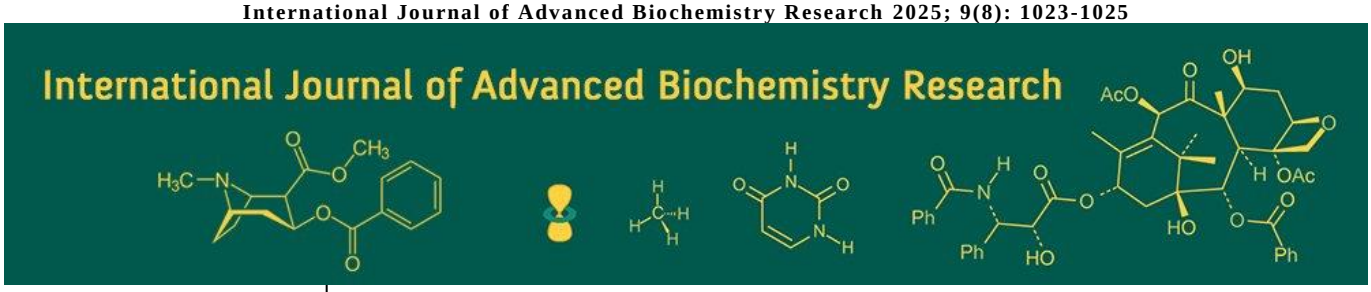

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Hepatitis B awareness among students: Gaps and challenges

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Abstract
Hepatitis B remains a significant public health challenge worldwide. University students represent a vulnerable population due to gaps in awareness, misconceptions about transmission, and insufficient vaccination coverage. This descriptive cross-sectional study aimed to assess the level of awareness among students at Al-Hadi University, Technical College, in Baghdad. A total of 110 students participated through an online questionnaire. Data was analyzed using SPSS version 21 with a significance level of $p \leq 0.05$.
The results revealed that although awareness was moderate, misconceptions about certain modes of transmission persisted. Notably, only about 60% reported receiving the hepatitis B vaccine. These findings indicate the need for targeted awareness programs, improved vaccination campaigns, and routine screening to prevent hepatitis B spread among university students.

Keywords: Hepatitis B, awareness, university students, vaccination, misconceptions, public health

Introduction
Hepatitis B virus (HBV) infection is a major cause of liver cirrhosis and hepatocellular carcinoma worldwide. According to WHO, approximately 296 million people live with chronic HBV infection, with 820, 000 annual deaths linked to HBV-related complications [1]. Despite the availability of a highly effective vaccine, gaps in knowledge and misconceptions persist in many developing countries. University students are a critical group to study because they may engage in behaviors that increase HBV risk, including lack of vaccination, risky practices, and limited knowledge of preventive measures.
Researchers have used various methods to detect hepatitis B virus, including nanotechnology. These technologies have contributed effectively and economically to the detection of various pathogens. Nanomaterials have improved the speed of diagnosis, early detection, and treatment of this common and dangerous disease [2].
Healthcare workers, including medical students, are most exposed to this disease during their practical studies and clinical training [3]. Therefore, our research aims to identify misconceptions regarding transmission routes, determine vaccination and screening status, compare findings with similar studies in other countries, and recommend actions for better awareness and infection control.

Methodology
This descriptive cross-sectional study was conducted among students at Al-Hadi University, Technical College, Baghdad, Iraq. Participants were both male and female students aged 18-50 years. A total of 110 respondents were selected through convenience sampling. An online structured questionnaire was distributed to collect data on demographics, awareness of HBV, vaccination status, and prevention practices.
Data was analyzed using SPSS version 21, adopting a significance level of $p \leq 0.05$. Ethical approval was secured, and informed consent was obtained. Privacy and confidentiality were maintained throughout the study.

Results

Table 1: Age Distribution

Age Group	Count	Percentage
20-15	25	22.7%
25-20	48	43.6%
30-25	17	15.5%
35-30	12	11%
40-35	8	7.2%

Table 2: Gender Distribution

Gender	Count	Percentage
Male	38	34.5%
Female	72	65.5%

Table 3: Sources of Information

Source	Count	Percentage
University	70	63.6%
Media	20	18.2%
Relatives	9	8.2%
Friends	8	7.3%

Table 4: Previously Infected Samples

Response	Count	Percentage
No	102	92.7%
Yes	8	7.3%

Table 5: Hepatitis B Vaccine Status

Response	Count	Percentage
Yes	67	60.9%
No	43	39.1%

Table 6: Awareness of Vaccine

Response	Count	Percentage
Yes	93	84.5%
No	17	15.5%

Table 7: Screening Test History

Response	Count	Percentage
Yes	15	13.6%
No	95	86.4%

Table 8: Knowledge of Prevention

Response	Count	Percentage
Yes	88	80%
No	22	20%

Table 9: Sexual Relations Transmission

Response	Count	Percentage
Yes	79	71.8%
No	31	28.2%

Table 10: Contaminated Needles Transmission

Response	Count	Percentage
Yes	96	87.3%
No	14	12.7%

Table 11: Mosquito Transmission

Response	Count	Percentage
Yes	55	50%
No	55	50%

Table 12: Hugging and Kissing Transmission

Response	Count	Percentage
Yes	49	45.5%
No	61	55.5%

Table 13: Shaving Tools Transmission

Response	Count	Percentage
Yes	96	87.3%
No	14	12.7%

Table 14: Mother-to-Fetus Transmission

Response	Count	Percentage
Yes	88	80%
No	22	20%

Discussion

The findings show moderate awareness levels among students at Al-Hadi University, Technical College, regarding hepatitis B transmission and prevention. While many students identified major transmission routes like sexual contact and contaminated needles correctly, misconceptions persist about mosquito bites and casual contact. These gaps align with findings from Sudan, where similar misconceptions were reported [4]. The vaccination rate (60.9%) is better than in some regional studies but still indicates that a significant proportion remains unprotected. Moreover, most students had never undergone HBV screening, which highlights the need for stronger institutional policies on regular testing. Comparatively, studies from Ghana show that university-level awareness programs can help reduce these misconceptions [5]. Cultural and educational differences must be addressed through context-specific interventions.

Conclusions

Although general awareness about hepatitis B among students is moderate, significant misconceptions remain about modes of transmission. The vaccination coverage is not yet optimal, and screening rates are very low. These gaps present a risk for ongoing transmission within the student community.

Recommendations

Implement regular awareness campaigns at the university level to clarify modes of HBV transmission.
Mandate hepatitis B vaccination for all new university enrollees.
Offer free or subsidized HBV screening for students.
Engage students as peer educators to extend knowledge beyond campus.
Collaborate with local health authorities to ensure barbershops and salons follow strict sterilization practices.

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