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Knowledge, Attitude and Practices regarding Hepatitis B infection among young adults of a university in an Urban city in South India

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Abstract: **Background:** Hepatitis B Virus (HBV) remains a significant global public health concern, with varying morbidity and mortality in India and other low and middle income countries (LMICs). Even with an effective vaccine for Hepatitis B virus infections, knowledge and practice gaps are common, particularly among young adults, who represent a critical part of the population for prevention strategies. Very limited number of studies from India has examined the knowledge, attitudes, and practices (KAP) of students regarding HBV in colleges and universities other than medical colleges. **Objectives:** To assess KAP regarding HBV among young adults enrolled in a university in urban South India, identify lacunae across KAP domains, and examine statistical correlations among these. **Methodology:** This descriptive cross-sectional study involved 148 university students aged 18–26 years, surveyed using a self-designed, expert-validated questionnaire. Data analysis was conducted with SPSS v18. Knowledge scores were classified as good (≥70%), average (50–69%), or poor (<50%) based on the percentage of correct answers. For relationship between KAP domain scores Pearson's correlation coefficient was used with $p < 0.05$ as significant. **Results:** Knowledge of HBV among the participants was generally poor to average. Only 24.3% identified all routes of transmission, 18.9% knew that HBV could be asymptomatic, and 27.7% knew the correct vaccination schedule. Only 53 participants (35.8%) reported being vaccinated against HBV, and 37.8% were unsure of their vaccination status. Attitudes were predominantly positive (>80% across all indicators). Correlation analysis showed strong association between knowledge and practice ($r = 0.654$, $p < 0.0001$), a moderate correlation between knowledge and attitude ($r = 0.422$, $p < 0.0001$), and a weak but significant correlation between attitude and practice ($r = 0.273$, $p = 0.0008$). **Conclusion:** Despite good responses for attitudes, there are gaps in knowledge and vaccination practices for HBV infection among young adults. The strong knowledge–practice correlation underscores the importance of health education among the groups. The implementation of university-led awareness and immunization initiatives is essential to advance India's objectives for viral hepatitis elimination by 2030.

Keywords: Hepatitis B; KAP survey; University students; Vaccination coverage; Preventive health; South India.

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INTRODUCTION

Hepatitis, defined as inflammation of the liver, may progress to permanent liver injury, cirrhosis, or death [1]. Of the five main hepatitis viruses (A–E), HBV and HCV cause most global illness and mortality. HBV results in acute and chronic infection, mainly causing long-term issues like cirrhosis and hepatocellular carcinoma. The WHO reports about 257 million people live with chronic hepatitis B, leading to roughly 887,000 deaths each year [2].

India carries 10–15% of the global burden of HBV carriers, with an estimated seroprevalence of 2–8% among the general population which indicates intermediate endemicity [3,4]. Data from India's National Centre for Disease Control (NCDC) in 2021 reported a national HBV seroprevalence of 0.95% (95% CI: 0.89–1.01), with higher rates among men (1.16%) than among women (0.75%), and a notable increase with advancing age, peaking in the 35–49-year age group. Seroprevalence in rural areas (1.03%) exceeded that of urban areas (0.81%), contrary to global trends [5].

The hepatitis B vaccine globally became available in 1991, but India integrated it into the Universal Immunization Programme (UIP) in 14 cities and 33 districts in 2002–2003 on a pilot basis, expanding to 10

states in 2007–2008, and then to nationwide coverage by the end of 2012 [6].

In 2016, the Global Health Sector Strategy (GHSS) on viral hepatitis (2016–2021) announced viral hepatitis as a global threat for public health and called for its elimination of 2030 [7]. Despite effective vaccines and antiviral therapies, HBV remains a major global health issue. WHO's 2024 report shows viral hepatitis deaths increased from 1.1 million in 2019 to 1.3 million in 2022, with HBV accounting for 83% [8]. Vaccination alone may not be sufficient but preventive strategies like health education of the population and behaviour changes to be adopted are also crucial.

The Knowledge–Attitude–Practice (KAP) framework systematically assesses health behaviours, suggesting that adequate knowledge leads to positive attitudes, which can drive appropriate actions. According to the Health Belief Model, factors like perceived risk, seriousness, benefits, and obstacles play a role in turning knowledge into action [9-10]. For organisms like hepatitis B virus (HBV) with a lot of prevalence, recognizing these elements is essential for creating effective interventions targeted at young adults.

Young adults (approximately 18–26 years) are at a critical transitional period characterized by the emergence of independent decision-making, often accompanied by high-risk behaviours and lack of contextual awareness [11]. University students, despite their educational background, remain vulnerable to risk behaviours and misinformation. Importantly, this demographic also presents a strategic window for intervention, as attitudes and behaviours remain modifiable.

In the Indian context, few published reports have studied and addressed HBV-related KAP among non-medical university students. The current study was therefore undertaken to assess the knowledge, attitudes, and practices regarding HBV infection and vaccines among these young adults enrolled in a university in an urban city in South India.

Aims and Objectives

1. To assess KAP regarding Hepatitis B Virus (HBV) among young adults.
2. To identify lacunae in the KAP regarding HBV among the study participants.
3. To determine the statistical correlations between KAP scores among the participants.

MATERIALS AND METHODS

Study Design and Setting – A descriptive cross-sectional study, conducted among undergraduate and postgraduate students enrolled at a university in an urban setting in South India.

Study period – The study period was from May 2025 to June 2025.

Ethical Considerations – The study was approved by the Institutional Review Board and Ethics Committee (IEC) of our institution. Participation was voluntary and consent was obtained prior to administering the questionnaire.

Sample Size Estimation – The sample size was calculated using Cochran's formula for cross-sectional studies: $n = Z^2pq / d^2$, where Z = 1.96 – for 95% confidence interval, p = 0.50 (assumed prevalence of adequate knowledge), q = 1 – p, and d = 0.08 (margin of error). The minimum sample size was calculated to be 150.

A total of 148 participants were enrolled, representing a 98.7% achievement of the target sample size.

Sampling Technique – A convenience sampling method was employed to select students from various colleges of science, arts, engineering, and law who were present and willing to participate during the study period were approached to enrol.

Inclusion criteria – Students aged 18–26 years, currently enrolled in undergraduate or postgraduate programs at the university, who had provided informed consent.

Exclusion criteria – Students enrolled in medical, dental, nursing, or allied health science programs (due to their exposure to HBV education as part of their curriculum); students with a known prior diagnosis of HBV infection; and those who declined to participate or submitted incomplete questionnaire.

Study Instrument – A pre-validated questionnaire, adapted from existing KAP instruments on HBV, was used with minor modifications for the target population [12,15]. It consisted of 23 items in four sections: I – Sociodemographic data (6 items); II – HBV knowledge (8 items on causes, transmission, symptoms, complications, vaccination); III – Attitudes toward HBV and patients (4 items); IV – HBV prevention practices (5 items). Content and construct validity was established through a review by a panel of subject-matter experts. A pilot study was conducted among 20 students (not included in the final analysis) to assess comprehension and feasibility, and modifications were made as necessary after inputs from the panel.

Scoring and Classification – Each correct knowledge answer earned one point. For attitude and practice, points were given for responses matching recommended health behaviours. Results were classified as Good (≥70%), Average/Fair (50–69%), or Poor (<50%) based on the percentage of correct or positive responses.

Statistical Analysis – Data were analyzed with SPSS version 18.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics included frequency, percentage, and mean. Pearson's correlation assessed linear relationships between KAP domain scores, while chi-square tests examined associations between demographics and KAP classifications. Significance was set at $p < 0.05$, with all tests two-tailed.

RESULTS

Sociodemographic Characteristics

Of the 148 participants enrolled, 91 (61.5%) were female and 57 (38.5%) were male (Figure 1). The mean age was 22.2 years (range, 18–26 years). The majority (97.3%) were unmarried. Regarding living arrangements, 71 (48.0%) resided with their parents, 66 (44.6%) in university hostels, one with a spouse, and 10 (6.8%) lived independently.

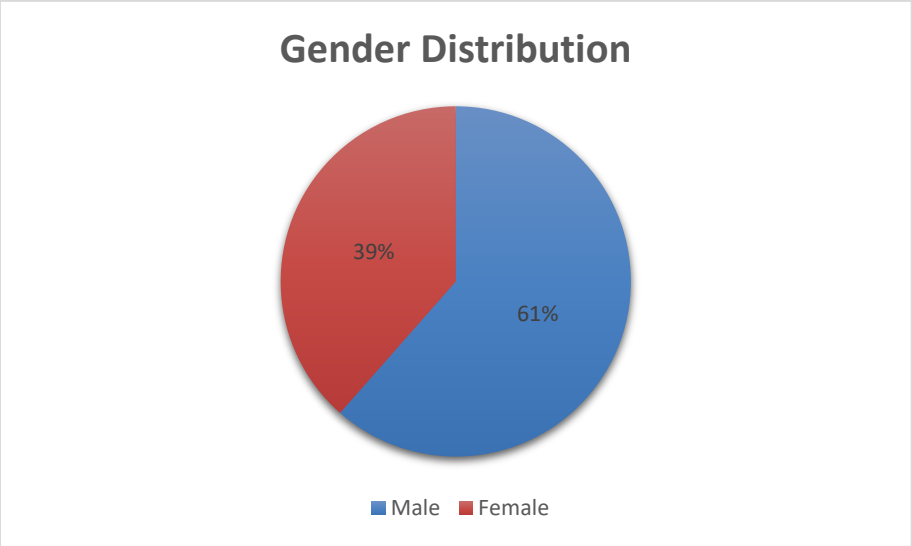

Figure-1: Gender Distribution

Most participants (134; 90.5%) were undergraduates in science, engineering, law, or arts, with 12 (8.1%) in postgraduate studies and 2 at the doctoral level. All lived in urban areas, though 4.1% came from rural backgrounds. Table 1 summarizes their sociodemographic details.

Table-1: Sociodemographic characteristics of study participants (N = 148)

Variable	Frequency (n)	Percentage (%)
Gender		
Male	57	38.5
Female	91	61.5
Marital Status		
Single	144	97.3
Married	1	0.7
Not reported	3	2.0
Living Arrangement		
With parents	71	48.0
Hostel	66	44.6
Alone	10	6.8
With spouse	1	0.7
Programme Level		
Undergraduate	134	90.5
Postgraduate	12	8.1
Doctoral	2	1.4
Place of Origin		
Urban	142	95.9
Rural	6	4.1

Knowledge

A total of 104 participants (70.2%) correctly identified the virus as the cause of Hepatitis B, but knowledge of transmission routes varied: 67.5% cited sexual contact, 64.8% mentioned sharing razors or needles, 56.7% identified tattooing/piercing, and 52.0% noted vertical transmission. Only 24.3% recognized all transmission routes, while 16.2% were unaware of any. 80.0% accurately understood HBV is not spread via casual contact.

Knowledge of symptoms or clinical presentations were poor; only 28 (18.9%) knew that HBV infection could be asymptomatic, and only 14 (9.45%) participants correctly identified all listed symptoms in the questionnaire. Awareness of chronic complications was also low. Only 55 (37.1%) were aware that chronic HBV infection could cause liver cancer, while 82 (55.4%) were unaware of this association, and 11 (7.4%) denied it such association is possible.

Regarding vaccine awareness, 101 (68.2%) knew that a vaccine existed, but only 41 (27.7%) correctly identified the recommended 0-1-6-month, 3 doses schedule. A reassuring 117 (79.0%) respondents knew that individuals with chronic HBV infection should not donate blood.

Overall, the level of knowledge ranged from poor to average across individual items, with the poorest performance observed for asymptomatic presentation (18.9%), vaccination schedule (27.7%), and knowledge of HBV-related liver cancer (37.1%). All these individual scores were depicted in Table 2.

Table-2: Knowledge regarding Hepatitis B among study participants (N = 148)

Sl no.	Knowledge Item	Expected Response	Correct n (%)	Category
1	Causative agent is a virus	Virus	104 (70.2)	Good
2a	Vertical transmission (mother-to-child)	Yes	77 (52.0)	Average
2b	Unprotected sexual contact	Yes	100 (67.5)	Average
2c	Sharing razors/needles/syringes	Yes	96 (64.8)	Average
2d	Unsterilised tattooing/piercing	Yes	84 (56.7)	Average
2e	Not transmitted by coughing/sneezing/hugging	No	119 (80.0)	Good
3a	Can be asymptomatic	Yes	28 (18.9)	Poor
3b	Fever, joint pain, loss of appetite	Yes	82 (55.4)	Average
3c	Jaundice (yellow skin/eyes)	Yes	59 (39.8)	Poor
4	Chronic HBV has no cure	No	65 (43.9)	Poor
5	Chronic HBV can cause liver cancer	Yes	55 (37.1)	Poor
6	Vaccine is available for HBV	Yes	101 (68.2)	Average
7	Correct vaccination schedule (0, 1, 6 months)	0, 1, 6	41 (27.7)	Poor
8	Infected persons should not donate blood	No	117 (79.0)	Good

Score categories based on percentage of correct responses: Good (≥70%), Average (50–69%), Poor (<50%)

Attitudes

A large majority (127, 85.8%) of the study population expressed willingness to provide care or support to an HBV-infected family member or friend. Approximately 85% of the respondents expressed confidence that proper infection control measures could contain the spread of HBV.

The strongest positive response was for HBV testing, with 92.5% willing to undergo it. Over 80% wanted more information about HBV, and all responses were above 80%. Participants' attitudes toward HBV were overwhelmingly positive across all measures, as detailed in Table 3.

Table-3: Attitudes toward Hepatitis B among study participants (N = 148)			
Sl no.	**Attitude Statement**	**Positive n (%)**	**Classification**
1	Comfortable providing care/support to an HBV-infected person	127 (85.8)	Positive
2	Confident that proper infection control can contain spread	126 (85.1)	Positive
3	Willing to undergo HBV testing	137 (92.5)	Positive
4	Desire for more information regarding HBV	>118 (>80.0)	Positive

Practices

The practices related to HBV prevention are summarized in Table 4. Of the 148 participants, only 53 (35.8%) reported being vaccinated against HBV, while 39 (26.3%) were not vaccinated, and 56 (37.8%) were uncertain about their vaccination status. Among those who reported vaccination, very few were confident regarding completion of all three doses, suggesting a high degree of ignorance regarding vaccination status, even among the vaccinated subgroups.

Table-4: Vaccination status among study participants (N = 148)		
Vaccination Status	**Frequency (n)**	**Percentage (%)**
Vaccinated	53	35.8
Not vaccinated	39	26.3
Unsure of vaccination status	56	37.8

Regarding risk behaviours, 109 (73.6%) denied engaging in any high-risk behaviour in the preceding 12 months. Among those reporting risk behaviours (26.4%), the most common were unprotected sexual intercourse and tattooing or body piercing. The preferred source for additional HBV information was websites and online articles (66.9%), followed by talks by healthcare professionals (62.8%). A large majority (92%) expressed willingness to motivate their family members and friends to learn about HBV.

Overall, practices regarding risk behaviour avoidance were satisfactory, while vaccination-related awareness and coverage were poor. However, health-seeking and motivational practices were positive, indicating a willingness to engage in preventive and educational efforts.

Correlation Between Knowledge, Attitude, and Practice

Table 5 shows Pearson's correlation scores between KAP domain scores. Knowledge and practice had a strong positive correlation ($r = 0.654$, $p < 0.0001$), knowledge and attitude had a moderate correlation ($r = 0.422$, $p < 0.0001$), and attitude and practice had the weakest but significant correlation ($r = 0.273$, $p = 0.0008$). All correlations were statistically significant among 148 respondents, indicating meaningful relationships between KAP variables.

Table-5: Pearson correlation matrix between KAP domain scores (N = 148)				
Pair	**r**	**t-value**	**p-value**	**Interpretation**
Knowledge – Attitude	0.422	5.62	< 0.0001	Moderate positive
Knowledge – Practice	0.654	10.45	< 0.0001	Strong positive
Attitude – Practice	0.273	3.43	0.0008	Weak positive

DISCUSSION

Our study assessed HBV knowledge, attitudes, and practices among 148 non-medical students in urban South India. While most had positive attitudes and practiced good risk avoidance, knowledge and vaccination rates were low (35.8%). Knowledge showed the strongest link to preventive behaviours ($r = 0.654$), suggesting that improving knowledge may best enhance prevention.

The poor overall knowledge observed in this study is consistent with the findings of comparable populations. While 67.5% of participants recognized the sexual route of HBV transmission, Almalki *et al*. [12] reported this figure at 57.9% among healthy adults in Makkah, Saudi Arabia. Awareness of vertical transmission in our study (52.0%) was comparable to that of Nazri *et al*. (51.7%) among Malaysian university students [14] but lower than that of Ara *et al*. (61.0%) among university students in South Delhi [13] and Almalki *et al*. (71.9%) [12].

The notably low figure reported by Ul Haq *et al.* (17.2%) in Quetta, Pakistan [15] may reflect differences in baseline health literacy and public health infrastructure between the study settings. The low awareness of HBV's potential to cause hepatocellular carcinoma (37.1%) is particularly concerning, as risk perception regarding serious complications is a key construct within the Health Belief Model that influences preventive behaviour [10].

In contrast, Almalki *et al*. found 81.8% awareness of the association [12], likely due to differences in health communication and media exposure. Knowledge of the correct vaccination schedule was low (27.7%), similar to Ara *et al*. (26.8%) [13], indicating that even those aware of vaccine availability often lack understanding of the full three-dose regimen, which may contribute to low series completion rates.

Systematic reviews highlight the need for greater public awareness about hepatitis [16,17]. Despite generally higher knowledge among university populations, important gaps remain, especially around asymptomatic cases, long-term effects, and vaccination schedules. Focused educational interventions are needed to address these issues.

The strongly positive attitudes observed in this study (≥80% across all indicators) align with findings from Nazri *et al*. [14] and Almalki *et al*., [12] and contrast with the predominantly negative attitudes (82%) reported by Ara *et al*. among university students in South Delhi [13]. Angelo *et al*. similarly found 74.9% positive attitudes among adults in Northwest Ethiopia [18]. The positive attitudes in our study population may reflect the influence of digital information access and general health awareness among university-educated young adults in urban settings.

The weak correlation between attitude and practice (r = 0.273) highlights that positive attitudes alone do not lead to behavioural change without sufficient knowledge and support. This aligns with the Theory of Planned Behaviour, which states that behaviour is influenced by intentions, perceived control, and social norms [19].

From an intervention design perspective, this implies that educational campaigns targeting attitude change alone are unlikely to be effective; they must be coupled with knowledge enhancement and accessible vaccination services to be effective.

The low vaccination coverage (35.8%) observed in this study reflects a critical gap in HBV prevention among young adults in India. This figure is lower than that reported by Almualm *et al*. (48.5%) in Yemen [20] and Ara *et al*. (55.0%) in Delhi, [13] and substantially lower than Divya *et al*. (76.4%) among health science students [21], the higher figure reported by Divya *et al*. may be attributed to greater health awareness and institutional vaccination drives specific to health science programmes. The high proportion of participants uncertain about their vaccination status (37.8%) is equally concerning and suggests a need for accessible vaccination records and catch-up vaccination programmes at the university level.

The gap between high rates of risk-avoidance behaviour (73.6% reporting no high-risk actions) and low vaccination uptake reflects common findings that passive avoidance is easier than proactive measures like vaccination [10]. Increasing public awareness on completing vaccination schedules and following up is needed. The strong knowledge–practice correlation (r = 0.654) indicates that closing knowledge gaps may most effectively boost vaccination rates and other preventive actions in this group.

The hierarchical pattern of correlations observed—strongest between knowledge and practice (r = 0.654), moderate between knowledge and attitude (r = 0.422), and weakest between attitude and practice (r = 0.273)—has significant implications for intervention design. This pattern suggests that knowledge is the primary driver of both attitude formation and health practices, consistent with the theoretical underpinnings of the KAP framework [9].

Improving knowledge about Hepatitis B can directly lead to healthier behaviours, while increased knowledge also positively shapes attitudes. Although positive attitudes somewhat influence behaviour, knowledge remains the main driver of change. Interventions should focus primarily on boosting knowledge, with attitude reinforcement and structural supports helping translate positive attitudes into healthy actions.

This study's strengths include its focus on non-medical university students for broader generalizability, comprehensive correlation analysis across KAP domains, and an expert-validated questionnaire but the cross-sectional design limits causal inference; convenience sampling, a single-university setting, self-reported data, and a modest sample size restrict generalizability and subgroup analysis. These limitations should be considered when interpreting results and planning future research.

CONCLUSION

This study reveals notable deficits in HBV knowledge and vaccination among non-medical university students in urban South India, despite generally positive attitudes toward prevention. The strong link between knowledge and practice (r = 0.654) suggests targeted health education can improve preventive behaviours. With only 35.8% vaccinated and 37.8% unsure of their status, institutional vaccination programs with tracking and follow-up are urgently needed. These steps align with India's target of eliminating HBV by 2030.

Recommended actions include

- Mandatory HBV screening and vaccination during university enrolment with a tracking system.
- Including HBV awareness in orientation for all students.
- Launching digital health literacy campaigns via university platforms, considering students' preference for digital sources.
- Annual vaccination drives with accessible follow-up.
- Peer education to boost health messaging across student networks.

Declarations

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Conflicts of interest: The authors declare no conflict of interest

Data availability: The datasets generated and analyzed during this study are available from the corresponding author upon reasonable request

REFERENCES

1. Yu S, Yu C, Li J, Liu S, Wang H, Deng M. Hepatitis B and hepatitis C prevalence among people living with HIV/AIDS in China: a systematic review and meta-analysis. Virol J. 2020;17:127.
2. World Health Organization (WHO). Hepatitis B key facts [Internet]. 2024 [cited 2025 Oct 3]). Available from: https://www.who.int/news-room/fact-sheets/detail/hepatitis-b
3. Datta S. An overview of the molecular epidemiology of hepatitis B virus (HBV) in India. Virol J. 2008;5:156.
4. Abraham P. Viral hepatitis in India. Clin Lab Med. 2012;32:159–74.
5. Ministry of Health and Family Welfare, Government of India. National Viral Hepatitis Control Program Factsheet [Internet]. 2021 [cited 2025 Oct 3]. Available from: https://nvhcp.mohfw.gov.in
6. Lahariya C, Subramanya BP, Sosler S. An assessment of hepatitis B vaccine introduction in India: lessons for roll out and scale up of new vaccines in immunization programs. Indian J Public Health. 2013;57:8–14.
7. World Health Organization (WHO). Global health sector strategy on viral hepatitis 2016–2021: towards ending viral hepatitis. Geneva: WHO; 2016.
8. Global hepatitis elimination 2030: immediate action is the need of the hour. eClinicalMedicine. 2024;73:102763.
9. Launiala A. How much can a KAP survey tell us about people's knowledge, attitudes, and practices? Some observations from medical anthropology research on malaria in pregnancy in Malawi. Anthropol Matters. 2009;11(1):1–13.
10. Rosenstock IM. The Health Belief Model and preventive health behavior. Health Educ Monogr. 1974;2(4):354–86.
11. Arnett JJ. Emerging adulthood: The winding road from the late teens through the twenties. New York: Oxford University Press; 2004.
12. Almalki F, Alraffah YM, Alasiri RA, Dhafar MW, Albogami FM, Alhazmi MN, *et al*. Knowledge, attitude and practice towards hepatitis B infection and HBV vaccine among the healthy population in Makkah, Saudi Arabia. Infect Drug Resist. 2025;18:2153–64.
13. Ara A, Inder D, Kumar P, Akhtar K. Knowledge, attitude and practices for HBV and HCV among the students of a Central University in South Delhi (India) and strategies for prevention of disease. J Integr Health Sci. 2021;9:19–23.
14. Nazri NN, Rahman NA, Shafri MA, Rahman NI, Haque M. Knowledge, attitude and practice of Malaysian public university students on viral hepatitis. Adv Hum Biol. 2019;9:46–53.
15. Ul Haq N, Hassali MA, Shafie AA, Saleem F, Farooqui M, Aljadhey H. A cross-sectional assessment of knowledge, attitude and practice towards hepatitis B among healthy population of Quetta, Pakistan. BMC Public Health. 2012;12:692.
16. Martin NK, Vickerman P, Dore GJ, Hickman M. The hepatitis C virus epidemics in key populations (including people who inject drugs, prisoners and MSM): the use of direct acting antivirals as treatment for prevention. Curr Opin HIV AIDS. 2015;10:374–80.
17. Pawlowska M, Sobolewska-Pilarczyk M. Recommendations for the management of prevention of vertical HBV and HCV infection. Przegl Epidemiol. 2016;70:33–4, 119–20.
18. Angelo AA, Teketelew BB, Berta DM, *et al*. Knowledge, attitude, and practices towards hepatitis infection and its associated factors among adults in Gondar town, northwest Ethiopia: a community-based study, 2021. J Health Popul Nutr. 2024;43:178.
19. Ajzen I. The theory of planned behaviour. Organ Behav Hum Dec. 1991;50(2):179–211.
20. Almualm YK, Banafa NS, Hanshi ASA. Knowledge, attitude and practice (KAP) about hepatitis B and C among students of Hadhramout University, Al Mukalla City, Yemen. Acta Sci Med Sci. 2018;2:87–95.
21. Divya CV, Nithya G, Premlal KS. A study to evaluate the knowledge, attitude and practice of hepatitis B vaccination among medical, dental, nursing and physiotherapy students. Apollo Med. 2024;21(4):320–5.