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Original Research Article

AWARENESS OF HEPATITIS C TRANSMISSION AND PREVENTION AMONG RURAL POPULATION

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ABSTRACT

Background: Hepatitis C virus (HCV) infection remains a major public health concern, particularly in rural populations where low literacy levels, limited access to healthcare, and unsafe traditional practices contribute to continued transmission. Lack of awareness and widespread misconceptions further hinder early detection and prevention efforts. This study aimed to assess the awareness of HCV transmission and prevention among the rural population, identify common misconceptions, and determine the association between socio-demographic factors and awareness levels.

Materials and Methods: A community-based, cross-sectional study was conducted in selected rural villages of province - Sindh, Districts - Tando Allahyar, Hyderabad, Mirpurkhas and Lahore district, Punjab province, Pakistan. A total of 200 adults aged 18–50 years, residing in the area for at least one year, were selected using random sampling. Data were collected using a pre- tested, structured questionnaire administered through face-to-face interviews by trained investigators in the local language. The questionnaire assessed demographic characteristics, knowledge of HCV transmission routes, preventive measures, and misconceptions. Descriptive statistics were used to summarize awareness levels, while chi-square test, Fisher's exact test examined associations between socio-demographic variables and awareness.

Results: Knowledge level showed no significant association with sex, age, marital status, or education ($p > 0.05$), but was significantly associated with occupation ($p = 0.023$), with doctors demonstrating the highest good knowledge (81.8%). Higher knowledge was strongly associated with positive attitudes, including perceiving Hepatitis C as very serious and non- discriminatory views toward infected individuals ($p = 0.001$). Knowledge was also significantly related to selected preventive practices—receiving injections in the past year, use of sealed sterile syringes, and household use of injectable drugs ($p < 0.05$)—but not with blood transfusion history, tattooing/ear piercing, or sharing sharp instruments, indicating partial translation of knowledge into practice..

Conclusion: Awareness of hepatitis C transmission and preventive measures among the rural population remains suboptimal, with persistent misconceptions that may contribute to ongoing transmission. Strengthening targeted health education, improving access to reliable information, and promoting safe practices at the community level are essential to reduce the burden of HCV in rural settings.

Keywords: Hepatitis C, awareness, rural population, transmission, prevention, misconceptions, cross-sectional study.

INTRODUCTION

Hepatitis C virus (HCV) infection is a major global public health problem and an important cause of cirrhosis, hepatocellular carcinoma and liver-related mortality. The World Health Organization (WHO) estimates Globally, an estimated 50 million people have chronic hepatitis C virus infection, with about 1.0 million new infections occurring per year. WHO estimated that in 2022, approximately 242 000 people died from hepatitis C, mostly from cirrhosis and hepatocellular carcinoma (World Health Organization).[1,2] Despite the availability of highly effective direct-acting antiviral (DAA) regimens that can cure more than 95% of treated patients, access to testing and treatment remains limited in many low- and middle-income countries (LMICs), and global elimination targets for 2030 are currently off-track. (World Health Organization).[1,2]

Often asymptomatic in the acute phase of illness, hepatitis C (HCV) and hepatitis B (HBV) viruses were responsible for 96% of viral hepatitis associated deaths in 2015, and remain major sources of morbidity and mortality globally (WHO).[3]

HCV is predominantly transmitted through exposure to infected blood, including unsafe injections, reuse of syringes and needles, transfusion of unscreened blood or blood products, invasive medical and dental procedures with inadequately sterilised equipment, and injection drug use. Sexual and perinatal transmission occur less frequently but remain relevant in specific risk groups (WHO).[1]

There is still no effective vaccine against HCV, so primary prevention depends almost entirely on awareness, behaviour change and infection-control practices (WHO).[1]

The alarmingly high prevalence rates revealed in study warrant the urgent need to generate multiple effective policies in the region to enhance awareness amongst the general population for screening, prevention, and quick treatment of the disease (Asghar MS et al., 2021).[4]

Intervention strategies such as community-based education on attitude improvement and prevention practices should be planned and implemented by the local health bureau to overcome morbidity and mortality due HCV (Abinew Y, et al., 2025).[5]

(Verma et al., 2014) study emphasises the need for public awareness campaigns at various levels and prevention of HCV infection. It also suggests the need to develop and strengthen evaluation methodology for the Integrated Disease Surveillance Project (IDSP).[6]

(Saleha et al.,2014) concluded that in rural Egypt, there is a significant lack of knowledge of HCV infection and its transmission route and limited use of protective measures against pesticides inspite of familiarity with these chemicals.[7]

Studies from Egypt, Pakistan and China consistently show that awareness of HCV and its preventability is lower in rural than in urban communities, and that education level is a key determinant of knowledge. (Saleh et al. 2014; Nawaz et al. 2018; Dai et al. 2025).[7-9]

Improving awareness of HCV transmission modes and prevention strategies—such as use of sterile needles and syringes, avoidance of unsafe injections and transfusions, use of single-use blades at barbers, and early testing and linkage to care—is therefore central to the World Health Assembly goal of eliminating viral hepatitis as a public health threat by 2030. (World Health Organization; Toma et al. 2025).[2,10] However, existing literature suggests large and context-specific gaps in awareness among rural populations, and the patterns and predictors of these gaps are not fully understood.

The present study titled “Awareness of Hepatitis C Transmission and Prevention among Rural Population” is designed to assess the level of knowledge, attitudes and self-reported preventive practices regarding HCV among adults living in rural communities. By identifying specific misconceptions and high-risk behaviours, the study aims to generate evidence to inform tailored health-education interventions and support planning for community-based hepatitis C control in rural settings.

REVIEW OF LITERATURE

1. Global epidemiology and elimination agenda

WHO’s Global hepatitis report 2024 documents that deaths from viral hepatitis now exceed those from HIV, malaria or tuberculosis in many regions, and that progress towards the 2030 elimination targets is “off track.” (World Health Organization).[2] HCV accounts for a large share of chronic viral hepatitis deaths, with chronic infection leading to cirrhosis or hepatocellular carcinoma in a substantial proportion of untreated individuals (World Health Organization).[2]

The notably high prevalence identified in this study highlights an immediate need for comprehensive, multifaceted initiatives in the region to improve public understanding of disease screening, prevention, and timely management (Asghar MS et al., 2021).[4]

Meeting elimination goals requires pairing wider screening with fair, reliable access to treatment for all. Antiviral therapy should be available regardless of income, disease stage, or risk status. Inclusive care helps reduce disparities and supports broader public health progress. Continual monitoring of risk factors and sustainable strategies remain essential. Digital tools that improve tracking and follow-up can enhance outcomes, despite ongoing barriers and knowledge gaps (Toma D et al., 2025).[10]

These global analyses provide the conceptual backdrop for studying HCV awareness at community level.

2. Awareness and knowledge among infected patients and general populations

The knowledge gaps seen among HBV and HCV patients indicate the need for further research and targeted education that addresses India's diverse age and socioeconomic groups. Strengthening accurate information delivery by healthcare providers, improving clinician– patient communication, and fostering a science-based health culture can help achieve sustained hepatitis control nationwide (Mukherjee et al., 2017).[11]

The National Hepatitis Control Programme can train ASHAs (Accredited Social Health Activists), ANMs (Auxiliary Nurse Midwives), and Primary Health Centre staff to recognize symptoms, screen individuals, and refer suspected hepatitis cases for timely care. Regular screening of high-risk groups is advised. Nursing and paramedical staff should educate patients on management, vaccination, and screening, while all healthcare workers must be sensitized to prevent stigma toward those with viral hepatitis (Tiwari et al., 2023).[12]

The study shows low awareness of HCV prevention and treatment in Anhui Province, along with a history of high-risk behaviors. Expanded education is needed, particularly for older adults, people with limited education, and residents of central and southern regions. Additional efforts to educate women and married, divorced, or widowed individuals can help reduce risky practices. Improving knowledge and behavior alignment will support the goal of eliminating hepatitis C by 2030 (Dai S et al., 2025).[9]

Together, these studies highlight substantial information gaps even in settings with tertiary facilities or provincial health campaigns and suggest that knowledge deficits may be even more pronounced in rural communities.

3. Rural seroprevalence and risk in South Asia

The study highlights the importance of multi-level public awareness initiatives and stronger efforts to prevent HCV transmission. It also underscores the need to improve and reinforce evaluation methods within the Integrated Disease Surveillance Project (IDSP) (Verma R et al., 2014).[6]

Hepatitis C prevalence in 2017–2020 appears unchanged from 2013–2016 when similar methods are applied. Adjusting for rising injection drug use suggests the true prevalence is considerably higher.

Urgent nationwide efforts are needed to broaden testing, expand treatment access, and strengthen surveillance, particularly among underserved populations, to advance hepatitis C elimination goals (Hall EW et al., 2025).[13]

4. Knowledge, attitudes and practices (KAP) in rural communities

Limited awareness increases the risk of infection by contributing to negative attitudes and unsafe practices. Socioeconomic factors strongly influence people's basic understanding of disease prevention. To curb further transmission, stronger public awareness efforts are essential in Lucknow district. These initiatives should especially target rural and suburban communities surrounding the city (Mishra N et al., 2024).[14]

Although progress has been made, HCV elimination efforts still face major obstacles and knowledge gaps. Weak health systems, limited funding, and social barriers hinder program reach, especially among underserved groups. Important evidence on reinfection, treatment adherence, and cost-effectiveness in LMICs remains insufficient. Experiences from countries like Egypt, Spain, and Australia highlight the need for context-specific strategies, focused research, and stronger global collaboration to improve program outcomes (Toma D et al., 2025).[15]

Relatively few studies simultaneously assess knowledge, attitudes and preventive practices in community-dwelling rural adults and relate these to sociodemographic factors and exposure to health-information sources. This limits the ability of programme planners to design targeted behaviour-change interventions tailored to rural realities.

Consequently, there is a clear need for community-based research that specifically examines HCV transmission and prevention awareness among rural populations, using standardised KAP (knowledge, attitude, practice) tools and robust sampling methods. The present study aims to address this gap by systematically assessing awareness, misconceptions and self-reported preventive behaviours related to hepatitis C among adults living in rural areas, and by identifying demographic and informational factors associated with inadequate awareness. Findings from such research can guide locally relevant health-education strategies and support progress towards HCV elimination in rural communities.

MATERIALS AND METHODS

This study employed a community-based, cross-sectional design conducted in selected rural villages of Sindh and Punjab province, Pakistan.

Inclusion criteria

1. Adults aged ≥ 18 – 50 years.
2. Rural villages of province - Sindh, Districts - Tando Allahyar, Hyderabad, Mirpurkhas and Lahore district, Punjab province, Pakistan, for ≥ 1 year (to ensure exposure to local health services/practices).
3. Willing to give informed consent (signed or thumb impression as per literacy).

Exclusion criteria

1. Persons with severe acute illness or medical condition that prevents participation (e.g., unconscious, severe distress).
2. Severe cognitive impairment or serious mental illness that makes valid consent/response impossible.

The study population consisted of adults aged 18 years and above who had been residing in the area for at least one year. A sample size of 200 participants was selected using a random sampling technique to

ensure adequate representation of the rural community. Data were collected using a pre-tested, structured questionnaire that included sections on socio- demographic information, knowledge of hepatitis C transmission, awareness of preventive measures, and common misconceptions. The collected data were entered and analyzed using appropriate statistical software. Descriptive statistics such as frequencies and percentages were used to assess overall awareness levels, while the chi-square test, fisher's exact test were applied to determine associations between awareness and demographic variables.

RESULTS

A total 200 participants from the rural community were included in the study. The mean age of the respondents was (Mean ± SD: 26.53 ± 6.79 years, indicating a predominantly young adult population. With regard to educational status, the majority of participants had attained higher secondary education or above, reflecting a relatively educated rural cohort. These baseline demographic characteristics provided an appropriate context for assessing the level of awareness regarding hepatitis C transmission and prevention among the study population. A Cronbach's alpha of 0.834 indicates good to excellent internal consistency.

The hepatitis C knowledge questionnaire demonstrated good internal consistency, with a Cronbach's alpha of 0.834, indicating that the items reliably measure the same underlying construct of knowledge.

Figure 1: Knowledge of Hepatitis C Transmission, Prevention, and Treatment

Table 1: Socio- Demographic Details of Participants

Variable		(N=200) (%)
Sex	Female	107 (53.50)
	Male	93 (46.50)
Age	14-23	72 (36.00)
	24-33	104 (52.00)
	34-43	18 (9.00)
	44-53	4 (2.00)
	54-63	2 (1.00)
	(Mean ± SD)	(26.53 ± 6.79)
Marital status	Divorced/Separated	1 (0.50)
	Married	64 (32.00)
	Single	135 (67.50)
Education	Graduate & Above	129 (64.50)
	Higher Secondary	54 (27.00)
	No formal schooling	6 (3.00)
	Primary	2 (1.00)
	Secondary	9 (4.50)
Occupation	Business	10 (5.00)
	Doctor	11 (5.50)
	Employed (govt/private)	74 (37.00)
	Farmer	1 (0.50)
	House wife	16 (8.00)
	Lawyer	1 (0.50)
	Nurse	1 (0.50)
	Self Employed	1 (0.500
	Student	79 (39.50)
	Unemployed	6 (3.000

Table 2: Knowledge of Hepatitis C Transmission, Prevention & Treatment

Question	Don't know	No	Yes
Can hepatitis C be spread by mosquito or insect bite	29.00%	59.50%	11.50%
Coughing/sneezing transmit Hepatitis C:	12.50%	67.00%	20.50%
Getting vaccinated (if a vaccine existed):	13.50%	12.00%	74.50%
Having sexual contact with an infected person transmits Hepatitis C:	6.50%	26.50%	67.00%
If yes, do you know where treatment is available?	0.00%	43.50%	56.50%
Is there a vaccine available to prevent hepatitis C?	20.50%	33.50%	46.00%
Receiving unsafe medical injections (reused syringe) transmits hepatitis C:	5.00%	19.50%	75.50%
Receiving Unscreened blood transfusion transmits Hepatitis C:	10.50%	21.50%	68.00%
Transmission from Mother to baby during childbirth can occur in hepatitis C:	12.50%	25.00%	62.50%
Using condoms during sex prevents Hepatitis C transmission:	20.50%	10.50%	69.00%
Avoid sharing razors/needles prevents Hepatitis C:	7.00%	8.00%	85.00%
Eating food prepared by infected person transmits Hepatitis C:	12.00%	62.50%	25.50%
Ensuring donated blood is screened before transfusion prevents Hepatitis C:	10.00%	5.50%	84.50%
Have you heard that hepatitis C can be cured with medicines?	21.50%	16.50%	62.00%
If Yes - Was sterile equipment used?	55.00%	20.00%	25.00%
Have you ever received a blood transfusion?	7.00%	81.00%	12.00%
Do you share razors/skin-cutting instruments at home or with others?	0.00%	75.50%	24.50%
Sharing needles for injections/drugs transmits Hepatitis C:	4.50%	19.00%	76.50%
Sharing razors at home or barbershop transmits hepatitis C:	4.00%	20.00%	76.00%
Tattooing or ear-piercing with unsterile instruments transmits Hepatitis C:	8.00%	19.50%	72.50%
Using new sterile needle/syringe for each injection prevents hepatitis C:	8.00%	8.50%	83.50%

Table 3: Association Between Socio-Demographic Characteristics and Knowledge About Hepatitis C Vaccine

		Knowledge about Hepatitis C Vaccine				
Variable		**Poor knowledge**	**Moderate knowledge**	**High Knowledge**	**Chi Square**	**P Value**
Sex	Female	23 (21.50)	56 (52.30)	28(26.20)	1.183	0.566
	Male	25 (26.90)	42 (45.20)	26 (28.00)		
Age	14-23	19 (26.40)	39 (54.20)	14 (19.40)	-	0.67*
	24-33	23 (22.10)	47 (45.20)	34 (32.70)		
	34-43	5 (27.80)	8 (44.40)	5 (27.80)		
	43-53	1 (25.00)	2 (50.00)	1 (25.00)		
	54-63	0 (0.00)	2 (100.00)	0 (0.00)		
Marital status	Divorced/Separated	1 (100.00)	0 (0.00)	0 (0.00)	-	0.502*
	Married	15 (23.40)	34 (53.10)	15 (23.40)		
	Single	32 (23.70)	64 (47.40)	39 (28.90)		
Education (highest level completed):	Graduate & Above	28 (21.70)	62 (48.10)	39 (30.20)	-	0.847*
	Higher Secondary	15 (27.80)	26 (48.10)	13 (24.10)		
	No formal schooling	2 (33.30)	3 (50.00)	1 (16.70)		
	Primary	1 (50.00)	1 (50.00)	0 (0.00)		
	Secondary	2 (22.20)	6 (66.70)	1 (11.10)		
Occupation	Business	3 (30.00)	4 (40.00)	3 (30.00)	-	0.023*
	Doctor	0 (0.00)	2 (18.20)	9 (81.80)		
	Employed (govt/private)	19 (25.70)	34 (45.90)	21 (28.40)		
	Farmer	0 (0.00)	1 (100.00)	0 (0.00)		
	House wife	2 (12.50)	11 (68.80)	3 (18.80)		
	Lawyer	1 (100.00)	0 (0.00)	0 (0.00)		
	Nurse	1 (100.00)	0 (0.00)	0 (0.00)		
	Self Employed	0 (0.00)	1 (100.0)	0 (0.00)		
	Student	20 (25.30)	41 (51.90)	18 (22.80)		
	Unemployed	2 (33.30)	4 (66.70)	0 (0.00)		

Table 4: Association Between Knowledge Level and Attitudes Toward Hepatitis C

Knowledge Vs Attitude						
		Knowledge				
		Poor	**Moderate**	**Good**	**Chi Square**	**P Value**
How serious do you think hepatitis C is?	Don't know	5 (83.30)	1 (16.70)	0 (0.00)	-	0.001*
	Not serious	1 (8.30)	11 (91.70)	0 (0.00)		
	Somewhat serious	9 (25.00)	20 (55.60)	7 (19.40)		
	Very serious	33 (22.60)	66 (45.20)	47 (32.20)		
Do you think people with hepatitis C should be treated differently or avoided in the community?	No	9 (11.40)	38 (48.10)	32 (40.50)	22.26	0.001
	Not sure	14 (46.70)	13 (43.30)	3 (10.00)		
	Yes	25 (27.50)	47 (51.60)	19 (20.90)		

Table 5: Association Between Knowledge Level and Practices Related to Hepatitis C

Knowledge Vs practice						
		Status				
		Poor	Moderate	Good	Chi square	P value
Have you ever received a blood transfusion?	Don't know	5 (35.70)	7 (50.00)	2 (14.30)	2.07	0.703
	No	38 (23.50)	78 (48.10)	46 (28.40)		
	Yes	5 (20.80)	13 (54.20)	6 (25.00)		
In the past year, have you received any injections (for illness or pain)?	No	27 (33.80)	37 (46.30)	16 (20.00)	7.91	0.02
	Yes	21 (17.50)	61 (50.80)	38 (31.70)		
If Yes - Did the health worker use a new, sealed syringe in front of you?	No	8 (38.10)	11 (52.40)	2 (9.50)		
	Not sure	20 (33.90)	24 (40.70)	15 (25.40)		
	Yes	20 (16.70)	63 (52.50)	37 (30.80)	11.1	0.025
Have you ever had a tattoo, ear piercing, or traditional scarification?	No	31 (24.60)	55 (43.65)	40 (31.75)		
	Yes	17 (23.00)	43 (58.00)	14 (19.00)	8.36	0.74
If Yes - Was sterile equipment used?	Dont know	28 (25.50)	50 (45.50)	32 (29.10)		
	No	11 (27.50)	20 (50.00)	9 (22.50)		
	Yes	9 (18.00)	28 (56.00)	13 (26.00)	2.34	0.682
Do you share razors/skin- cutting instruments at home or with others?	No	37 (24.50)	69 (45.70)	45 (29.80)	-	0.108*
	Yes	11 (22.45)	29 (59.18)	9 (18.37)		
Do you or anyone in your household use injectable drugs (share needles)?	No	36 (22.50)	73 (45.60)	51 (31.90)		
	Prefer not to say	7 (53.80)	4 (30.80)	2 (15.40)		
	Yes	5 (18.50)	21 (77.80)	1 (3.70)	18.665	0.001

(* - Fisher's exact test value in Table – 3,4,5)

[Table 3] Shows Association Between Knowledge and Socio-Demographic Variables

- Sex, age, marital status, and education showed no statistically significant association with knowledge level ($p > 0.05$).
- Occupation was significantly associated with knowledge level (χ^2, $p = 0.023$). Doctors demonstrated the highest proportion of good knowledge (81.8%), whereas unskilled and unemployed groups showed relatively lower knowledge levels.

[Table 4] Shows Knowledge and Attitude Association

A statistically significant association was observed between knowledge level and attitude:

- Participants who perceived Hepatitis C as very serious had significantly higher good knowledge levels ($p = 0.001$).
- Attitudes toward avoiding or discriminating against infected individuals were also significantly associated with knowledge ($\chi^2 = 22.26$, $p = 0.001$), indicating that better knowledge was linked to more positive and non-discriminatory attitudes.

[Table 5] Shows Knowledge and Practice Association

The relationship between knowledge and preventive practices showed mixed results:

- Significant associations were observed between knowledge and:
  - Receiving injections in the past year ($p = 0.02$)
  - Use of sealed sterile syringes ($p = 0.025$)
  - Household use of injectable drugs ($p = 0.001$)
- No significant association was found between knowledge and:
  - History of blood transfusion
  - Tattooing/ear piercing
  - Sharing razors or skin-cutting instruments

This suggests that while higher knowledge improves certain health-seeking behaviors, it does not uniformly translate into safer practices.

DISCUSSION

This study demonstrates that knowledge of Hepatitis C is not significantly influenced by most socio-demographic factors, including age, sex, marital status, or education, suggesting that awareness gaps are widespread across the population. However, occupation showed a significant association with knowledge, with doctors exhibiting the highest levels of good knowledge, highlighting the role of professional exposure to health information.

Knowledge was strongly associated with attitudes toward Hepatitis C. Participants who perceived the disease as very serious and those who expressed non-discriminatory attitudes toward infected individuals had significantly higher knowledge levels. This underscores the importance of education in improving risk perception and reducing stigma, which are critical for effective prevention and treatment uptake.

The association between knowledge and preventive practices was inconsistent. Higher knowledge was linked to safer injection-related behaviors, including use of sealed sterile syringes and awareness of injectable drug use within households. In contrast, no significant association was observed with other risk

behaviors such as blood transfusion history, tattooing, or sharing sharp instruments. These findings suggest that while knowledge can influence certain health-seeking behaviors, it does not uniformly translate into safer practices, indicating the need for combined educational, behavioral, and structural interventions.

(Knick T et al., 2019) studied that among 613 survey respondents, individuals from high- incidence counties demonstrated significantly lower awareness of hepatitis C risk factors, identifying fewer risks than those from lower-incidence areas (5.6 vs 6.1 of 9; p=0.04), a difference that persisted after adjustment for age and education (p=0.03). Recognition of snorting drugs as a risk factor was notably lower in high-incidence regions (25% vs 36%; p=0.01), and overall knowledge was limited, with only 38% of participants aware that HCV is curable. These findings highlight a substantial knowledge deficit in regions with ongoing transmission, underscoring the need for targeted public health education as a core component of hepatitis C prevention strategies.[16]

(Zeremski M et al., 2014) studied participants with mean age of 53 ± 8.7 years; 59.5% were male, with 46.3% self-reporting hepatitis C virus (HCV) seropositivity. Recent injection and non-injection drug use were reported by 6.9% and 37.3%, respectively. Most respondents (78%) were willing to engage in HCV education and treatment, and 54.7% showed adequate HCV knowledge. Higher knowledge was linked to prior HCV education and seropositivity, while younger age and better knowledge predicted greater treatment acceptance. Fear of treatment side effects was the main barrier.[17]

(Dai S et al., 2025) studied that Hepatitis C awareness was moderate (~54–56%); although most recognized blood exposure as a risk, fewer than half knew infected individuals may appear healthy. Awareness varied by age, education, and location. Nearly half reported high- risk behaviors, which were associated with awareness, gender, marital status, and geographic location.[9]

(Kaskafetou S et al., 2022) studied that high overall knowledge of HBV, HCV, and HIV was low (30.4%, 21.6%, and 29.6%, respectively), largely due to widespread misconceptions about transmission. Older age and residence outside major cities were linked to lower knowledge, whereas female gender, higher education and income, greater medical risk, prior testing, and being born in Greece or Cyprus were associated with better knowledge.[18]

(Demsiss W et al.,2018) studied that the seroprevalence of HBV and HCV was 4.2% and 0.7%, respectively. Older age and prior needlestick injury were independently associated with higher HBV risk. Although most students demonstrated adequate knowledge of hepatitis B and C, only half practiced safe occupational behaviors. Nearly half experienced needlestick injuries, with just over half reporting the incident and fewer than 40% undergoing hepatitis screening.[19]

(Wu E et al., 2015) studied that among 525 patients from the US, Beijing, and Hebei, mean age was 52–56 years, with higher education and prior HCV treatment more common in the US and Beijing than Hebei. Mean HCV knowledge scores differed significantly (12.7, 11.7, and 6.4; $p < 0.001$) and were independently associated with study site, education, gender, and prior treatment.[20]

A targeted micro-elimination strategy focusing on high-risk groups may be the most practical path to hepatitis C elimination in China. Achieving this will require affordable pan-genotypic DAAs, stronger financial support for vulnerable patients, improved awareness to enhance treatment uptake, and an integrated primary-care–based cascade of care (Song Y et al., 2022).[21]

Expanding diagnosis and linkage to care by ensuring universal access to affordable point-of- care testing and pangenotypic direct-acting antiviral therapy is critical for meeting the WHO hepatitis C elimination goals by 2030 (Spearman CW et al., 2019).[22]

(Alam-Mehrjerdi Z et al., 2016) The findings suggest that awareness of HCV status and access to effective HCV education through multiple information sources are linked to greater willingness to initiate treatment among people who inject drugs enrolled in methadone programs. Further studies are needed to evaluate the impact of structured educational interventions and peer-support groups on improving HCV treatment uptake in this population.[23]

(Zeremski M et al., 2014) Most patients expressed readiness to engage in HCV education and treatment. Greater willingness to initiate treatment was strongly linked to prior participation in HCV educational programs and higher levels of HCV-related knowledge.[24]

CONCLUSION

Many individuals lacked adequate understanding of hepatitis C, highlighting the need for targeted, community-based health education. Strengthening awareness through primary healthcare services, mass media, and outreach programs is essential to promote early testing, reduce transmission, and support effective hepatitis C prevention and control in rural settings.

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