PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	KNOWLEDGE, ATTITUDE AND PREVALENCE OF HEPATITIS B VIRUS AMONG HEALTH CARE WORKERS: A CROSS-SECTIONAL HOSPITAL-BASED STUDY, BAMENDA HEALTH DISTRICT, NWR, CAMEROON.
AUTHORS	Akazong, Etheline; Tume, Christopher; Njouom, Richard; Ayong, Lawrence; Fondoh, Victor; Kuiate, Jules-Roger

VERSION 1 – REVIEW

REVIEWER	Jose Debes University of Minnesota USA
REVIEW RETURNED	14-May-2019

GENERAL COMMENTS	The authors assess HBV knowledge, attitudes, and prevalence among healthcare workers in a region of Cameroon. Several similar studies have been performed in Cameroon (Paul T, The Pan African Medical Journal, 2017; Noubiap et al. BMC Medical Education, 2018), but the addition of surface antigen testing adds to the value of the study allowing for informative analyses. This study has some notable findings such as the fact that those with higher knowledge of HBV had a higher incidence of the infection. It also re-affirmed findings noted across many countries that healthcare workers have low general knowledge of HBV and poor attitude towards HBV. However, I have some reservations regarding this study: -The manuscript needs to be proof read for grammatical and syntax errors because they are glaring and significantly detract the findings of the study. Furthermore, incorrect reporting of p-values from the table needs to be rectified (page 8, line 24) and abbreviations should not be used unless expanded at least once in the text. -Page 7, line 49: Based on current data, HBV may be found in saliva but kissing is not mode of transmission of HBV and this should be removed from the analysis entirely (Scott RM, J Infec Dis, 1980). This is a major concern as it suggests the authors are not familiar with the basic transmissions route of HBV. In the discussion this question can be added but with a clear message that this is not a risk. -Page 6, line 5: It is not clear to me why the study needed a pre-determined sample size since inferiority or superiority was not being determined. -In the “Methods” section, it would be useful to discuss how the surveys were distributed and collected (anonymously or while patient was waiting to get tested for HBV). -Page 6, line 53: In the section of attitude towards HBV, I am unclear on the aspects used to define overall good attitude towards HBV. For example, leaving the interpretation of “good attitude” or wears

	gloves “often” or needle stick injuries suffered “often” will create inconsistency among survey respondents. It would be helpful to include the actual survey in the appendix or supplement so it can be seen how patients were asked a question. Additionally, why is having 6 of the 7 responses correct deemed to be consistent with “overall good attitude”? -Page 9, line 42: Needs further discussion on why those with good knowledge of HBV had a higher incidence of infection. Other studies (Shao et al, BMC Infectious Diseases, 2018) that compared the two variables have not noted this finding as well. Can further analysis based on occupation, area of residence, or one of the other patient characteristics be performed that can explain that finding? -In Table IV, why do the percentages add up to less than 100%? Because out of 42 participants that are HBV positive, 79% should be female and not 12%. -In Table I, what is the difference between biomedical personnel and all other workers such as sanitary workers? -In Table IV, increasing age and occupation of lab technician appear to be correlated with a lower prevalence of HBV infection. Why do the authors suspect that to be the case? Most studies performed do not note this association (Massaquoi et al, PLOS ONE, 2018; Qin et al, BMC Infectious Diseases, 2018). This is not mentioned in the results or discussion.

REVIEWER	Asa Auta University of Central Lancashire, UK
REVIEW RETURNED	13-Jul-2019

GENERAL COMMENTS	Thank you for this important paper. The manuscript is to a large extent well-written. However, it would require some revisions for it to be publishable. It would be important for you to define in the methods what you mean by positive attitude towards HBV and safe hygiene as it was not clear from your manuscript what you were specifically referring to by these terms and how they were assessed. You will need to review the interpretation of your results and make sure they reflect the data you obtained. In addition, the discussion section of your manuscript should focus more on the implications of your results and the policy recommendations. I have made a number of comments on the manuscript which would be important for you to address in order to improve your paper.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1: Jose Debes		
12	The manuscript needs to be proof read for grammatical and syntax errors because they are glaring and significantly detract the findings of the study	The manuscript has been edited to the best of the ability of the authors.
13	Furthermore, incorrect reporting of p-values from the table needs	This has been rectified.

	to be rectified (page 8, line 24) and abbreviations should not be used unless expanded at least once in the text.	
14	- Page 7, line 49: Based on current data, HBV may be found in saliva but kissing is not mode of transmission of HBV and this should be removed from the analysis entirely (Scott RM, J Infec Dis, 1980). This is a major concern as it suggests the authors are not familiar with the basic transmissions route of HBV. In the discussion, this question can be added but with a clear message that this is not a risk.	Because HBsAg is found in all body fluids including saliva and can be transmitted via mucocutaneous exposure, it was assumed that HBV can be transmitted via the mouth (Zhevachevsky N, Nomokonova A. and Belov G, J. Med Virol, 2000). However, based on the article published by Scott RM in 1980, kissing has been removed as a route of HBV transmission.
15	Page 6, line 5: It is not clear to me why the study needed a pre-determined sample size since inferiority or superiority was not being determined.	A pre-determined sample size was important to determine the minimum number of participants to be recruited for the study.
16	In the “Methods” section, it would be useful to discuss how the surveys were distributed and collected (anonymously or while patient was waiting to get tested for HBV).	The questionnaire was filled in the presence of the researcher to prevent participants from discussing answers with their colleagues or getting answers online.
17	Page 6, line 53: In the section of attitude towards HBV, I am unclear on the aspects used to define overall good attitude towards HBV. For example, leaving the interpretation of “good attitude” or wears gloves “often” or needle stick injuries suffered “often” will create inconsistency among survey respondents. It would be helpful to include the actual survey in the appendix or supplement so it can be seen how patients were	The questionnaire has been uploaded as a supplementary document

	asked a question.	
18	Additionally, why is having 6 of the 7 responses correct deemed to be consistent with "overall good attitude"?	Having 6 of the 7 responses correct is deemed as having a positive attitude because HCWs are at the forefront of healthcare provision and should have appropriate knowledge and consequently attitude towards HBV for others to emulate.
19	Page 9, line 42: Needs further discussion on why those with good knowledge of HBV had a higher incidence of infection. Other studies (Shao et al, BMC Infectious Diseases, 2018) that compared the two variables have not noted this finding as well. Can further analysis based on occupation, area of residence, or one of the other patient characteristics be performed that can explain that finding?	Knowledge on HBV was higher among Medical doctors, living in an urban setting, who had worked for 2-4 years, had an MSc and were over 46 years old (Table IV).
20	In Table IV, why do the percentages add up to less than 100%? Because out of 42 participants that are HBV positive, 79% should be female and not 12%.	The percentages add up to less than 100% because it is the percentage in the group for example; 88 of the 126 male participants had adequate knowledge on the route of HBV transmission not in the group of those infected.
21	In Table I, what is the difference between biomedical personnel and all other workers such as sanitary workers?	The term 'biomedical personnel' was used to describe health care workers who had graduated from school and included sanitary workers.
22	In Table IV, increasing age and occupation of lab technician appear to be correlated with a lower prevalence of HBV infection. Why do the authors suspect that to be the case? Most studies performed do not note this association (Massaquoi et al, PLOS ONE, 2018; Qin et al, BMC Infectious Diseases, 2018). This is not mentioned in the results or	The prevalence of HBV positivity increased with age and was lowest in the (16-25) years age group in this study. This could be justified by the expanded immunization between 1990 to 2005, which led to a decrease in HBV infections in most regions particularly Central sub-Saharan Africa (Ott et al., 2012), Furthermore, most students were in the (16-25) year age group and thus had just started working in the health facilities. Massaquoi et al, PLOS ONE, 2018 did not talk about laboratory staff in their studies while Qin

	discussion.	et al, BMC Infectious Diseases, 2018 noticed a low prevalence of current infection among lab staff. This low prevalence might be because of the intense sensitization campaign on HIV, which has made laboratory staffs, who constantly work with body fluids such as blood, even without adequate knowledge on HBV, to be more cautious and thus less likely to pick nosocomial infections when compared to other HCWs.
	Reviewer Name: Asa Auta	
23	Definition of positive attitude towards HBV and how it was assessed.	Attitude of the health care worker (HCW) was considered good when the HCW treated all patients the same patients while poor attitude was when the HCW treated HBV infected patients with reservation (discreet) and/or with pity.
24	Definition of safe hygiene and how it was assessed.	Safe hygiene was how frequently the HCW washed his or hands and/or used a disinfected. HCWs were considered to practice safe hygiene when the washed their hands and/or used a disinfectant often while HCWs who rarely or never washed their hands nor used a disinfectant were considered not to practise safe hygiene.
25	Review of the interpretation of your results and make sure they reflect the data you obtained.	This has been done.
26	The discussion section of your manuscript should focus more on the implications of your results and the policy recommendations.	This has been done to the best of our ability.