



AWARENESS AND PRACTICE OF HEPATITIS B AND C PREVENTIVE MEASURES AMONG ARTISANS IN OLORUNDA LOCAL GOVERNMENT AREA, OSOGBO, OSUN STATE, NIGERIA.

By

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Abstract

This study investigated the knowledge, practices, and access to medical health facilities concerning Hepatitis B and C among residents in Olorunda Local Government Area, Osogbo, Osun State. The sample was primarily drawn from Igbona (14.5%), Olohunkoro (13.0%), and another area also identified as Olohunkoro (8.5%). Participants were predominantly young adults aged 18-22 years (40.0%), female (56.5%), single (55.5%), and possessed tertiary education (51.5%). A notable 11.0% were tailors, with 61.5% identifying as Yoruba and 54.5% from nuclear families. Findings revealed significant geographical disparities in healthcare access. Igbona reported the highest "easy access" (12.5%), while Ayekale, MDS, and Okefia recorded the lowest (5.5% each). Conversely, Ogo Oluwa, Old Garage, Enuwa, and Modomo experienced the highest "difficult access" (3.5% each). Knowledge of Hepatitis B and C signs varied, with "loss of appetite" (18.0%) and "weakness" (16.5%) being most recognized, and "jaundice" (5.5%) the least. Awareness of common transmission modes was high, with "unprotected sex" (85.0%), "blood transfusion" (84.0%), and "sharing sharp objects" (74.5%) widely known. However, significant knowledge gaps were identified for "mother-to-child transmission" (14.5%) and "contamination of food and water" (20.0%). Preventive practices presented a mixed picture: 84.0% reported vaccination against Hepatitis B and C, and 81.5% practiced safe sex. Alarming, 85.0% reported sharing sharp objects or equipment with colleagues, and only 14.5% had ever been tested for Hepatitis B and C. While a minority (20.5%) experienced challenges accessing vaccination/testing services, a high percentage considered Hepatitis B and C a serious health problem (77.5%) and believed it could be prevented (85.5%). These findings underscore the need for targeted public health interventions to bridge knowledge gaps, address risky behaviors, improve testing uptake, and mitigate geographical disparities in healthcare access to effectively control Hepatitis B and C in the region.

Keywords: Awareness, Hepatitis B and C, Preventive Measures, Artisans, Oshogbo, Nigeria.

Introduction

Hepatitis B and C are among the most prevalent viral infections affecting the liver, posing significant global public health challenges. According to the World Health Organization (WHO, 2023), over 296 million people are living with chronic hepatitis B virus (HBV) infection, while an estimated 58 million people are infected with hepatitis C virus (HCV). These infections are responsible for a large proportion of liver-related morbidity and mortality worldwide. (WHO, 2023).

In sub-Saharan Africa, hepatitis B and C infections remain highly endemic. Nigeria, being one of the most populated

countries in Africa, bears a heavy burden of these infections. Studies have shown that the prevalence of hepatitis B in Nigeria ranges between 8% and 12%, while that of hepatitis C ranges between 1% and 5% (Adekanle *et al.*, 2021). These infections are often transmitted through contact with infected blood or body fluids, unsafe injections, transfusions, unprotected sexual contact, and occupational exposures, particularly among groups with poor awareness or risky practices.

Artisans, including welders, mechanics, and barbers, often engage in daily activities that expose them to blood and body fluids — such as the use of sharp tools, contact with open wounds, or poor hygiene practices. In many developing



countries, this group is often underrepresented in public health interventions, despite being a potentially high-risk group for hepatitis transmission. Additionally, the informal nature of their profession means they may lack access to regular health education, vaccinations, or screening services.

HBV and HCV are primarily transmitted through contact with infected blood and body fluids. High-risk activities include unsafe injections, sharing of sharp instruments, unsterilized tools, blood transfusions, and sexual contact. Artisans who handle sharp tools or have close contact with clients' skin, such as barbers and mechanics, are at particular risk if proper precautions are not taken. Many HBV and HCV infections are asymptomatic in the early stages. When symptoms do appear, they may include fatigue, jaundice, abdominal pain, dark urine, and joint pain. Chronic infection may lead to cirrhosis and liver cancer (CDC, 2023).

Vaccination is the most effective method of preventing HBV. The WHO recommends a three-dose schedule at 0, 1, and 6 months, starting with a birth dose within 24 hours. There is currently no vaccine for HCV, but curative antiviral treatments exist (WHO, 2024).

Awareness is a significant determinant of health-seeking behavior. Studies show that individuals who are informed about hepatitis are more likely to seek vaccination, screening, and adopt safer practices (Okeke *et al.*, 2020). Conversely, low awareness leads to risky behaviors, such as sharing of sharp instruments or neglecting wounds.

Despite the availability of vaccines and other preventive strategies, many individuals remain unvaccinated or unaware of proper hygiene protocols, particularly in the informal work sector.

In Osogbo, the capital city of Osun State, many artisans work in informal clusters or workshops with limited health and safety measures in place. The level of awareness, knowledge, and practice of preventive measures among these artisans remains largely unknown. Understanding the current awareness and practices regarding hepatitis B and C prevention among these workers is crucial for designing effective interventions.

This study, therefore, seeks to assess the awareness and practice of hepatitis B and C preventive measures among artisans in Olorunda Local Government Area of Osogbo, Osun State.

In a study by Wang *et al.* (2021), it was reported that only 43% of informal workers in Vietnam had heard of hepatitis B, and fewer than 25% had received a vaccination. Similar findings were reported in Bangladesh, where only 31% of barbers had received any form of hepatitis education (Khan *et al.*, 2020).

A study by Bolarinwa *et al.* (2023) in Lagos found that only 37% of artisans were aware of HBV, and fewer than 20% had ever been screened or vaccinated. In Kaduna, Usman *et al.* (2022) reported that 63% of artisans used unsterilized equipment and had poor knowledge of HBV transmission

routes. In Rivers State, Nwankwo *et al.* (2021) revealed that only 28% of barbers disinfected their tools after each use, and many lacked access to hepatitis B vaccines. In Ibadan, Oyo State, Omotola *et al.*, (2020) found that although awareness of hepatitis was moderate, the actual practice of prevention was very low, with just 12% completing all three doses of the HBV vaccine.

Research conducted by Adekanle *et al.*, (2021) in southwestern Nigeria showed that only 34% of artisans surveyed were aware of hepatitis B, and less than 15% had been vaccinated. A study by Olayinka *et al.*, (2020) in Lagos State revealed that while 40% of barbers knew that sharing clippers could transmit infections, only 10% regularly sterilized their tools. In a similar study conducted in Ilorin, Kwara State, Musa *et al.* (2019) found that many mechanics and welders did not understand the importance of using gloves or maintaining clean environments, citing lack of time, ignorance, and cost as primary barriers.

In Ile-Ife, Adenlewo *et al.*, (2017) found that 79.6% of medical students completed the HBV vaccine series, but few had proper knowledge of HCV. In Osogbo, a study by Akinyemi and Ogunleye (2022) among hairdressers and barbers showed that although 71% had heard of hepatitis, only 18% consistently sterilized their tools, and just 25% had received any vaccine dose.

Statement of the Problem

Despite the availability of effective vaccines and preventive measures for hepatitis B, and treatment options for hepatitis C, many people in Nigeria remain uninformed or unprotected. Artisans due to their nature of work, frequent use of sharp instruments, and poor hygiene practices are at increased risk of contracting and transmitting hepatitis viruses. Yet, there is limited research focusing on their awareness and behavior regarding prevention. In Olorunda LGA, Osogbo, anecdotal evidence suggests that many artisans are unaware of the existence of hepatitis B and C, the modes of transmission, or the importance of vaccination. Tools and equipment are often shared without proper sterilization, and open wounds are not appropriately managed. Moreover, health campaigns targeting this group are scarce, and vaccination uptake remains low.

This lack of awareness and poor preventive behavior could contribute to the silent spread of hepatitis infections within the community. If left unchecked, this can lead to long-term health consequences such as liver cirrhosis, liver failure, and hepatocellular carcinoma. This study, therefore, aims to fill this knowledge gap by assessing the level of awareness and preventive practices among welders, mechanics, and barbers in Olorunda LGA.

Aims of study

To assess the awareness and practice of hepatitis B and C preventive measures among artisans in Olorunda Local Government Area, Oshogbo, Osun State, Nigeria.

Objectives of the Study are to:

- assess the level of awareness of hepatitis B and C among welders, mechanics, and barbers in Olorunda LGA.
- evaluate the artisans' knowledge of transmission and prevention of hepatitis B and C.
- investigate the preventive practices (e.g., vaccination, use of protective gear, tool sterilization) adopted by artisans.
- to examine the relationship between awareness and actual preventive practices among the artisans.
- identify barriers to the adoption of preventive measures among artisans.

Methodology

Research Design

Awareness and practice of hepatitis B and C preventive measures among artisans in Olorunda Local Government Area, Osogbo. The cross-sectional nature allows data to be collected at a single point in time, providing a snapshot of current awareness and practices within the target population.

Population of the Study

The target population for this study comprises all artisans, specifically welders, mechanics, and barbers, operating within the Olorunda Local Government Area of Osogbo, Osun State. These groups were selected due to their frequent exposure to sharp tools and potential contact with blood or body fluids, which puts them at a higher risk for hepatitis transmission.

Sample Size and Sampling Technique

Sample Size

Size to be sample was carried out according to the method of Wang and Ji, (2020) as indicated below.

$$N = \frac{z^2 p(1-p)}{d^2}$$

Where; **SS (N)** = Sample size

Z= degree of confidence (i.e. 95% confidence interval which will yield 1.96)

d = precision (5% = 0.05)

p = the proportion in the target population estimated to have infection.

q = 1 - p

Therefore, a total of 200 samples were collected from Olorunda Local Government Area, Osogbo, Osun State.

Sampling Technique

A multi-stage sampling method ensured fair coverage of trades and locations:

Research Instrument

The primary instrument for data collection was a structured, self-administered questionnaire, divided into four sections:

Section A: Demographic information

Section B: Awareness and knowledge of hepatitis B and C

Section C: Preventive practices

Section D: Perceived barriers and cues to action

The questionnaire was both closed- and open-ended questions. It was written in simple English and translated into Yoruba for artisans with limited English proficiency.

Method of Data Collection

Data was collected in person by trained research assistants, who distribute and assist with the completion of questionnaires where necessary. Participation was voluntary, and informed consent was obtained from all respondents. Data collection was taken for two weeks, covering major artisan hubs within Olorunda LGA.

Method of Data Analysis

The data was entered and analyzed using Statistical Package for the Social Sciences (SPSS) version 25. Descriptive statistics such as frequencies, means, and percentages was used to summarize awareness and preventive practices.

To test for relationships between awareness and practices, Chi-square tests and correlation analysis was used, with a significance level set at $p < 0.05$

Ethical Considerations

Informed Consent: Participants was briefed on the purpose of the study and their right to withdraw at any time without penalty. Consent forms was signed before participation.

Confidentiality: All data was handled anonymously. No personal identifiers was used.

Results

Figure 1, shows the areas of the Samples collection in Olorunda Local Government Osogbo, Osun State. Majority of the area where questionnaire were administered are Igbona 29 (14.5%), 26 (13.0%) and Olohunkoro 17 (8.5%).

Majority of aged 18-22 years (40.0%) had participated in this study. Majority are Female 56.5% that participated were 56.5% (40/200), 55.5% (111/200) were singles, 51.5% (102/200) had tertiary education, 22 (11.0) were Tailor, 61.5% (123/200) were Yoruba and 54.5% (109/200) were had nuclear family. (Table 1).

Table 2, shows the Access to Medical Health Facilities in relation to Area of Respondents in Olorunda Local Government Area Osogbo, Osun State. Access to medical facilities varied across the sampled areas. Igbona (12.5%) reported the highest easy access, followed by Old Garage (9.5%) and Ogo Oluwa (7.5%). The least easy access (5.5%) each was recorded in Ayekale, MDS, and Okefia. Conversely, Ogo Oluwa and Old Garage, Enuwa and Modomo (3.5%) each reported the highest difficult access to medical facilities, followed by Okefia, and Powerline (2.5%). with the least difficult access in Ajegunle, MDS, Olohunkoro (1.5%).

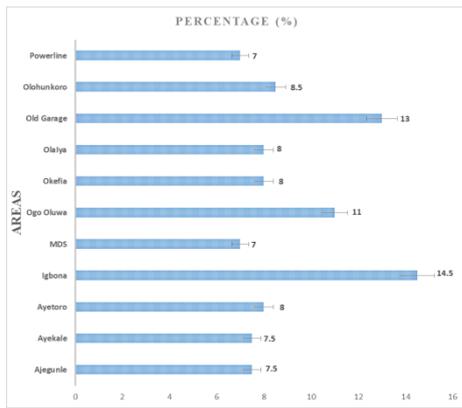


Figure 1. Areas of the Samples collection in Olorunda Local Government Area Osogbo, Osun State.

Table 1. Socio- Demographic Characteristics of Respondents used in the study in Olorunda Local Government Area Osogbo, Osun State.

Variables of the Parents	Number Examined	Percentage (%) in the pool
Age group (Years)		
18-22	80	40.0
23-27	48	24.0
28-32	20	10.0
33-37	41	20.5
38-42	10	5.0
43-47	1	.5
Sex		
Female	113	56.5
Male	87	43.5
Marital Status		
Divorced	20	10.0
Married	65	32.5
Single	111	55.5
Widowed	4	2.0
Occupation		
Barber	16	8.0
Bricklayer	24	12.0
Cobbler/ Shoe Maker	5	2.5
Hair Dresser	42	21.0

Motor and Okada Mechanic	25	12.5
Painter	25	12.5
Potter	1	0.5
Student	2	1.0
Tailor	44	22.0
Tiler	6	3.0
Vulcanizer	10	5.0

Level of Education

None	8	4.0
Primary	20	10.0
Secondary	70	35.0
Tertiary	102	51.0

Ethnicity

English	56	28.0
Hausa	7	3.5
Igbo	14	7.0
Yoruba	123	61.5

Family Structure

Extended	32	16.0
Nuclear	109	54.5
Polygamous	59	29.5
Total	200	100.0

Table 2. Access to Medical Health Facilities in relation to Area of Respondents in Olorunda Local Government Area Osogbo, Osun State.

Figure 3, shows the Respondents Knowledge of the signs of Hepatitis B and C in Olorunda Local Government Area, Osun State. Knowledge of the sign of hepatitis b and C varied across the sampled areas. Loss of appetite (18.0%) reported the highest easy sign, followed by weakness (16.5%) and the least Jaundice (5.5%). Conversely, Ogo Oluwa and Old Garage , Enuwa and Modomo (3.5%) each reported the highest difficult access to medical facilities, followed by Okefia, and Powerline (2.5%). with the least difficult access in Ajegunle, MDS, Olohunkoro (1.5%).

Table 3. Show respondents knowledge of mode of transmission of Hepatitis B and C in Olorunda Local Government Area, Osun State. Blood transfusion had 84.0% respondents, while Sharing of sharp objects had 74.5%, unprotected sex had 85.0%, Mother to child transmission had 14.5% and contamination of food and water had 20.0% respondents.

Table 4. Show respondents practice of hepatitis B and C preventive measures in Olorunda Local Government Area, Osun State. 84.0% have ever been vaccinated against Hepatitis B and C, while 74.5% use personal protective equipment (PPE) such as gloves when handling sharp objects or blood, 85.0% share sharp objects or equipment with colleagues 14.5% and have ever been tested for Hepatitis B and C and 81.5% practice safe sex.

Table 5. Show respondents knowledge of barriers hepatitis B and C preventive measures in Olorunda Local Government Area, Osun State. 20.5% have ever experienced any challenges in accessing Hepatitis B and C vaccination or testing services, while 77.5% think Hepatitis B and C is a serious health problem, 85.5% think that Hepatitis B and C can be prevented.

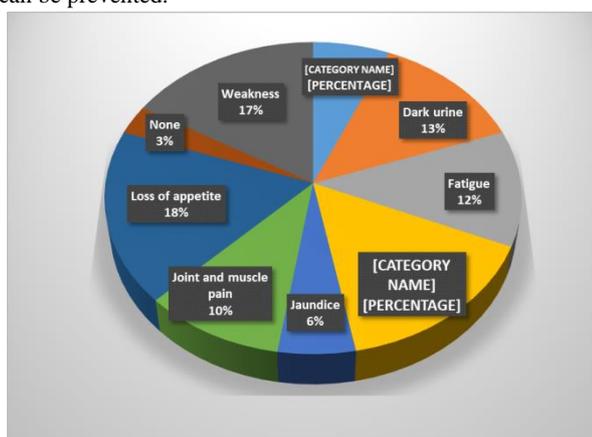


Figure 2. Respondents Knowledge of the signs of Hepatitis B and C in Olorunda Local Government Area, Osun State

Table 3. Respondents Knowledge of mode of transmission of Hepatitis B and C in Olorunda Local Government Area, Osun State

Questions for the Correspondents	No	Yes	Total
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Areas in Ife East L.G.A	Frequency (%)	Difficult (%)	Easy (%)
Ajegunle	15 (7.5)	3 (1.5)	12 (6.0)
Ayekale	15 (7.5)	4 (2.0)	11 (5.5)
Ayetoro	16 (8.0)	3 (1.5)	13 (6.5)
Igbona	29 (14.5)	4 (2.0)	25 (12.5)
MDS	14 (7.0)	3 (1.5)	11 (5.5)
Ogo Oluwa	22 (11.0)	7 (3.5)	15 (7.5)
Okefia	16 (8.0)	5 (2.5)	11 (5.5)
OlaIya	16 (8.0)	4 (2.0)	12 (6.0)
Old Garage	26 (13.0)	7 (3.5)	19 (9.5)
Olohunkoro	17 (8.5)	3 (1.5)	14 (7.0)
Powerline	14 (7.0)	5 (2.5)	9 (4.5)
Total	200 (100.0)	48 (24.0)	152 (76.0)

Blood transfusion	32 (16.0)	168 (84.0)	200(100.0)
Sharing of sharp objects	50 (25.5)	150 (74.5)	200(100.0)
Unprotected sex	110 (15.0)	90 (85.0)	200(100.0)
Mother to child transmission	170 (85.5)	30 (14.5)	200(100.0)
Contamination of food and water	180 (18.5)	20 (81.5)	200(100.0)

Table 4. Respondents Practice of Hepatitis B and C Preventive Measures in Olorunda Local Government Area, Osun State

Questions for the Correspondents	No	Yes	Total
Have you ever been vaccinated against Hepatitis B and C	32 (16.0)	168 (84.0)	200(100.0)
Do you use personal protective equipment (PPE) such as gloves when handling sharp objects or blood?	51 (25.5)	149 (74.5)	200(100.0)
Do you share sharp objects or equipment with colleagues	30 (15.0)	170 (85.0)	200(100.0)
Have you ever been tested for Hepatitis B&C	171 (85.5)	29 (14.5)	200(100.0)
Do you practice safe sex	37 (18.5)	163	200(100.0)

sex (81.5) .0)

Table 5. Respondents Knowledge of Barriers to Preventive Measures to Hepatitis B&C in Olorunda Local Government Area, Osun State

Questions for the Correspondents	No	Yes	Total
Have you ever experienced any challenges in accessing Hepatitis Band C vaccination or testing services	159 (79.5)	41 (20.5)	200(100) .0)
Do you think Hepatitis B and C is a serious health problem	45 (22.5)	155 (77.5)	200(100) .0)
Do you think that Hepatitis B and C can be prevented?	29 (14.5)	171 (85.5)	200(100) .0)

Discussion

The study sample was drawn primarily from Igbona (14.5%), Olohunkoro (13.0%), and a repeated "Olohunkoro" at 8.5% (likely a typographical error in the original text, possibly referring to another location or a specific sub-area within Olohunkoro). A significant proportion of the participants (40.0%) were young adults aged 18-22 years, suggesting a focus on a younger, potentially more sexually active demographic. Females constituted a majority (56.5%), which could influence findings related to healthcare-seeking behaviors and certain transmission routes (e.g., mother-to-child). The high percentage of single individuals (55.5%) and those with tertiary education (51.5%) suggests a relatively educated and independent population. The presence of tailors (11.0%) as a notable professional group is interesting and might warrant further investigation into occupational exposure risks if applicable to the study's scope. Culturally, the dominance of Yoruba ethnicity (61.5%) and nuclear family structures (54.5%) provides important context for understanding health beliefs and social dynamics within the community.

The findings reveal significant geographical disparities in access to medical facilities within Olorunda Local Government. Igbona reported the highest "easy access" at 12.5%, followed by Old Garage (9.5%) and Ogo Oluwa (7.5%). This suggests better infrastructure or proximity to healthcare services in these areas. Conversely, areas like Ayekale, MDS, and Okefia showed limited "easy access" (5.5% each), indicating potential underserved regions. The "difficult access" data further reinforces these disparities, with Ogo Oluwa, Old Garage, Enuwa, and Modomo reporting the highest difficulty (3.5% each), and Ajegunle, MDS, and Olohunkoro reporting the least difficulty (1.5%). These variations are critical for targeted public health interventions, as residents in areas with poor access may face greater challenges in prevention, testing, and treatment of diseases like Hepatitis.

Respondents' knowledge of Hepatitis B and C signs varied. "Loss of appetite" was the most recognized sign (18.0%), followed by "weakness" (16.5%). "Jaundice" was the least recognized sign at 5.5%. The repeated information about "difficult access to medical facilities" in this section is indeed an error in the provided text, as it does not relate to knowledge of signs. A more comprehensive analysis would have broken down knowledge levels by demographic groups or geographical areas to identify specific education gaps. The low recognition of jaundice, a classic sign of liver disease, is concerning and highlights a need for better public education on overt symptoms.

Awareness of common transmission modes was generally high. "Unprotected sex" (85.0%) and "blood transfusion" (84.0%) were widely recognized. "Sharing of sharp objects" also showed high recognition at 74.5%. However, significant knowledge gaps exist regarding "mother-to-child transmission" (14.5%) and "contamination of food and water" (20.0%). The low awareness of mother-to-child transmission is particularly alarming as it represents a critical pathway for chronic Hepatitis B infections, underscoring the need for improved antenatal education and screening programs. Similarly, while food and water contamination are less common routes for Hepatitis B and C, their low recognition indicates a broader lack of understanding of viral transmission principles.

The reported practices present a mixed picture. A strong positive is the high vaccination rate (84.0%) against Hepatitis B and C, suggesting successful immunization efforts. The practice of safe sex was also relatively high at 81.5%. However, a critical contradiction emerged with 85.0% reporting *sharing* sharp objects or equipment with colleagues, a direct risk factor for transmission. This discrepancy between knowledge (high recognition of sharing sharp objects as a transmission route) and practice highlights a significant behavioral challenge. Furthermore, only a small percentage (14.5%) had ever been tested for Hepatitis B and C. This low testing uptake, despite high vaccination rates and perceived preventability, indicates a major gap in disease surveillance and early detection. It suggests that individuals may feel protected by vaccination and thus not see a need for testing, or that testing services are not adequately promoted or accessible.

A minority of respondents (20.5%) reported experiencing challenges in accessing vaccination or testing services. This suggests that while barriers exist, they may not be universally perceived as significant, or the study might not have fully captured the nuanced difficulties. However, the high percentages of respondents who consider Hepatitis B and C a serious health problem (77.5%) and believe it can be prevented (85.5%) are very positive indicators. This strong awareness of severity and preventability provides a solid foundation for public health campaigns aimed at behavioral change and increased uptake of testing and treatment services.

Conclusion and Recommendations

The study provides valuable insights into the knowledge, practices, and access to care related to Hepatitis B and C in Olorunda Local Government. While there are commendable levels of vaccination and recognition of common transmission routes, critical areas for improvement include:

- **Targeted Education:** Campaigns should specifically address the low awareness of mother-to-child transmission and the true risk of sharing sharp objects, even among those who know it's a transmission route.
- **Behavioral Change Interventions:** Strategies are needed to address the discrepancy between knowledge and practice, particularly concerning the sharing of sharp objects. This may involve community-based interventions, peer education, and accessible sterile equipment.
- **Enhancing Testing Uptake:** Despite high vaccination, the low testing rate is a major concern. Public health initiatives should actively promote and facilitate access to Hepatitis B and C testing, emphasizing its importance for early detection, treatment, and preventing onward transmission.
- **Addressing Access Disparities:** Efforts should be made to improve medical facility access in underserved areas like Ayekale, MDS, and Okefia, potentially through mobile clinics, outreach programs, or improved infrastructure.
- **Further Research:** Future studies could delve deeper into the reasons behind the low testing rates, the specific challenges experienced by the 20.5% who faced barriers, and the cultural factors influencing the sharing of sharp objects. Additionally, distinguishing between Hepatitis B and C knowledge and practices would provide more granular insights.

Without external article references, this analysis is based solely on the provided study summary. The findings, though descriptive, offer a solid foundation for local public health planning and interventions.

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