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Overview of Hepatitis B Surface Antigen Examination Results in Health Analyst Study Program Students of STIKes Muhammadiyah Ciamis

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ABSTRACT

Background & Objective: Hepatitis B can also be called a liver infection caused by the Hepatitis B Virus (VHB). Health workers are at high risk of being infected with the Hepatitis B Virus, this is due to a lack of knowledge and skills such as the use of Personal Protective Equipment and not implementing health protocols which can cause exposure to the Hepatitis B Virus. This study aims to determine the description of the results of the Hepatitis B surface Antigen examination in Health Analyst Study Program Students of STIKes Muhammadiyah Ciamis.
Method: This study is a descriptive study with a purposive sampling technique conducted in May 2023. Respondents in this study were students of STIKes Muhammadiyah Ciamis as many as 38 respondents with measurements using the Sandwich method ELISA which then the results were processed manually and displayed in tabular format for narration.
Result: The results of the Hepatitis B Surface Antigen examination showed that all respondents were 100% negative for Hepatitis B.
Conclusion: The research that has been carried out, shows that all respondents, namely students of the Health Analyst Study Program at STIKes Muhammadiyah Ciamis, are not exposed to the Hepatitis B virus.

Keywords: Hepatitis B; HBsAg; HBV; Health Students; Hepatitis B Vaccine.

Introduction

Hepatitis is known as liver disease, or jaundice due to an inflammatory process in the liver (Papuangan, 2018). Pain in the lower abdomen and yellowing of the limbs, such as the whites of the eyes and yellow skin are the clinical symptoms of this infection. However, these clinical symptoms do not appear

immediately, even people who have Hepatitis B do not have any symptoms. Because it has the potential to cause liver cancer and even death, hepatitis B is a dangerous disease.

Based on data from the WHO (World Health Organization), 296 million people in the world are infected with the Hepatitis B Virus (Sheena et al., 2022). In 2017 Riskesdas data stated that 10 out of 100 Indonesians have contracted Hepatitis B with a prevalence of 7.2% of 18 million people. In Ciamis Regency, from the survey results of the Ciamis Regency Health Office from January to October 2022 there were 12,992 Hepatitis B patients (Harun et al., 2022).

Vaccination is required especially for people who are at risk of Hepatitis B disease transmission. Hepatitis B vaccine can also be stated to prevent transmission and incidence of liver cirrhosis and hepatocellular inflammation. The purpose of this vaccination is to prevent the spread of the virus and to improve liver function (Puspita & Gunawan, 2019).

Frequent transmission of the Hepatitis B Virus is due to needlesticks and other sharp medical instruments that have been contaminated with the blood of Hepatitis B patients. Lack of knowledge and skills such as the use of Personal Protective Equipment and not implementing health protocols can also cause exposure to the Hepatitis B Virus (Bastiangga & Hapsari, 2019).

Field Work Practice is one of the lessons for students to gain insight into becoming skilled and professional health workers. STIKes Muhammadiyah Ciamis students during Field Work Practices have the potential to be contaminated with the same hepatitis B virus as people who work in hospitals. The best way to prevent Hepatitis B contamination is by administering Vaccine Hepatitis B.

In a study conducted by Amalia & Sari (2020) on the Overview of HbsAg Results in 24 Cleaning Service officers at BCM Pelaihari Hospital, it was found that 7 people tested positive for Hepatitis B. Based on this background, the research team is interested in conducting HBsAg examinations on Health Analyst Students of STIKes Muhammadiyah Ciamis who have done Field Work Practices.

Objective

Based on the above background, this study aims to determine the description of the results of the Hepatitis B surface Antigen examination in Health Analyst Study Program Students of STIKes Muhammadiyah Ciamis who have carried out Field Work Practices.

Method

This research is a descriptive study with a purposive sampling technique. The research was conducted at the Immunoserology Laboratory of STIKes Muhammadiyah Ciamis in May 2023. Respondents in this study were STIKes Muhammadiyah Ciamis students who had carried out Field Work Practices (PKL) as many as 38 respondents. Measurements were made by the Sandwich ELISA method.

Results

The data used in this study were primary data from the HBsAg test results of 43 people. Five respondents did not participate in the examination because they were not willing. Data on the characteristics of the research subjects are presented in the following table 1.

Table 1 shows that there were fewer male subjects than female subjects. The age of 22 years is more than the age of 20 and 21 years.

TABLE 1 Characteristics of Research Subjects of STIKes Muhammadiyah Ciamis Students Who Have Performed Field Work Practices in 2023

Characteristics	Total	Frequency (%)
Gender:		
Male	9	23,6
Female	29	76,4
Age (Years):		
20	7	18,4
21	15	39,5
22	16	42,1
Total	**38**	**100**

TABLE 2 Quality Control Results of HbsAg Testing for Health Analyst Students of STIKes Muhammadiyah Ciamis

Quality Control	Results
OD Blanko	0,00
Positive Control	0,09
Negative Control	0,015

Based on table 2 that has been done, it shows that the Quality Control results are in. The results of this study OD Blanko 0.00 for Positive Control the result is 0.09 and for Negative Control the result is 0.015. The results of the Quality Control value in the Insert Kit for OD Blanko $\leqslant$ 0.08 for positive control $\geqslant$ 0.8 and negative control $\leqslant$ 0.1.

TABLE 3 Percentage of HBsAg Testing Results in Health Analyst Students of STIKes Muhammadiyah Ciamis

Hepatitis B *surface* Antigen	Sample Quantity	Percentage (%)
Positive	0	0
Negative	38	100
Total	**38**	**100%**

Based on Table 3 The results of the HBsAg examination with the ELISA method on 38 STIKes Muhammadiyah Ciamis students who have done Field Work Practices obtained 100% Negative results.

Discussion

A Hepatitis B surface Antigen (HBsAg) examination was conducted on 38 Health Analyst students of STIKes Muhammadiyah Ciamis and the results were 100% negative. These results are in line with research conducted by Wijayanti (2016) with the title Effectiveness of HbsAg Rapid Screening Test for Early Detection of Hepatitis B. This study has examined 20 samples of female students of the Kusuma Husada Surakarta Midwifery D-III Study Program and obtained 100% negative results.

Hepatitis B infection can survive outside the body for seven days, during this time the infection can still cause disease if it enters the body of someone who is not protected by antibodies (vaccines). Meanwhile, if the immune system is weak, it will be easier to contract the Hepatitis B Virus. The infection will survive because the immune system cannot fight it. (Sari & Rahmawati, 2022).

Hepatitis B virus is very easy to transmit, especially for students who do Field Work Practices. This is because the risk of contracting the Hepatitis B Virus in the work environment during Field Work Practices is higher. Hepatitis B examination methods can be done qualitatively using rapid tests and quantitatively using ELISA (Enzyme-linked immunosorbent assay) (Fristiani, 2017). ELISA has the advantage of being able to examine several samples at once, making it very suitable for examining a large number of samples. This method has been recognized and documented both in medicine and science.

Conclusion

Based on the results of the above research, it can be concluded that Health Analyst Students of STIKes Muhammadiyah Ciamis

who have conducted Field Work Practices activities show 100% of respondents are HBsAg negative. For further research, it is expected to conduct HBsAg examination on health workers who are very at risk of exposure to the Hepatitis B Virus.

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Conflict of Interest

There is no conflict of interest in this study.

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