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PREVALENCE OF HEPATITIS B AMONG PATIENTS AT INFECTIOUS DISEASES HOSPITAL IN KABUL- AFGHANISTAN

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Abstract

Background: Hepatitis B is a life-threatening illness that continues to pose a significant health challenge globally, particularly in third-world and low-income countries like Afghanistan, despite the availability of vaccines and treatments. This study aims to investigate the prevalence of hepatitis B among patients registered at the infectious disease hospital in Kabul.

Methods and materials: This is a descriptive cross-sectional study utilizing medical records of patients diagnosed with hepatitis B virus from March 2023 to September 2023 at a public infectious disease hospital in Kabul, Afghanistan.

Results: A total of (7,264) patients were registered at the hospital, with (217) diagnosed with hepatitis B virus, reflecting a prevalence of (2.9%). Among these (217) patients, the majority had chronic hepatitis B (63.6%), while (36.4%) had acute hepatitis B. Males constituted (50.7%) of the patients, and females accounted for (49.3%). Most patients were over 45 (44.2%) and married (82.9%). Additionally, 52.1% of the patients lived in provincial areas, compared to (47.9%) in the capital. A large majority (89.9%) reported no family history of hepatitis B, with only (10.1%) having such a history. Regarding economic status, (69.6%) of the patients were classified as having weak financial status, while (30.4%) were considered to have good economic status.

Conclusion: Most of the hepatitis B-positive patients were chronic cases, with a higher proportion of males compared to females. They were predominantly married, middle-aged, and came from low-economic backgrounds. Additionally, many had no family history of the disease, and they lived almost equally in provincial areas and the capital.

Additional research is necessary to determine the factors linked to hepatitis B virus infection and to enhance understanding of its prevention, especially among married individuals.

Keywords: Hepatitis-B, infectious disease, Afghanistan

1. Introduction

Hepatitis B is a virus that attacks the liver and can lead to both acute and chronic illness. It is most commonly spread from mother to child during childbirth in early childhood, or through contact with infected blood, sexual activity with an infected partner, unsafe injections, or exposure to contaminated instruments (1). According to the World Health Organization, approximately 254 million individuals were living with chronic hepatitis B infection in 2022, with 1.2 million new infections occurring annually (1). In 2022, hepatitis B caused around 1.1 million deaths, commonly due to cirrhosis and primary liver cancer (hepatocellular carcinoma) (1). Effective and safe vaccines are available to prevent hepatitis B (1). Afghanistan has the highest age-adjusted death rate due to hepatitis B virus (HBV), with 863 deaths or 0.37% of total deaths in 2020 (2).

Previous research has shown that the prevalence of HBV is relatively elevated within the general population, at 1.9% (3), blood donors (2.95%) (4), and injection drug users (4.4%) in Afghanistan (5). Additionally, Afghan refugees in Baluchistan, Pakistan, and Afghan immigrants in Iran have high rates of HBV infection (6) (3). Afghanistan has experienced continuous conflict over the last thirty years, leading to extensive displacement of its population and severe disruption of social networks and services. The nation faces challenges such as low education and literacy rates, inadequate health and social infrastructure, and porous borders (7). External displacement, particularly to neighboring countries like Iran and Pakistan, has contributed to a higher prevalence of hepatitis viruses among Afghan refugee populations outside of Afghanistan (8) (9). Still, viral hepatitis is a challenge here and needs further investigation, especially in

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crowded regions of the country. This study aims to investigate the prevalence of the hepatitis B virus among patients registered at the infectious disease hospital in Kabul.

2. Methods and materials:

2.1 Study design: This is a descriptive cross-sectional study conducted from March 2023 to September 2023 using medical records of patients from Infectious disease hospitals.

2.2 Study setting: Infectious disease hospital located in the center of Kabul city in Afghanistan which serves as a public, referral, and tertiary hospital for infectious disease treatment and diagnosis.

2.3 Study population and sample size: During that mentioned period of time 7264 patients registered and admitted to infectious disease hospitals among them 217 patients were diagnosed with hepatitis B virus(HBV) which were registered, hospitalized, and recorded for treatment, and for better results, all (217) cases of HBV included in the present study.

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Patients' records and files have information such as demographics, present illness, treatment plan, etc. We use only socio-demographics, family history of the disease, and final diagnosis for our analysis.

2.4 Statistical method: After collecting the data from the patient's files, entered and analyzed descriptively by the SPSS 26 program.

3. Results

The prevalence of hepatitis B virus of (217) diagnosed patients from (7264) registered patients at infectious disease hospitals from March 2023 to September 2023 is (2.9%).

Prevalence of HBV: 217/7264*100 = 2.9%.

Following is the descriptive analysis of 217 patients who were diagnosed with HBV:

The majority of patients were diagnosed with chronic hepatitis B (63.6%), while (36.4%) had acute hepatitis. Additionally, (89.9%) of the patients reported no family history of the hepatitis B virus, whereas only (10.1%) had a previous family history of the infection

	Number	Percentage
Hepatitis B		
Acute	79	36.4%
Chronic	138	63.6%
Total	217	100
Family history of the disease		
Non	195	89.9%
Yes	22	10.1%
Total	217	100

Table 1: Acute and chronic, family history of hepatitis B virus disease among diagnosed patients.

Based on the age categories of the patients, the largest group (44.2%) was over 45 years old, followed by those aged 15-25 years (18.9%), 25-35 years (18.4%), and 35-45 years (18.4%). The majority of patients were male (50.7%), with females making up 49.3%. Most patients were married (82.9%), while (17.1%) were single. Additionally, (52.1%) resided in provincial areas, compared to (47.9%) in the capital. Regarding economic status, (69.6%) of the patients were classified as having weak economic status, while (30.4%) had good economic status. This economic classification is based on information recorded by doctors in the patients' registration files.

	Number	Percentage
Age		
15-25years	41	18.9%
25-35years	40	18.4%
35-45years	40	18.4%
Over 45	96	44.2%
Total	217	100
Gender		
Male	110	50.7%
Female	107	49.3%
Total	217	100
Marital status		

Single	37	17.1%
Married	180	82.9%
Total	217	100%
Residence		
Capital	104	47.9%
Province	113	52.1%
Total	217	100
Economic status		
Weak	151	69.6%
Good	66	30.4%
Total	217	100

Table 2: Socio-demographic of diagnosed hepatitis B patients.

4. Discussion

The current study was conducted in a public referral infectious disease hospital in Kabul - Afghanistan and consists of 217 hepatitis B virus-diagnosed patients out of 7264 patients who were admitted and registered at infectious disease hospitals from March 2023 to September 2023. The prevalence of hepatitis B was (2. 9%) among admitted and registered patients. Among these (217) patients, the majority had chronic hepatitis B (63.6%), while (36.4%) had acute hepatitis B. Males constituted (50.7%) of the patients, and females accounted for (49.3%). Most patients were over 45 (44.2%) and married (82.9%). Additionally, 52.1% of the patients lived in provincial areas, compared to (47.9%) in the capital. A large majority (89.9%) reported no family history of hepatitis B, with only (10.1%) having such a history. Regarding economic status, (69.6%)of the patients were classified as having weak financial status, while (30.4%) were considered to have good economic status. A similar study conducted in Kabul in 2021 found that, among 106 HBsAg-positive patients, (39.7%) were in the 20-30 age group, with a higher infection rate among males compared to females, most of the patients were married (10). These findings are consistent with the current study regarding gender and marital status but differ slightly in that the current study identifies a higher prevalence of infection among older patients.

Furthermore, another study involving Afghan travelers to Iran required testing for HBV, HCV, and HIV before their trip. The prevalence of HBV was found to be (1.23%), with higher rates in males compared to females (11). These results align with the current study, which also shows a higher prevalence in males; however, the prevalence of (2.9%) is greater than that of the previous study. This difference may be attributed to the fact that the current prevalence is based solely on admitted patients rather than the general population, making direct comparisons less applicable. Additionally, a study in Pakistan indicated a higher rate of HBS positivity in males compared to females, particularly among the younger age group of 21-30 years (12). These results are consistent with the current study regarding gender; however, the present study found a greater prevalence of infection in individuals over 40 years old. Moreover, a study conducted in France found that individuals with low socioeconomic status and male gender were more likely to test HBS positive(13). These results are consistent with the current study, which also shows that most patients had weak economic status. It is important to note that the economic status in the present study is derived from the patients' registration files, as reported by the patients themselves and recorded by the attending physician. This may not fully capture their true economic status, but it provides a general estimation. The findings indicate that most patients were of low economic status and married, suggesting that economic status influences the spread of the disease and most of the low economic patients visited the public hospital compared to private one. Additionally, married individuals represent a significant risk of transmitting the infection to their partners and potentially to newborns.

The present study was conducted in a public hospital among admitted patients in Kabul, and its findings may not accurately represent the situation across the entire country.

5. Conclusion

Most of the hepatitis B-positive patients were chronic cases, with a higher proportion of males compared to females. They were predominantly married, middle-aged, and came from low economic backgrounds. Additionally, many had no family history of the disease, and they lived almost equally in provincial areas and the capital. Additional research is necessary to determine the factors linked to hepatitis B virus infection and to enhance understanding of its prevention, especially among married individuals.

Ethical consideration: This study is conducted anonymously and poses no risk of harm or identification to any patients. Permission has been obtained from the hospital director to extract data from hospital registers and records. It has been ethically approved by the research committees at Kabul University of Medical Sciences.

Conflict of interest: The authors declare no conflict of interest.

Authors' contributions: Conceptualization, manuscript writing, and correction of analysis were carried out by Abdulhafiz Rahmati. The final revision of the manuscript was performed by Ahmad Wali Ataye. Data collection and analysis were conducted by Abdul Qaher Jasoor. All authors contributed to the data analysis and reviewed and approved the manuscript.

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