Knowledge, Attitude and Practices towards Hepatitis B Vaccination among Patients aged 16-40 years Attending Buwasa Health Centre IV, Sironko District. A Cross-sectional Study.

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Abstract

Background:
The purpose of the study was to determine the knowledge, attitude, and practices towards hepatitis B vaccination among patients aged 16- 40 years attending Buwasa health center IV Sironko District.

Methodology:
The study involved a descriptive cross-sectional study design to address the specific objectives of the study, on a sample of sixty (60) respondents using a simple random technique as the sampling technique. A semi-structured questionnaire was designed and used as a data collection tool.

Results:
Regarding the practices, the majority (90%) of the respondents reported that they had ever been screened against hepatitis B infection, the majority (87%) of those who reported having been screened negative were initiated on vaccination, and more than half (59%) of them had completed the three doses, among the unvaccinated, the most (47%) frequently mentioned reason for non-vaccination was fear of side effects, more than half (55%) had ever been sensitized about the importance of hepatitis B vaccination.

Conclusion:
The knowledge of hepatitis B vaccination was poor since most of the respondents did not know the complete hepatitis B vaccination schedule, and the intervals between the doses; with a relatively good attitude and fair practices towards hepatitis B vaccination, and this consequently called for the need to raise patient's awareness about hepatitis B vaccination to improve on the knowledge, attitude, and practices towards hepatitis B vaccination.

Recommendation:
The researcher finally recommended that the government of Uganda through the ministry of health should supply adequate vaccine stock to the facility to ensure consistent availability of the vaccine.

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1 Background of the study

"Hepatitis" means inflammation of the liver (CDC, 2020). Hepatitis B is a viral infection that attacks the liver and can cause both acute and chronic liver disease (WHO, 2021). The virus is most commonly transmitted from the mother to the child during birth and delivery, as well as through contact with blood or other body fluids during sex with an in-

fected partner, unsafe injections, or exposure to infected sharp instruments (MoH, 2019).

WHO estimates that 296 million people were living with chronic HBV infection in 2019, with 1.5 million new infections each year. In 2019, hepatitis B resulted in an estimated 820,000 deaths, mostly from cirrhosis and hepatocellular cancer. Hepatitis B can be prevented by a vaccine that is safe and effective. Diagnosis is not possible on clinical grounds to differentiate hepatitis B from hepatitis caused by other viral agents, hence laboratory confirmation by detection of HBSAg is essential (WHO, 2019).

Worldwide, according to a cross-sectional survey carried out in China by Yuan (2019) to investigate the self-reported hepatitis B vaccination status among HCWs, results revealed that in a total of 3,104 Participants, 85.88% of respondents reported having received at least one dose of the vaccine. Sixty percent (60 %) reported having completed the 3 doses. Among those who had never received the vaccine, only 30% intended to be vaccinated. Conclusively, the complete hepatitis B vaccination rate among HCWs in China was low.

In developing countries, particularly in Africa, studies revealed inconsistencies in the completion of hepatitis B vaccination. According to studies carried out in Ethiopia by Akibu (2018) aimed to determine the attitude and vaccination status of HCWs against HBI, results showed a low prevalence of complete vaccination against hepatitis B virus (25.6 %). The most frequently mentioned reasons for not being vaccinated were the high cost of the vaccine (41%) and the unavailability of the vaccine (36%).

In Uganda, according to a cross-sectional study carried out by Naziru (2021) to determine the knowledge, attitude, and perception of hepatitis B vaccination among Non – health workers attending selected health facilities in Mbale city – Uganda, the results were that; 58.8% had moderate knowledge on HBV vaccination. There was a generally good attitude and perceptions on HBV vaccination. However, 62.23% believed that the HBV vaccine was not effective, 29.8% of the respondents agreed that they would go for vaccination if given an opportunity, and 56.33% preferred to get them vaccinated from public health facilities, and 75.53% would recommend others to go for vaccination. Conclusively, more education and sensitization on the use, availability, and safety of the vaccine to the community was highly recommended.

Research methodology

Study design

A descriptive cross-sectional study design was used in this study. This was because relevant information was collected from the participants at once, and no follow-up for a long period was needed.

Study area

The study was conducted at Buwasa health center IV, Sironko district, roughly two kilometers along Mbale-Budadiri road, southeast of Bugusege Town council headquarters. Buwasa health center IV is a public health facility, receiving approximately one thousand (1000) clients per month, with a well-organized immunization sector where vaccination of both children and adults is conducted. The facility is also equipped with a well-organized laboratory, with experienced lab technicians who assist in the screening of clients for HBV infection.

Study population

The study population consisted of all clients aged 16-40 years, attending Buwasa health center IV Sironko district, who consented to participate in the study freely. This was because such an age group was believed to be at a high risk of contracting the hepatitis B infection, due to unhealthy lifestyles; For example, having multiple sexual partners, intravenous drug abuse, and or unhygienic tattooing procedures.

Sample Size Determination

The sample was determined using the formulae below;

N =a2C/x2, where;

N = desired sample size,

a = standard normal deviation usually set at 1.96 which corresponded to a 96% confidence level, (CI)

c = probability that the researcher could get a certain number of patients, without any idea about hepatitis B vaccination; where 50% was considered to cater for that,

x = degree of accuracy, which ranged from 0.01-0.1.

Therefore; it was (1.96)2x0.5x0.5/ (0.09)2 = 118.57.

The target population would have been approximately 119 respondents, but due to financial and time constraints, 60 respondents were used.

Sampling technique

A simple random sampling technique was used in this study; as it gave an equal opportunity to all

the participants to be selected and this also helped to limit biases.

Sampling procedure

From the desired study population, the sample size was determined using simple random sampling, in which each possible sample was assigned an equal probability of selection.

Data collection method

The method of data collection involved administering self-administered questionnaires to the respondents, who were guided on how to fill the questionnaires, and then later the questionnaires were collected from the respondents.

Data collection tools

Structured self-administered and self-made questionnaires, with open-ended and closed-ended questions, were used in this study. This was because it was a more effective tool of data collection in comparison with other data collection tools since it saved time and catered to both literates and illiterates.

Data collection procedure

A letter of introduction to Buwasa health IV was received from the Kampala school of health sciences and taken to the health center. The researcher went ahead to seek permission from the in-charge to conduct the study, and when he has grunted the permission, he was assisted by trained research assistants to collect data using the valid questionnaires.

Study variables

"Knowledge, attitude, and practices" were the independent variables, "whereas hepatitis B vaccination" was the dependent variable.

Quality Control

This was ensured through the following:

Questionnaires were first pretested using students aged 16-40 years at Kampala school of health sciences to determine their validity, research assistants were adequately trained to assist the researcher during the process of data collection. The researcher then had to explain the research questions properly to the respondents and made sure that they understood the questions before answering them correctly. The inclusion criteria consisted of patients aged 16-40 years; both males and females attending Buwasa health center IV. The exclusion criteria included all clients below 16 years and above 40 years, plus all those who lie in the age bracket who were not willing to participate in the study.

To ensure adherence to the standard operating procedures (SOPS), the researcher worked tirelessly with other staff at the health center to sensitize clients about the existence of the pandemic, including its fatality rate, and advised them to always wear their masks and also made sure that they sanitized regularly.

Data Analysis and Presentation

Data were analyzed manually by use of tally sheets and a calculator, and then the data was presented in form of percentages, tables, bar graphs, and pie charts using the Microsoft excel program.

Ethical Consideration.

A consent form was filled out by the respondents before data collection, after a clear explanation of the purpose of the study to them. To ensure confidentiality, a private environment at the health facility was identified where all those who had met the inclusion criteria and were willing to participate in the study were interviewed. No respondent was forced to participate in this study supervisor.

Study findings

Social demographic characteristics of respondents

From the table above, most (25%) of the respondents were in the age groups of 26-30 years, and the least (16%) were from the age group of 16-20.

More than half (53%) of the respondents were females, whereas the least (47%) were males.

In addition, more than half (63%) of the respondents were Bagisu, whereas the least (5%) were from other tribes. For example, Baganda.

Half (50%) of the respondents were married, whereas the least (6%) were widowed.

Most (35%) of the respondents were protestants, whereas the least (13%) belonged to other religions; for example, born again and seventh-day Adventists.

Most (34%) of the respondents were students, (30%), whereas the least (8%) were health workers. Most (43%) of the respondents reported having reached high school, whereas the least (2%) never went to school.

Knowledge of respondents toward hepatitis B vaccination

From the figure above, the majority (85%) of the respondents claimed to be aware of hepatitis B vaccination, whereas the minority (15%) were not aware of hepatitis B vaccination.

From the figure above, most (38%) of the respondents reported having heard about hepatitis B vac-

Age (year)	Frequency (f)	Percentage (%)
16-20	10	16
21-25	12	20
26-30	15	25
31-35	12	20
36-40	11	19
Total	60	100
Sex		
Male	28	47
Female	32	53
Total	60	100
Tribe		
Gishu	38	63
Musoga	05	8
Mugwere	07	12
Muteso	07	12
Others	03	05
Total	60	100
Level of Education		
Primary	18	30
High school	26	43
Tertiary	15	25
Never went to school	01	02
Total	60	100
Religion		
Protestant	21	35
Catholic	15	25
Muslim	16	27
Others	08	13
Total	60	100

Figure 1. Shows the demographic data of respondents.

Table 1. Shows the demographic data of respondents.

Occupation		
Peasant	18	30
Civil Servant	07	12
Health worker	05	8
Student	20	34
Others	10	16
Total	60	100
Marital status		
Single	22	37
Married	30	50
Separated/Divorced	05	8
Widowed	03	6
Total	60	100

cination from health workers, whereas the least (8%) reported that they got the information from their spouses.

From the table above, most (42%) of the respondents did not know the complete hepatitis B vaccination schedule, whereas the least (23%) were not sure.

From the figure above, most (48%) of the respondents did not know the intervals between the doses, whereas the least (20%) were not sure.

Attitude towards hepatitis B vaccination

From the figure above, the majority (73%) of the respondents disagreed. However, a minority (27%) of the respondents agreed.

The majority (75%) of the respondents agreed whereas the minority (25%) did not agree.

From the table above, the majority (82%) of the respondents believed that the vaccine was effective, whereas the minority (18%) did not believe.

The majority (92%) believed that all health workers should take the hepatitis B vaccine, whereas the minority (8%) did not believe.

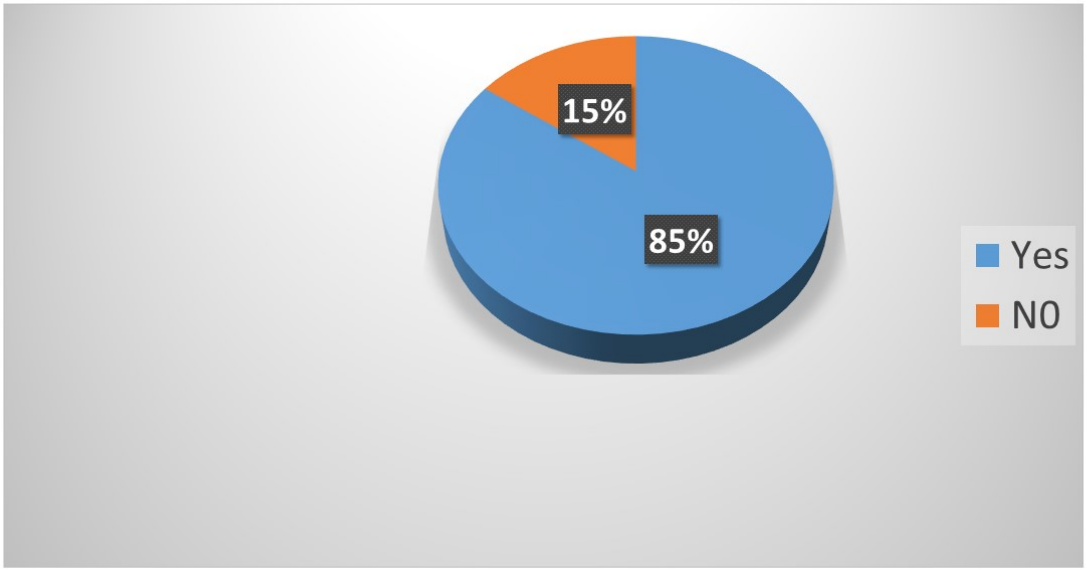

Figure 2. Shows the distribution of respondents according to the awareness about hepatitis B vaccination. (N = 60)

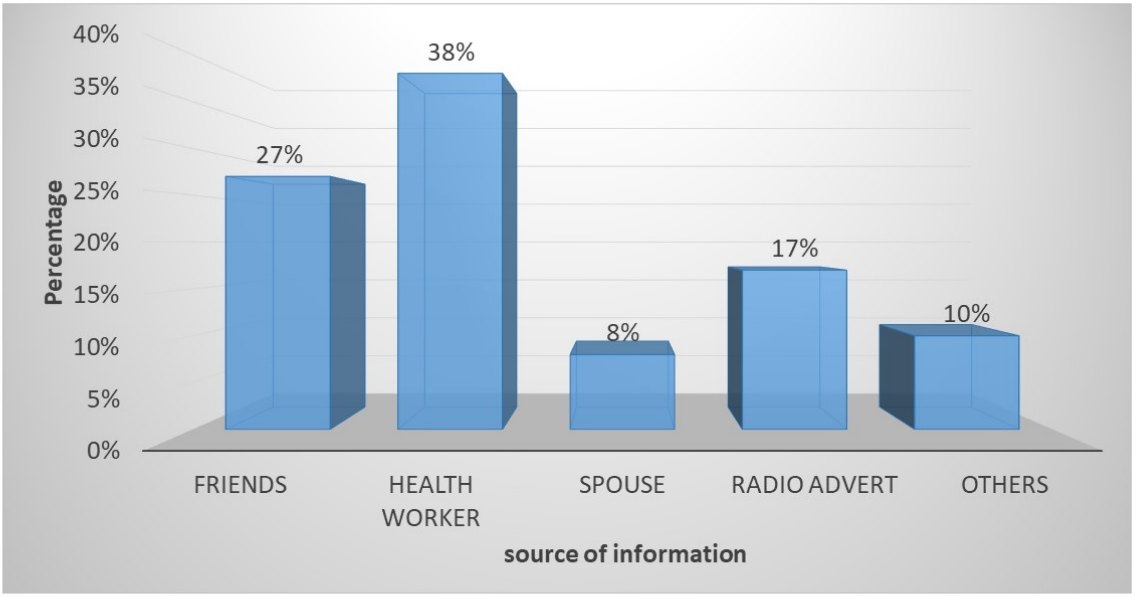

Figure 3. Shows the percentages of the respondents according to the source of information about hepatitis B vaccination. (N=60)

Table 2. Shows the distribution of the respondents according to the knowledge of the complete hepatitis B vaccination schedule (N = 60)

Parameter	Frequency (f)	Percentage (%)
No	25	42
Yes	21	35
Not sure	14	23
Total	60	100

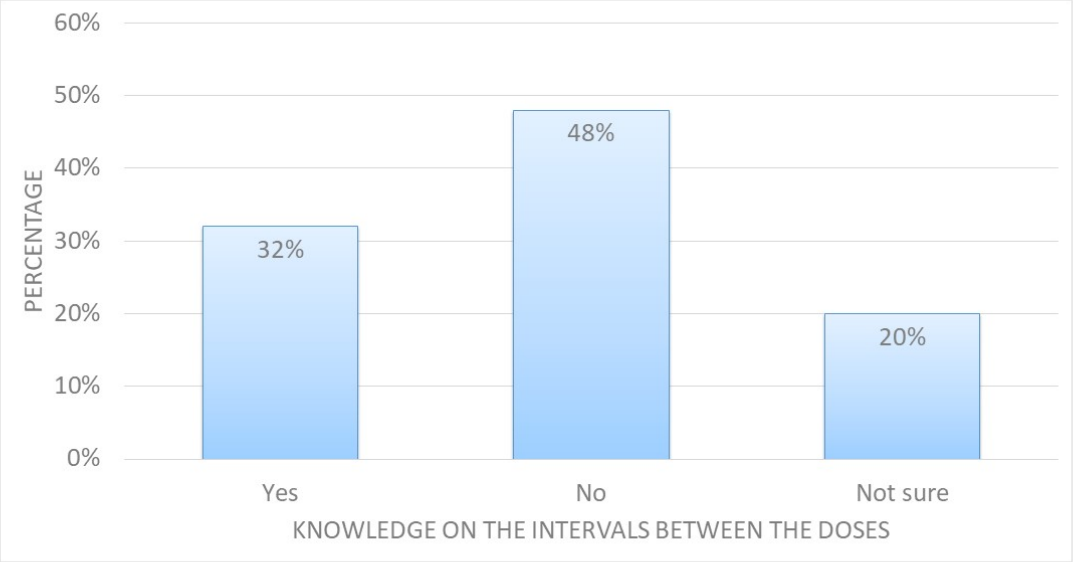

Figure 4. Shows the distribution of the respondents according to the knowledge of the intervals between the doses.

Table 3. Shows the distribution of respondents according to their views about going for vaccination if given an opportunity. (N=60)

View	Frequency (f)	Percentage (%)
Agreed	45	75
Disagreed	15	25
Total	60	100

Table 4. Shows the distribution of respondents, according to their views about recommending others to go for vaccination. (N=60).

View	Frequency (f)	Percentage (%)
Would recommend	54	90
Would not	6	10
Total	60	100

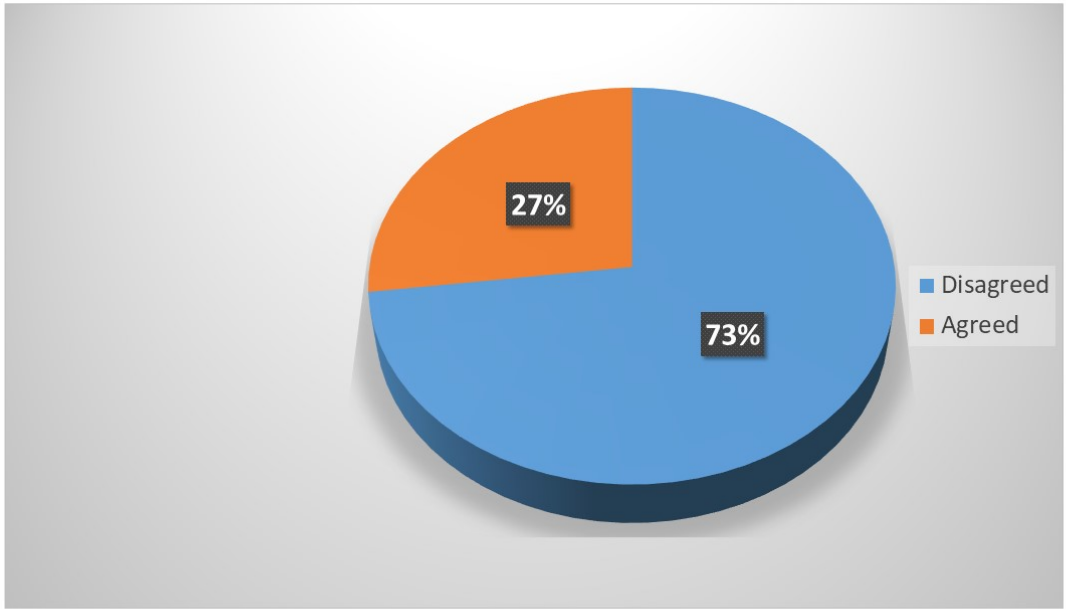

Chart 1. Shows the distribution of respondents according to whether they mistrusted the hepatitis B vaccine or not. (N = 60)

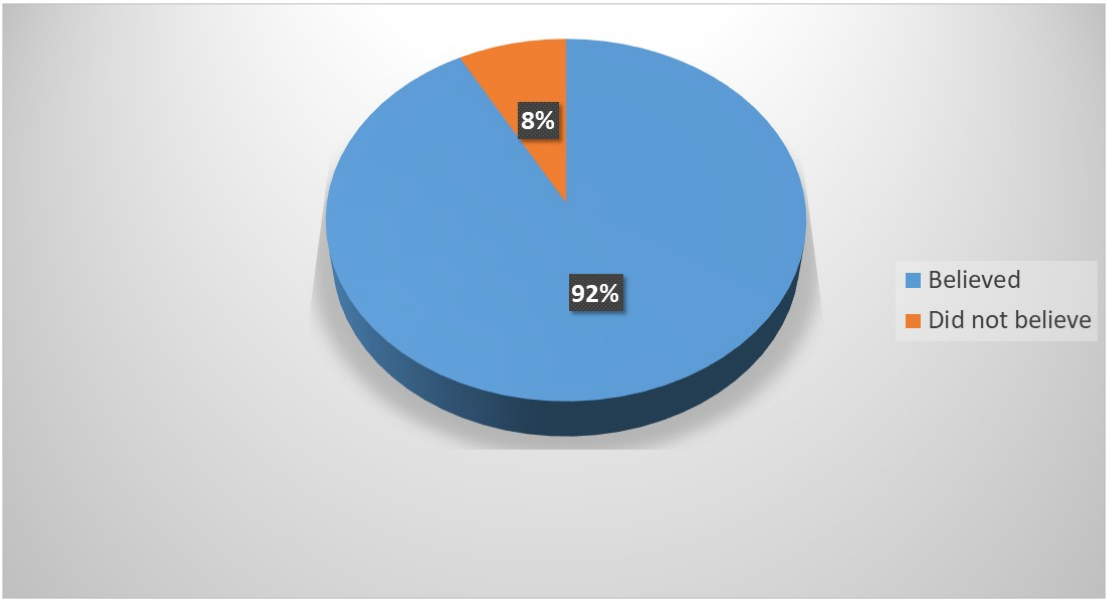

Figure 5. Shows the distribution of respondents according to their beliefs about health workers' reception of the hepatitis B vaccine. (N=60)

The majority (90%) would recommend others to go for vaccination, whereas the minority (10%) would not.

Practices toward hepatitis B vaccination

From the figure above, more than half (53%) of the respondents had ever been screened against hepatitis B infection, whereas the least (47%) had never been screened against hepatitis B infection.

From the table above, most (59%) of the respondents reported having received all three doses, whereas the least (19%) reported having received only one dose.

From the figure above, it shows that the most (60%) frequently reported reason for partial or no vaccination was fear of side effects, and the least (13%) reported was lack of opportunity.

Lastly under practices, when asked whether respondents had ever been sensitized about the importance of "hepatitis B vaccination", results revealed that slightly more than half (55%) had ever been sensitized, whereas the least (45%) had never been sensitized.

2 Discusions Recommedations, and Conclusion:

Discussion:

Knowledge of hepatitis B vaccination among patients aged 16 – 40 years.

From the study above, the majority (85%**)** of the respondents were aware of hepatitis B vaccination. This implies that the awareness of hepatitis B vaccination was relatively good, probably due to the availability of a well-organized immunization sector at the facility, whereby whenever caretakers take their children for immunization, they are also informed about the presence of this service. The study results were consistent with those from the study that was conducted by Habiba (2012), where (81.5%) of the respondents were aware of hepatitis B vaccination.

Regarding the source of information, most (38%) of the respondents received information about hepatitis B vaccination from health workers. This could be attributed to the health workers' efforts in planning and organizing health talks about hepatitis B infection and its prevention. For example health talks about getting vaccinated.

This study also revealed that most (42%) of the respondents did not know the complete hepatitis B vaccination schedule, and most (48%) of the respondents did not know the intervals between the doses. The irregularities in the knowledge of the complete hepatitis B vaccination schedule and the intervals between the doses were highly observed among those respondents who either had partial vaccination or who were not vaccinated at all. The study results were however contrary to the findings from a study carried out by Habiba (2012) in Kuwait, where more than half (65%) of the respondents knew the complete hepatitis B vaccination schedule and almost half (44.4%) knew the interval between the doses.

Attitude towards hepatitis B vaccination among patients aged 16 – 40 years.

The study results indicated that the majority (73%) of the respondents did not mistrust the hepatitis b vaccine. This showed that respondents had a relatively good attitude towards hepatitis B vaccination, though a relatively lower percentage of the respondents had not completed their three doses. The study results were contrary to the findings from a study that was carried out in France by Moround (2017), where results showed that (39%) of the vaccinated, and (28%) of those who were unvaccinated mistrusted the vaccine respectively.

The current study also revealed that the majority (75%) of the respondents would agree to go for vaccination when given an opportunity and the majority (82%) of the respondents believed that the vaccine was effective to protect them. This showed that there was a relatively good attitude towards hepatitis B vaccination, which was attributed to the fact that the majority of those who reported having been

screened negative for hepatitis B infection were initiated on vaccination, though a slightly smaller number had not completed their three doses.

The study results were however contrary to the findings from a study that was carried out in Uganda by Naziru (2021), where results showed that more than half (62.23%) of the respondents believed that the vaccine was not effective, with only (29.8%) who agreed to go for vaccination.

Furthermore, the study revealed that the majority (92%) of the respondents believed that all health workers should take the hepatitis B vaccine. This was highly strengthened by the perception that; health workers were at a high risk of contracting the hepatitis B infection. The study results were correlated with those from a study that was carried

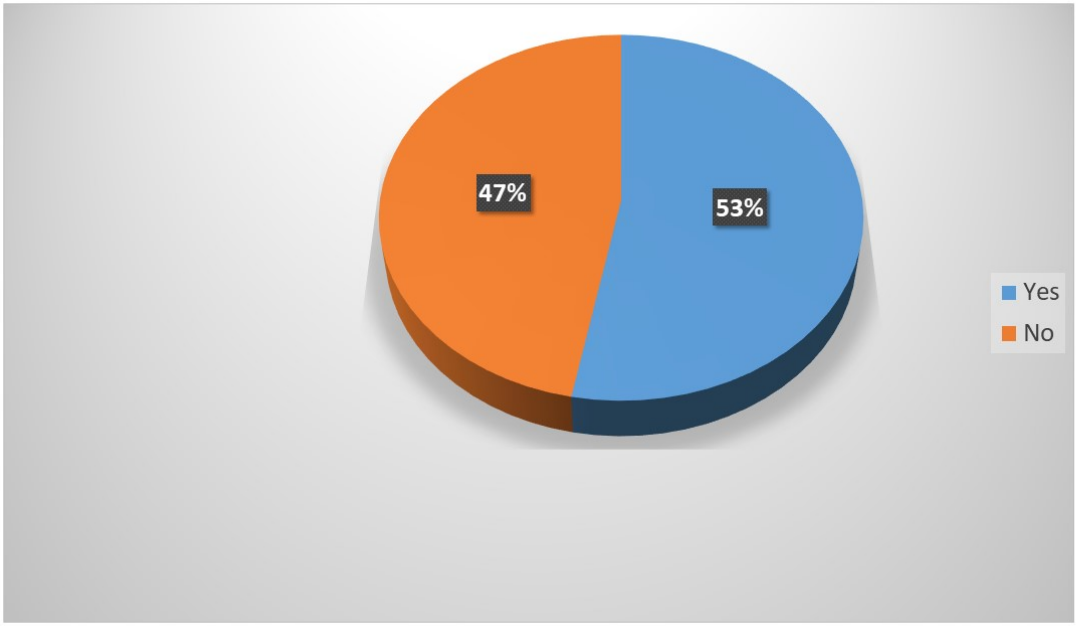

Figure 6. Shows the distribution of respondents according to the number screened against hepatitis B infection. (N =60)

Table 5. Shows the distribution of respondents according to the number of doses received. (N =27)

Number of doses	Frequency (f)	Percentage (%)
One	05	19
Two	06	22
Three	16	59
Total	27	100

Figure 7. Shows the distribution of respondents according to the frequently mentioned reasons for partial or not being vaccinated. (N = 60)

out in Northwest Ethiopia by Abdela (2016), where almost three-quarters (81.7%) of the respondents believed that all health workers should take the hepatitis B vaccine.

Practices towards Hepatitis B vaccination.

The study results revealed that more than half (53%) of the respondents had ever been screened against hepatitis B virus infection. This showed that the screening capacity was averagely below the desired. The study findings were inconsistent with the study that was conducted by Ssekamate (2020), where only three quarters (75.2%) of health care providers had ever been screened for HBV infection.

In regards to the total number of doses received, from a total of 27 respondents who claimed to be vaccinated, most (59%), reported full hepatitis B vaccination, 22% had received two doses, and 19% had received only one dose. These results indicated a fair turn up for the vaccination.

The study revealed that the most (47%) frequently mentioned reasons for partial, or no vaccination was; “fear of side effects” and the least (25%) was lack of opportunity. The fear for side effects was greatly noticed among those respon-

dents who had never been vaccinated, and it was usually a result of miss-conception from fellow villagers who had a poor attitude towards hepatitis B vaccination. This was contrary to the study that was conducted in Ethiopia by Ayalew (2017), where the most frequently mentioned reasons for not being vaccinated were; the unavailability of the vaccine (58.2%), and the high cost of the vaccine (18.5%) respectively.

Lastly, the study revealed that more than half (55%) of the respondents had ever been sensitized about the importance of hepatitis B vaccination, whereas the least (45%) were not sensitized. This was based on the fact that the highest percentage of the respondents was vaccinated. The study findings were relatively in correlation to the findings from the study that was carried out in Cameroon by Noubiap (2013), where 42.3% of the respondents were sensitized by their training institutions about the importance of hepatitis B vaccination.

Conclusion.

Based on the general results of the study, the researcher concluded that:

The overall results on the knowledge of hepatitis B vaccination among the respondents were poor, as shown by most (42%) and most (48%) who didn't know the complete hepatitis B vaccination schedule and the intervals between the doses respectively.

Regarding attitude towards hepatitis B vaccination, the majority (73%) of the respondents did not mistrust the hepatitis B vaccine. This was evidenced by the majority (75%) of the respondents who agreed to go for vaccination if given an opportunity. The majority (82%) of the respondents believed that all health workers should take the hepatitis B vaccine, which was based on the belief that health workers were at a high risk of contracting hepatitis B infection. The majority (90%) of the respondents recommended others go for vaccination. Generally, the attitude was good.

In regards to the practices towards hepatitis B vaccination, it was discovered that more than half (53%) of the respondents reported that they were screened against hepatitis B infection, while the minority (47%) were not screened, with more than half (59%) of them, who reported complete hepatitis B vaccination. However, 22% and 19% of the respondents reported that they had ever received only two and one doses respectively. More than half (55%) of the respondents reported that they had ever been sensitized to the importance of hepatitis B vaccination, whereas the least (45%) of the respondents reported that they had never been sensitized about the importance of vaccination. Conclusively, the practices towards hepatitis B vaccination were fair, with important gaps, especially among the non-vaccinated group that needed to be strengthened.

Recommendations.

Since most (48%) of the respondents had inadequate knowledge of hepatitis B vaccination, the ministry of health should plan and organize community health education, and radio and television health shows to raise the patient's awareness and knowledge of hepatitis B vaccination.

The health facility administration should sensitize the public about the importance of getting vaccinated to improve the patient's turn up for the service.

The government through the ministry of health should also supply adequate vaccines to the health facility, to ensure consistent availability of the vaccines; since the second reason for partial vaccination was the "unavailability of the vaccine".

Study Limitations and Possible solutions.

Time limitations did not allow the study to be conducted on a large number of participants. The researcher, therefore, ensured strict adherence to the drafted time frame.

Some participants could also have personal opinions which would influence the inaccurate filling of the questionnaires. To overcome this, the researcher ensured adequate psycho-education of the participants, and lastly, financial limitations were solved by operating within the estimated budget for the study.

3 Acknowledgement

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4 List of abbreviations/ accronyms

CDC: Centres for Disease Control and Prevention.

EPI: Expanded Program on Immunization.

HBSAg : Hepatitis B surface Antigen.

HBV: Hepatitis B Virus.

HBI: Hepatitis B Infection.

HCPS: Health Care Providers.

HCWs: Health Care Workers.

HDV: Hepatitis D Virus.

HIV: Human Immunodeficiency Virus.

HPs: Health Professionals.

KAP: Knowledge, Attitude, and Practices.

KSHS: Kampala School of Health Sciences.

PEP: Post Exposure Prophylaxisis.

SOPs: Standard Operating Procedures.

STIs: Sexually Transmitted Infection.

UAHEB: Uganda Allied Health Examination Board.

WHO: World Health Organization.

Definition of operational terms

ATTITUDE: Refers to someone's opinion and feelings towards something or a given situation.

IMMUNIZATION: This is defined as the process of making an individual immune, against the invasion of disease-causing organisms through vaccination.

KNOWLEDGE : This is defined as someone's awareness and in-depth understanding of facts, Information, skills, or descriptions.

PATIENT: Is a person who is either physically, or mentally ill; seeking for, or already under Health care.

PRACTICES: Refers to the methods, or procedures involved in carrying out a given task.

SYDEMIC: This is defined as the clustering of two or more disease epidemics, that interact With each other hence increasing the magnitude of each other.

VACCINATION : Refers to the act of introducing a vaccine into the individual's body to Produce resistance against disease.

VACCINE: Is defined as a substance used to stimulate the production of antibodies that provide immunity against one or several diseases, either prepared from the causative agent of the disease, its products, or a synthetic substitute treated to act as an antigen without inducing the disease.

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