

Knowledge, Attitude, and Perception on Hepatitis B Vaccination Among Non-health Workers Attending Selected Health Facilities in Mbale City, Uganda

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Abstract: *Introduction:* Vaccination has for a long time been used for the prevention and control of communicable diseases among children and adults. For the vaccination to be effective in controlling the spread of communicable diseases a significant number of people must be vaccinated and immunized to achieve herd immunity. The success of a vaccination campaign and program depends on the communities' knowledge attitudes and perceptions on vaccines. Uganda is endemic for HBV disease with 10 national prevalence, and therefore needs to have a general community fully vaccinated to achieve herd immunity. The current study assessed the knowledge attitude and perceptions of the community on HBV vaccination. *Methods:* A cross-section study will be used by administering a questionnaire to all OPD clients who are above 18years at three selected health facilities in Mbale district. Data was analyzed using Stata SE/14. *Results:* Out of 1020 participants 51.86% (530) were males and 48.14% (492) were females, the majority were between 18-35 years and 35.49% had minimal tertiary level of education. 58.8% of respondents had moderate knowledge on HBV disease and vaccination. There was a generally good attitude and perceptions on HBV Vaccination however 62.23% (636) believed that the HBV vaccine was not effective. 29.68% (304) of respondents agreed that they would go for vaccination if given an opportunity 56.33% (579) preferred to get them vaccinated from government facilities and 75.53% (772) would recommend others to go for vaccination. *Conclusion:* More Education and sensitization on the use, availability, and safety of vaccines to the community is highly recommended to improve the knowledge and attitude; Opinion leaders should be given appropriate IEC materials on Vaccines; a study on the uptake of HBV vaccine and associated factors should be carried out.

Keywords: Knowledge, Attitude, Perception, Hepatitis B Vaccination

1. Introduction

Vaccination has for a long time been used for the prevention and control of communicable diseases among both children and adults. For the vaccination to be effective in controlling the spread of communicable diseases 90% of the community must be vaccinated to achieve herd immunity.

The success of vaccination programs and campaigns depends on the communities' knowledge attitudes and perceptions of vaccines. Hepatitis B is one of the communicable diseases whose prevalence is on the rise in both developed and developing countries.

Hepatitis is a general term that refers to inflammation of

the liver. It is caused by both infectious (viral, bacterial fungal and parasitic organism) and non-infectious (alcohol, drugs, autoimmune disease, and metabolic diseases) causes. Viral hepatitis (A, B and C) can lead to acute disease with nausea, headache abdominal pain, fatigue, malaise, pharyngitis and later jaundice, liver tenderness and enlargement pus dark urine accounting for more than 50% of cases in the developed countries and hepatitis B and C Virus being the leading cause of liver cirrhosis and liver carcinoma [1, 2]. Chronic hepatitis carriers can remain infectious and may transmit the disease for many years [3].

HBV infection can resolve within less than 6months when the Hepatitis B surface Antigens have disappeared from the

serum (Acute) or they can persist beyond 6 months (chronic) [4–6]. Chronic HBV infection is found in 90% of those who got infected in the early childhood than 5 to 19% in those who got it as adulthood and are both at risk of developing liver cirrhosis and hepatocellular carcinoma later in life. HBV is usually transmitted sexually, parentally through the use of intravenous drugs during birth from chronically infected mothers, mixing of blood or other body fluids with the infected person.

Two billion people worldwide are exposed to Hepatitis B Virus (HBV) with 350 million having chronic HBV infection of these 65 million are in Sub Saharan Africa. Uganda is highly endemic with 10% national prevalence. These rates vary across the country from 4% in the southwest to 25% in the northeast. [7]. According to the MoH report 2018 from Uganda Blood Transfusion Services, (UBTS), it indicated that the trend of Hepatitis B virus among blood donors had increased from 1.9% in 2012/13 to 2.3% in 2016/17. The highest rates being registered in Arua (4.98%) and 4.21% in Mbale. [8]

Mbale district is one of the districts in Eastern Uganda with people of many Ethnic, cultural social religious, and economic backgrounds with their famous cultural and traditional Circumcision known as Imbalu that does employ safe medical practices which puts members of the community at risk of acquiring blood-borne diseases including HBV infection. [9] Hepatitis B vaccination remains the main way of prevention and protection against HBV, many studies have documented efforts that have been put in place to immunize health workers, medical and nursing students as well as other risk groups like intravenous drug users, with no documented studies of the same among non-health workers.

In this study, we, therefore, Studied Knowledge, Attitude, and perception of Hepatitis B vaccination among non-health workers attending selected Health facilities in Mbale City".

2. Literature Review

Two billion people worldwide are exposed to Hepatitis B Virus (HBV) with 350 million having chronic HBV infection of these 65 million being in Sub Saharan African and Uganda being highly endemic with 10% national prevalence. These rates vary across the country from 4% in the southwest to 25% in the northeast [7, 8] According to the MoH report 2018 from Uganda Blood Transfusion Services, (UBTS), it indicated that the trend of Hepatitis B virus among blood donors had increased from 1.9% in 2012/13 to 2.3% in 2016/17. The highest rates being registered in Arua (4.98%) and 4.21% in Mbale. [8]

Vaccination remains the main way of prevention and protection against HBV infection. These vaccines work by stimulating an immune reaction in the body by introducing the HBsAg which stimulates the innate immune system to protect the body against HBV [10] The USA, CDC, and Advisory committee on immunization practices (ACIP) recommended hepatitis B protection among health care

personnel and all other people who are at risk of getting infected as well as post-exposure prophylaxis. [10, 11] A study at a national hospital in Tanzania revealed that 56.9% of the health care workers had received at least one dose of HBV vaccination and only 33.6% were fully vaccinated. [12] Similar studies done in Ethiopia showed that 28.7% had received a full course of vaccination. [13] Another study done at Makerere University College of health sciences found that only 44.3% had received full doses of hepatitis B vaccination and all the rest 55.7 had not. [14]

Among the reasons for not being vaccinated included among others cost of the vaccines little knowledge and poor attitude on vaccination, age, marital status, level of education, and the type of profession [14]. There's no single study that has been done to assess the knowledge and attitude of non-health workers on hepatitis B Vaccination.

3. Problem Statement

Hepatitis B virus infection is one of the leading global communicable diseases affecting people from both developed and non-developed countries and the leading causes of liver cirrhosis and hepatocellular carcinoma. Its spread and transmissions can be controlled by massive vaccination of the populations at risk, efforts to have all health care providers have been undertaken in many countries, however not all health care providers have been fully vaccinated according to some studies.

Several factors including lack of affordable vaccines, being busy, negative attitude and beliefs on all vaccination programs, age, gender education level, and professional are some of the key factors responsible for low uptake of hepatitis B vaccination programs.

Health workers and non-health workers interact together at health facilities/ hospitals, in their homes, and the community. Mbale district was reported to have about 4.21% among the blood donors testing positive for Hepatitis B. [8] this together with other practices in the community including but not limited to the traditional non-medical circumcision also known as "Imbalu" and its strategic location along the high way that connects Kenya to South Sudan and the Democratic Republic of Congo through Uganda with high rates of commercial sex work puts this community at such a high rate spreading diseases like HBV infection [15]. Protecting such a community requires that 90% of such a community be vaccinated this includes both the health workers and non-health workers.

Before undertaking a program to vaccinate the non-health workers (community) understanding their knowledge, attitude and perceptions are very important in the planning and implementation process. There's no single study that has been done concerning knowledge attitude and perceptions of the non-health workers on HBV vaccination.

In this study, we shall assess the knowledge attitude and perception on hepatitis B vaccination among non-health workers in the Mbale district.

4. Justification of the Study

The High prevalence and endemicity of HBV infection in Uganda possess a great risk and threat to both health workers and non-health workers.

World Health Organization (WHO) guidelines for the prevention, care and treatment of hepatitis B infection recommend special consideration of healthcare workers and medical students for HBV screening and vaccination. However, these guidelines are not widely implemented in Low and Middle-Income Countries [16]. Including Uganda makes these countries have a higher prevalence of HBV infection.

Despite the high prevalence of hepatitis B, a very small proportion of the population has been vaccinated against HBV including both health workers and non-health workers. To protect the community against HBV there's a need to vaccinate both health workers and non-health workers which requires a proper understanding and of the knowledge attitude and perceptions of the vaccines among the non-health workers.

Results of our findings will help the ministry of health the district health facilities and village health teams to plan, organize health education materials, implement and evaluate the vaccination of the non-health workers (community) against HBV infection and other diseases including COVID-19 and Ebola virus disease.

5. Study Objectives

The main objective of the study was to establish Knowledge, Attitude, and perception on Hepatitis B vaccination among non-health workers attending selected Health facilities in Mbale City".

The specific objectives included among others.

To determine the knowledge of non-health workers on Hepatitis B Virus disease.

To Assess the Attitude of non-health workers on the Hepatitis B vaccine.

To determine the perception of non-health workers on Hepatitis B vaccination.

6. Methodology

6.1. Study Setting / Site

Mbale district is located in the eastern region of Uganda In east Africa, approximately 225km (140 miles) northeast of the capital Kampala [15, 17] According to the Uganda Bureau of statics, its population in 2019 is estimated to be 568,000 people, with 270,400 males and 298400 females. [15, 17] the main economic activity is agriculture, farming in coffee, beans, Matooke, onions among others. Mbale is also a commercial and administrative city situated along a highway that joins Kenya to the Democratic Republic of Congo and South Sudan through Uganda. The region has several health facilities including private, Private Not for Profit and public / government owned and a referral hospital with a bed capacity

of about 400 beds.

Islamic University in Uganda health center (IUIU HC) is a PNFP owned by the university but serving clients in the surrounding areas of Nkoma in the Northern division of Mbale city Buyonjo, Bujoloto Wagagayi, and Wanambwa Villages. It has both inpatients and out patients' departments receiving on average about 16,425 patients a year about 45 patients a day. [18–20]

Nankuusi Health center is a government-owned health facility located in Mbiko village Aisa Parish Namanyonyi Sub County. In Mbale District. It receives about 8,395 patients a year equivalent to 23 patients each day. [21]

6.2. Study Population

Our study population included all non-health workers adult males and females who were above 18 years of age attending outpatient departments at IUIU HC, Budwaale, and Nankuusi health centers who consented to participate in the study.

6.3. Study Design

Across sectional study was conducted between June 2020 and April 2021 and data was collected administering a well-structured Questionnaire to non-health workers (clients) attending Out-Patients Department (OPD) at IUIU, Nankuusi, and Budwaale Health centers.

6.4. Inclusion and Exclusion Criteria

All adult non-Health workers (clients) attending OPD who consented to participate in the study were included in the study.

All children (clients) below 16 years of age were excluded from the study because the government of Uganda included hepatitis B vaccination as part of the routine vaccination for children below one year of age for the last 16 years.

6.5. Sample Size Determination

The sample size for this study was calculated using Kish Leslie (1964) formula for a single proportion.

$$N = \frac{Z^2 PQ}{\delta^2}$$

Where N is the sample size that we are looking for.

Z is the standard normal deviation at 95% confidence equal to 1.96

P is the estimated prevalence of the study, for our case we used 50%

Q is 100% - P which will be equal to 100-50 equal to 50%

δ is our maximum acceptable error and was taken as 0.05

6.6. Sampling Procedure

Participants were selected by systematic sampling at various Health facilities in Mbale City.

6.7. Data Collection Procedure and Tool

A well-structured questionnaire was pre-tested by

administering it to 20 OPD clients at IUIU health center and issues raised were considered and corrected.

Research Assistants that included health workers (nurses, midwives' clinicians, and medical record officers) at IUIU HC, Nankuusi, and Budwaale Health centers were inducted and trained on administering the questionnaire including reading and interpreting it into the local language and these were made to collect the quantitative data.

6.8. Variables

The dependent variable in this study was knowledge of non-health workers towards Hepatitis B vaccination and independent variables included; - demographic factors like age, education status, religion, attitude and perception non health workers towards Hepatitis B Vaccination.

6.9. Ethical Consideration

Permission to conduct this study was sought from Islamic University in Uganda Research Ethical Committee and National Council of Science and Technology.

All participants were made to sign an informed consent after fully understanding the details of the research project.

Confidentiality of participant information was ensured by use of unique identifiers for study participants and completed questionnaires and all documents with participant information were stored in a lockable cabinet

6.10. Data Analysis

Data cleaning and validation were done and entered into excel sheet and analysis was performed using Stata / SE 14.0.

All Socio-demographic study variables were described by percentage, mean, and standard deviation. Associations between dependent and independent variables were established by chi square and their respective P values were obtained. All results were tabulated and displayed.

7. Results

7.1. Social Demographic Findings

Data from 1020 Participants were collected of whom 51.86% (530) were Males and 48.14% (492) were females, Majority of the respondents were between the ages of 16 to 35 years that is 38.55% (394) were between the ages of 16-25 years and 29.75% (304) between the ages of 26-35years. A fair percentage of 35.49% (362) and 32.75% (334) had a Minimum level of Tertiary level and secondary level Education respectively. 33.14% (338) were farmers 26.37% (269) were Businessmen and women and 18.24% (186) were in formal employment 49.51% (504) of the respondents were single and 48.04% (489) were married. The summary is as shown in table 1 below:

Table 1. Socio-demographic characteristics of study respondents.

Variable	Frequency n=1020	Percentage (%)
Age		
18-25 years	394	38.55
26-35 years	304	29.75
36-45 years	202	19.77
46-55 years	82	8.02
56 and above	40	3.91
Education		
1 None	96	9.41
2 Primary Education	228	22.35
3 Secondary Education	334	32.75
4 Tertiary Education	362	35.49
Gender/Sex		
1 Male	530	51.86
2 Female	492	48.14
Income		
1 Farming	338	33.14
2 Business	269	26.37
3 Employed	186	18.24
4 Others	227	22.25
Marital status		
0 Did not Mention	1	0.10
1 Single	504	49.51
2 Married	489	48.04
3 Others	24	2.36
Religion		
1 Muslim	592	57.93
2 Catholic	178	17.42
3 Anglican	142	13.89
4 Born Again	90	8.81
5 Others	20	1.96

7.2. Knowledge of Respondents on Hepatitis B Virus Disease

To assess the knowledge of respondents on HBV Disease, four Questions were asked concerning the causes of HBV disease, the HBV signs, and symptoms. The mode of spread and transmission of HBV disease. Correct and wrong answers were given in a multi-choice Question (MCQs) approach and the respondents were expected to circle or select their best choices of correct answers the proportions of those who got the correct and wrong answers out of the total

for each question were determined. 57.76% (588) answered correctly about the causes of HBV, 52.35% (534) about the signs and symptoms, 64.94% (652) about the mode of spread and transmission of HBV disease, and 60.16% (610) about the risk factors of HBV disease. There was overall moderate knowledge about Hepatitis B Virus disease with an average number of respondents (58.8%) of respondents answering the four knowledge questions correctly. The details are as shown in table 2 below:

Table 2. Knowledge of study respondents towards Hepatitis B disease.

		% Of Correct Answers	% Of Wrong Answers
A1. (What is the Cause of hepatitis B disease)	FREQUENCY n=1,018		
A virus	188		
Hepatitis B virus	400		
Hepatitis B Bacteria	214	57.76% (588)	42.24% (430)
Human Immune Virus (HIV)	152		
I don't know	64		
A2. which of the following are signs and symptoms of Hepatitis B infection	Freq n=1,020		
Headache Fever vomiting and general malaise	122		
Jaundice / yellow eyes, abdominal pain, enlargement of the liver	412		
Cough flue respiratory distress and difficulty in breathing	216	52.35% (534)	47.65% (486)
Mental disorientation, confusion and convulsions	188		
I don't know	82		
A3. Hepatitis B Virus diseases can be spread/transmitted through the following means:	Freq n=1,004		
1. Blood, blood products, Needles, and sharps	210		
2. Sexual intercourse, Intravenous drug use, and other body fluids	442		
3. Can be spread by mosquitoes	254	64.94% (652)	35.06% (352)
4. Faecal oral routes (contaminated food and water)	66		
5. Don't know	32		
A4. About the risk factors of Hepatitis B. The following groups are most at risk of contracting Hepatitis B than other groups	Freq n=1,014		
1. Health workers, medical and nursing students	238		
2. Commercial sex workers, intravenous drug users, people in remand homes	372		
3. Students and teachers/lecturers	312	60.16% (610)	39.84% (404)
4. Traders and worshipers in churches in churches or mosques	52		
5. I don't know	40		

7.3. Attitudes and Beliefs of the Respondents on Hepatitis B Vaccine

In Assessing the Attitudes on HBV disease and Vaccine, Participants were asked on whether they agreed or disagreed on the following questions including whether the participant believed that HBV Vaccine is Effective, whether it contains Harmful substances, whether the Vaccine is only for children

or it includes adults, and the results were as follows 62.23% (636) agreed that HBV vaccine was not Effective, 80.63% (824) Disagreed that one dose of HBV vaccine is enough implying that a person required 3 complete doses of HB Vaccine. 80.23% (820) disagreed with the fact that the HBV vaccine was only for children. Overall there was a good general attitude of respondents on HBV vaccines. The Details of Participants' responses are as shown in Table 3 below.

Table 3. Attitude and Beliefs of respondents on Hepatitis B Vaccines.

		% Of Those Whose Agree That The Vaccine Is Effective	% of those who disagreed that the vaccine was effective
B1. Hepatitis B vaccine is very effective	Freq n=1,022		
strongly agree	200		
Agree	436		
undecided	232	37.77% (386)	62.23% (636)
Disagree	118		
strongly disagree	36		
B2. Hepatitis B vaccine contains harmful substances which can be harmful to our bodies.	freq n=1,020	% those who agreed that the vaccine contains a harmful substance	% of those who disagreed that the vaccine contained harmful substances
strongly agree	82		
Agree	148	22.55% (230)	77.45% (790)
Undecided	226		

Disagree	342		
Strongly disagree	222		
B3. Only a single dose of the vaccine is enough and I don't need to get all the 3 doses.	Freq n=1,022	% of those who agreed that one dose of vaccine is enough	% those who disagreed that one dose of vaccine is not enough
strongly agree	74		
Agree	124		
Un decided	160	19.37 (198)	80.63% (824)
Disagree	338		
strongly disagree	326		
B4. Hepatitis B vaccine is only for children and adults should not be immunized.	Freq n=1,022	% of those who agree that HB Vaccine is for children only	% of those who disagree that HB vaccine is for children only
strongly agree	94		
Agree	108		
Un decided	142	19.77% (202)	80.23% (820)
Disagree	306		
strongly disagree	372		

7.4. Perceptions and Preferences of Respondents on Hepatitis B Vaccines and Vaccinations

In Assessing the respondents' perceptions and preferences on Hepatitis B vaccination several questions were asked in regards to whether the respondents agreed or disagreed, these included: the source of information, the presence of Side effects, the preference in where to receive the vaccines, and where to get it from and where respondents would recommend another person to get the vaccines and the findings were as follows: 71.12% (724) and 79.45 (812) Agreed that they got information about Hepatitis B vaccination from media (Radios Televisions and social media)

and community opinion leaders (religion, political and health workers) respectively. Only 22.4% (228) agreed that they have had persons who reported some side effects, A small percentage 29.68% (304) agreed they would go for vaccination if the vaccines were available 75.53% (772) agreed that they would advise colleagues to go for the vaccination. 24.85% (254) agreed that they would prefer getting the vaccines from private health facilities and 56.53% (579) from government health facilities 73.53% (750) agreed that they would trust the government in providing good quality vaccines. The summary of the findings is as shown in table 4 below:

Table 4. Perceptions and Preferences of Respondents on Hepatitis B Vaccines and Vaccinations.

C1. I heard information about hepatitis B and vaccination on TV, Radio, and social media	Freq n=	% those who agreed	% of those disagreed
strongly agree	254		
Agree	470		
undecided	146	71.12% (724)	28.88% (294)
Disagree	100		
strongly disagree	48		
C2. My community leader, Religious and health workers in my community encourage and support Hepatitis B Vaccination.	Freq n=	% of those who agreed	% of those who disagreed
strongly agree	296		
Agree	516		
Undecided	128	79.45% (812)	20.54% (210)
Disagree	50		
Strongly disagree	32		
C3. Has your child, relative or neighbour had a side effect of vaccination and that would stop you from going for Hepatitis B vaccination.	Freq n=	% of those who agree to have had side effects	% of those who disagreed to have had side effects
strongly agree	76		
Agree	152		
Un decided	166	22.4% (228)	77.61% (790)
Disagree	430		
strongly disagree	194		
C4. Do you trust your government to be providing good quality vaccines?	Freq n=	% of those who agreed to trust the government	% of those who disagreed to trust the government
strongly agree	354		
Agree	396		
Un decided	134	73.53% (750)	26.47% (270)
Disagree	76		
strongly disagree	60		
C5. I would prefer getting Hepatitis B vaccination from a private clinic, Hospital rather than a government /public hospital.	Freq n=	% of those who prefer getting the vaccine from private facilities	% of those who prefer getting their vaccine from government facilities
strongly agree	102	24.85% (254)	56.55% (579)

Agree	152		
Un decided	190		
Disagree	296		
strongly disagree	283		
C. 6 If vaccines against Hepatitis B were available, I would go for vaccination.		% who agreed that they would go for vaccination if availed	% those who disagreed that they would go for vaccination if they were availed
strongly agree	122		
Agree	182		
Un decided	146	29.68% (304)	70.31% (720)
Disagree	366		
strongly disagree	208		
C7. I would advise my family members, friends, and the community to go for Hepatitis B vaccination.		% of those who agreed that they would recommend another person to take the vaccine	% of those who disagreed that they would recommend another person
strongly agree	384		
Agree	388		
Un decided	138	75.53% (772)	24.47% (250)
Disagree	72		
strongly disagree	40		

8. Discussions

The study revealed an overall moderate knowledge (58.8%) about HBV disease from respondents. This was similar to a study done in Cameroon among rural communities where the overall knowledge of the general population regarding HB was moderate (57.9%) [27]. Similarly, other studies done in Ghana showed that 40.2% of pregnant women had good knowledge [22] whereas another study in Nigeria Tertiary hospital found 67% of the health workers with good knowledge on HBV infection [23] and good knowledge among operating Personnel in Nigeria [24]. However, the results are inconsistent with the findings from studies done in Ethiopia where poor knowledge (73.4%) about HBV was reported among pregnant women attending antenatal care at Gondar comprehensive specialized hospital [26]. In addition, in a cross-sectional study conducted in Pakistan revealed that only 24.6% of the participants were able to answer all the general knowledge-related questions correctly [28]. Similarly, a study conducted in Ghana in 2014 revealed that less than half of the participants (46.2%) knew about hepatitis B infection and its disease [13]. Moreover, a study conducted in the Buea Health District, Cameroon, in 2012 showed that <20% of the participants had the correct knowledge [15]. On the other hand, in a study conducted in Addis Ababa, Ethiopia, 39.2% of them had adequate knowledge about HBV [14]. Possible reasons that can be attributed to this difference of response are demographic variation of the study population, level of education, study location as well as the study tool used for data collection. Knowing HBV disease and Vaccination is important in ensuring that the vaccination campaigns and programs succeed, therefore there's a need to improve awareness and sensitization campaigns of HBV within communities.

Regarding Attitude, most respondents (62.23%) agreed that the HBV vaccine was not effective which showed a negative attitude towards HBV. This was in agreement to another study in Ghana which found a negative attitude on

HBV among nursing students [25]. The study revealed a good (positive) attitude in terms of who should get the vaccine and the number of doses similar to another study in Nepal that found a good attitude on hepatitis B vaccine among preclinical medical students [25]. In addition, a study conducted in Nigeria showed that 50% of study participants had positive attitude [22].

The study also revealed that a good number of respondents (56.53%) preferred getting the Vaccines from government health facilities as opposed to 24.85% who preferred private facilities, this was a good gesture as it was easier to implement, monitor and evaluate such vaccination programs in government facilities than private. However private facilities' efforts to supplement on government in implementing the same should be highly encouraged and supported. The study further revealed that a good number (75.53%) of respondents would recommend other people to go for vaccination which was in agreement with a similar study in a medical training school in Kenya [26]. This was a good impression and predictor for the acceptance and the Successfulness of a vaccination campaign not only in the prevention of HBV disease but also similar immunizable diseases like COVID-19, Ebola Virus Disease Yellow fever among others.

9. Conclusions

The moderate knowledge, the good attitude, and the perception of HBV infection and vaccination among the patients implied a good signal for uptake of the vaccination programs within the community. Proper channels of sending accurate information through the mass Media (including televisions and radios), as well as social media platforms like Facebook and WhatsApp, and opinion leaders, should be properly utilized in passing on health information for health promotion can help in consolidating the attitude and the perception on vaccination. Therefore, strategies should be made to avail such Opinion leaders (including political and religious leaders) with proper and accurate information,

education, and communication (IEC) materials. More sanitization and education of the community on the use, availability, and safety of vaccines is more needed to alleviate the general fears of the community on vaccines. A study to determine the uptake of HBV vaccination and associated factors within the community should be carried out.

Study Limitations

Initially, there was a challenge of fewer numbers of clients attending OPD as a result of the country's total lockdown and transport restrictions as a measure of preventing COVID-19, therefore, we had to extend the period.

Refusal of some participants to participate in the study. A non-response rate of 10% was considered for the study to cater for non-response.

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