table 3. Thank you. The interview protocol is attached as	6

	supplementary material 1. We recognise the comment of the reviewer. However, the references are supporting the claims made in the paper. We feel it strengthen the paper.	

VERSION 2 – REVIEW

REVIEWER	Gitau Mburu Lancaster University, United Kingdom
REVIEW RETURNED	05-Feb-2019

GENERAL COMMENTS	The authors have appropriately responded to my comments and concerns.

REVIEWER	Nora Hamdiui National Coordination Centre for Communicable Disease Control, Centre for Infectious Disease Control, National Institute for Public Health and the Environment, Bilthoven, The Netherlands
REVIEW RETURNED	14-Feb-2019

GENERAL COMMENTS	I would like to thank the authors for considering my feedback. Below, you can find my comments point by point. In general: Although the authors mentioned that an English speaker has proofread the entire manuscript, unfortunately I feel that the English language is not good enough for publication. A few examples to guide the authors: - as reflect instead of as reflected - document instead of documented - north and south, inconsistently with and without capital letters - Moslems instead of Muslims - should be counsel instead of should be counselled Authors mentioned an important observation that was made during the FGDs, namely that participants built on the ideas of others, which added some details to the data. Please add this information in the manuscript. It clarifies the authors' saying "assisted in understanding and describing the phenomenon in terms of depth and breadth". The aim of conducting FGDs among HCPs is lacking in the manuscript, such as stimulating each other's thoughts. Please add the aim in the manuscript.

Specific:

Page 3, about the consequence of promiscuous behaviour:
The authors answered my question regarding this sentence extensively, but this explanation is lacking in the manuscript. Please add this explanation.

Page 4, regarding the two regions:
The authors stated as an answer to my question that it was expected that results would differ in terms of the regions. Was there indeed a difference in the results based on the regions? I am also missing the explanation regarding the difference between the two regions in terms of traditions and culture. This explains why you chose to include two facilities of two different regions, and should thus be added in the manuscript.

Page 10, regarding the quote HCP-North-FGD 8:
Why did you think that FGDs are appropriate for HCPs? In my opinion, HCPs shared quite personal matters (regarding their negative perceptions towards PWHB that may compromise their professional ethics). Furthermore, the quote “One HCP shared how she avoided a colleague after learning she had hepatitis B.” shows that they even talk about colleagues, which makes it a much more sensitive topic to discuss during FGDs.

The authors state that the underlying factors of certain beliefs are submitted as another manuscript elsewhere. Please describe this fact in the Discussion section.

Since the authors say that the perspectives of African migrant populations in Europe are missing, please study the articles of Hamdiui et al. As an example, the comparison made between HIV and HBV is also made in one of these articles.

Are there vaccination policies in place for HCPs, either during their education or career? If not, would the authors recommend something in this regard, rather than to increase health literacy? Why are efforts to increase health literacy recommended?

Page 2, last line:
Only intimate non-sexual contact is mentioned. Please also include sexual contact as possible HBV transmission route.

Page 3, second paragraph:
Why are mental illnesses mentioned as diseases with some risk of transmission?

Page 3, second paragraph:
Please report the population among which ignorance about HBV routes of transmission is documented.

Page 4, paragraph “Study Setting”:
HCPs are described to be in a better position to share experiences. Please clarify what you mean by a better position. Better than whom?

Page 7, quote HCP, North-FGD 21:
This quote seems to illustrate one of the stigma manifestations (social isolation). Please move this quote to the section regarding social isolation.

	Page 8, paragraph about fear of infection: Authors state that fear of infection resulted in patients being neglected by some HCPs. Please move this to the section regarding stigma manifestations in health care settings. Page 9, first paragraph, last sentence: Extra context is given by stating “where tradition and culture are highly upheld”. Please move this information to the Methods section. Page 12, quote PWHB, South-IDI 15: This quote seems to belong to the theme “Avoidance”, since the participant is talking about people distancing themselves from PWHB. Please clarify. Page 13: Quotes are indicating both procedure avoidance and postponement. Please add “postponement” to the theme “Task-shifting and procedure avoidance”. Page 16, second paragraph: “In addition, PWHB should be counsel on the relevance of using either problem focused coping strategies such as seeking social support, affiliating with others with same disease and emotion-focused strategies such as religious coping and positive reappraisal as a way of building their resilience.” What is your reasoning of counselling PWHB? Please clarify. Page 16, second paragraph: Stigma reduction interventions are stated. For whom do the authors recommend these interventions? Is there literature on the (positive) effects of such interventions? Please elaborate in the manuscript. Table 1: Summary of themes and sub-themes: This is repetition of what is extensively described in the Results section, thus it does not add any information. However, for the readability of this manuscript, underlying themes of the sub-themes should be identified. As an example, the belief that hepatitis B is incurable may be added as an underlying theme of the belief that hepatitis B is very severe. Please extend Table 1 and revise accordingly throughout the manuscript.

VERSION 2 – AUTHOR RESPONSE

Reviewer’s Comment	Author’s Response	Page number
Editorial requests		
Reviewer 1 The authors have appropriately responded to my comments and concerns.	Thank you very much for spending time to review our manuscript.	
Reviewer 2 1. Although the authors mentioned that an English speaker has proofread the	We appreciate the reviewer’s comments. The errors identified by the reviewer has been corrected. Additionally, the second author, whose native language is	Throughout the manuscript

entire manuscript, unfortunately I feel that the English language is not good enough for publication. A few examples to guide the authors: - as reflect instead of as reflected - document instead of documented - north and south, inconsistently with and without capital letters - Moslems instead of Muslims - should be counsel instead of should be counselled	English, edited the full manuscript to improve coherence and clarity and to remove English language errors.	
2. Authors mentioned an important observation that was made during the FGDs, namely that participants built on the ideas of others, which added some details to the data. Please add this information in the manuscript. It clarifies the authors' saying "assisted in understanding and describing the phenomenon in terms of depth and breadth".	We appreciate the reviewer's comment. The observations made by the authors during the FGDs has been added to the manuscript as suggested by the reviewer.	5
3. The aim of conducting FGDs among HCPs is lacking in the manuscript, such as stimulating each other's thoughts. Please add the aim in the manuscript.	Thank you for the suggestion. The aim of conducting FGD among the HCPs such as stimulating each other's thoughts has been added accordingly.	5
4. Page 3, about the consequence of promiscuous behaviour: The authors answered my question regarding this sentence extensively, but this explanation is lacking in the manuscript. Please add this explanation.	We appreciate the reviewer's comment. The explanation regarding promiscuous behaviour has been added to the manuscript.	3
Page 4, regarding the two regions: The authors stated as an answer to my question that it was expected that results would differ in terms of the regions. Was there indeed a difference in the results based on the regions? I am also missing the explanation regarding the difference between the two regions in terms of traditions and culture. This explains why you chose to include two facilities of two different regions and should thus be added in the manuscript.	Thank you. In terms of differences in results, our study did not explicitly establish that because of the qualitative approach used. Perhaps, a quantitative approach will be appropriate in determining the differences in the two regions. However, the differences in terms of culture and tradition in the two regions has been added to the manuscript	4
Page 10, regarding the quote HCP-North-FGD 8: Why did you think that FGDs are appropriate for HCPs? In my opinion, HCPs shared quite personal matters (regarding their negative perceptions towards PWHB that may compromise	We appreciate the reviewer's comment. Perhaps, the advantages of FGD were considered broadly than the sensitive nature of the topic. Also, HCPs were surprisingly candid about their perceptions of PWHB and that the FGD context did not seem to inhibit	

their professional ethics). Furthermore, the quote “One HCP shared how she avoided a colleague after learning she had hepatitis B.” shows that they even talk about colleagues, which makes it a much more sensitive topic to discuss during FGDs.	participants in talking about behaviours that compromise their professional ethics. Nevertheless, this important suggestion by the reviewer will be taken into consideration in subsequent studies.	
The authors state that the underlying factors of certain beliefs are submitted as another manuscript elsewhere. Please describe this fact in the Discussion section.	Thank you for this comment. We feel that indicating that this study is part of a larger study on Hepatitis B stigma and that this article reports only on the findings pertaining to stigmatization and the beliefs underlying stigmatization of PWHB would fit better in the Methods section under Study Design. We hope the reviewer agrees.	16
Since the authors say that the perspectives of African migrant populations in Europe are missing, please study the articles of Hamdiui et al. As an example, the comparison made between HIV and HBV is also made in one of these articles.	Thank you. The claim has been revised and a study by the Hamdiui et al. which found an association between HBV and HIV in the Netherlands have been added to the manuscript.	15
Are there vaccination policies in place for HCPs, either during their education or career? If not, would the authors recommend something in this regard, rather than to increase health literacy? Why are efforts to increase health literacy recommended?	Thank you. We have added a statement on policy on vaccination for HCPs in Ghana and added recommendation in that regard. Specifically, we recommended development and implementation of a policy on HBV vaccination for HCPs that makes vaccination free for HCP, as this may increase HCPs confidence when caring for PWHB. Also, the statement on effort to increase health literacy of HCPs has been deleted.	16
Page 2, last line: Only intimate non-sexual contact is mentioned. Please also include sexual contact as possible HBV transmission route.	Thank you. Intimate sexual contact added as suggested by the reviewer.	2
Page 3, second paragraph: Why are mental illnesses mentioned as diseases with some risk of transmission?	Thank you for picking up this error. Indeed, mental illness is not transmittable. This was an oversight and has now been removed.	
Page 3, second paragraph: Please report the population among which ignorance about HBV routes of transmission is documented.	Thank you. The population was general population in China and this statement has been added to the manuscript.	3

Page 4, paragraph "Study Setting": HCPs are described to be in a better position to share experiences. Please clarify what you mean by a better position. Better than whom?	Thank you. We have revised the statement and it now reads "given that stigma is experienced by PWHB in clinical settings, including the perspectives of HCPs was considered important"	4
Page 7, quote HCP, North-FGD 21: This quote seems to illustrate one of the stigma manifestations (social isolation). Please move this quote to the section regarding social isolation.	We appreciate the reviewer's comment. The quote has been moved to the suggested section.	11
Page 8, paragraph about fear of infection: Authors state that fear of infection resulted in patients being neglected by some HCPs. Please move this to the section regarding stigma manifestations in health care settings.	We appreciate the reviewer's comment. The quote has been moved to the suggested section.	10
Page 9, first paragraph, last sentence: Extra context is given by stating "where tradition and culture are highly upheld". Please move this information to the Methods section.	Thank you. The statement has been moved to the methods section.	4
Page 12, quote PWHB, South-IDI 15: This quote seems to belong to the theme "Avoidance", since the participant is talking about people distancing themselves from PWHB. Please clarify.	Thank you. We agree with the reviewer's suggestion. Quotation has been moved to the theme "avoidance".	10
Page 13: Quotes are indicating both procedure avoidance and postponement. Please add "postponement" to the theme "Task-shifting and procedure avoidance".	Thank you. Revision done accordingly	Throughout the manuscript
Page 16, second paragraph: "In addition, PWHB should be counsel on the relevance of using either problem focused coping strategies such as seeking social support, affiliating with others with same disease and emotion-focused strategies such as religious coping and positive reappraisal as a way of building their resilience." What is your reasoning of counselling PWHB? Please clarify.	We appreciate the reviewer's comment. The reasoning behind our recommendation to provide counselling to PWHB on the various coping strategies is that encouraging the use of advantageous coping strategies builds their resilience when confronted with stigma. This section of the discussion has been revised and hopefully now better reflects our intention.	Page 16
Page 16, second paragraph: Stigma reduction interventions are stated. For whom do the authors recommend these interventions? Is there literature on the (positive) effects of such interventions? Please elaborate in the manuscript.	Thank You. The authors recommend the intervention for PWHB. A systematic review by Ma PHX, Chan ZCY, Loke AY.(2018) found these interventions to be effective in stigma reduction. Details added to the manuscript and reference added.	Page 16

Table 1: Summary of themes and sub-themes: This is repetition of what is extensively described in the Results section, thus it does not add any information. However, for the readability of this manuscript, underlying themes of the sub-themes should be identified. As an example, the belief that hepatitis B is incurable may be added as an underlying theme of the belief that hepatitis B is very severe. Please extend Table 1 and revise accordingly throughout the manuscript.	We appreciate the reviewer's comment. However, the table of themes and sub-themes were suggested by the first reviewer.	

VERSION 3 - REVIEW

REVIEWER	Nora Hamdiui National Coordination Centre for Communicable Disease Control, Centre for Infectious Disease Control, National Institute for Public Health and the Environment, Bilthoven, The Netherlands
REVIEW RETURNED	18-Mar-2019

GENERAL COMMENTS	Thank you for revising the manuscript as suggested. However, a few minor comments can be found below. 1. The English language is greatly improved, but unfortunately, a few small grammatical mistakes can be found in the following sentences: - Exploitation and domination occur when a group dominate or exploit another by virtue of their wealth, power, and high social status. - Further, given that HBV can be tranmitted through intimate sexual contact, the enforcement of social norms as a motivation for stigmatization could be particularly relevant in Ghana, where the majority of the population are Chritians and Muslims who disapprove of pre-marital sex. - In addition, a lack of knowledge about HBV routes of transmission has been found to also contributes to Hepatitis B stigma in other locales, such as China. - For example, Christians and Muslims recognise God as one who controls life events and one who has the power to deliver people from bad situations including illnesses. - Ensuring triangulation was imperative to understanding the Hepatitis B stigma comprehensively and to further validating information obtained from the participants. - One important observation that was made during the FGD was that the participant's built on the ideas of their colleagues which added some details to the data. - The interviews/FGDs were conducted mostly in the homes of those with chronic Hepatitis B (under trees) and the workplace of HCPs (nurses' stations and physician's consulting rooms). - The first transcribed data were coded by two of the authors (CAA and SS) followed by discussions on the individual codes, and, later, the categories and themes generated.

	- Patients and the public were not involved in the development of the research questions, the design, recruitment, and conduct of the study. - The study results will be shared with the participants and other relevant stakeholders through various social media handles, and conference presentations. - Another participants with chronic Hepatitis B also, reported avoidance by family as follows: - This study set out to explore beliefs contributing to Hepatitis B stigma, and the ways in which Hepatitis B stigma manifests, from the perspectives of people with chronic Hepatitis B as well healthcare providers in Northern and Southern Ghana. Furthermore: - Number 5 should be written in full. - The authors state FGD instead of FGDs several times in the Methods section. The same holds for interview instead of interviews (under Research Instrument in the Methods section). 2. Page 5, "One important observation that was made during the FGD was that the participant's built on the ideas of their colleagues which added some details to the data." The observation mentioned is a result and should not be mentioned in the Methods section. Please move to the Discussion section, as a strength of the study. 3. Page 5, "In fact, the use of the FGD for the HCPs stimulated each other's thoughts. " Stimulating each other's thoughts should be reported as the rationale of conducting FGDs, not as an observation. This observation can be moved to the Discussion section, as a strength of the study.

VERSION 3 – AUTHOR RESPONSE

Reviewer's Comment	Author's Response	Page number
Reviewer 2 The English language is greatly improved, but unfortunately, a few small grammatical mistakes can be found in the following sentences: - Exploitation and domination occur when a group dominate or exploit another by virtue of their wealth, power, and high social status. - Further, given that HBV can be tranmitted through intimate sexual contact, the enforcement of social norms as a motivation for stigmatization could be particularly relevant in Ghana, where the majority of the population are Chritians and Muslims who disapprove of pre-marital sex. - In addition, a lack of knowledge about HBV routes of transmission has been found to also contributes to Hepatitis B stigma in other locales, such as China.	We appreciate the reviewer's comment. All suggested changes made. Statement revised accordingly Correction done. The spelling of transmitted and Christians corrected.	3 3 3 4

- For example, Christians and Muslims recognise God as one who controls life events and one who has the power to deliver people from bad situations including illnesses. - Ensuring triangulation was imperative to understanding the Hepatitis B stigma comprehensively and to further validating information obtained from the participants. - One important observation that was made during the FGD was that the participant's built on the ideas of their colleagues which added some details to the data. - The interviews/FGDs were conducted mostly in the homes of those with chronic Hepatitis B (under trees) and the workplace of HCPs (nurses' stations and physician's consulting rooms). - The first transcribed data were coded by two of the authors (CAA and SS) followed by discussions on the individual codes, and, later, the categories and themes generated. - Patients and the public were not involved in the development of the research questions, the design, recruitment, and conduct of the study. - The study results will be shared with the participants and other relevant stakeholders through various social media handles, and conference presentations. - Another participants with chronic Hepatitis B also, reported avoidance by family as follows: - This study set out to explore beliefs contributing to Hepatitis B stigma, and the ways in which Hepatitis B stigma manifests, from the perspectives of people with chronic Hepatitis B as well healthcare providers in Northern and Southern Ghana.	Correction done. The word "contributes" changed to contribute Sentence revised Revision done Sentence revised and moved to the discussion section Revision done accordingly Revision done Revised accordingly Statement revised accordingly Correction done Correction done	4 17 5 6 6 6 10 14
Furthermore: - Number 5 should be written in full. - The authors state FGD instead of FGDs several times in the Methods section. The same holds for interview instead of interviews (under Research Instrument in the Methods section).	Revision done.	Throughout the manuscript

2. Page 5, "One important observation that was made during the FGD was that the participant's built on the ideas of their colleagues which added some details to the data." The observation mentioned is a result and should not be mentioned in the Methods section. Please move to the Discussion section, as a strength of the study. 3. Page 5, "In fact, the use of the FGD for the HCPs stimulated each other's thoughts. " Stimulating each other's thoughts should be reported as the rationale of conducting FGDs, not as an observation. This observation can be moved to the Discussion section, as a strength of the study.	Statement moved to the discussion section as a strength. Suggestion ensured accordingly	17 17