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Research Article

**PREVALENCE AND KNOWLEDGE OF SCREENING
BEHAVIOR FOR HEP C AMONG PEOPLE OF DIFFERENT
PROFESSIONS IN GUJRANWALA****¹Muhammad Ali Raza, ²Abdul Moeed Baig, ³Ahmed UR Rehman, ⁴Dr. Sara Saleem**¹ DHQ/GMC Teaching Hospital Gujranwala² Family Medical Centre Kasur, General Physician³ Gujranwala Medical college, Gujranwala⁴ Gujranwala Medical College**Abstract:**

Hepatitis C virus (HCV) is a blood borne pathogen that causes both acute and chronic infections, posing a serious threat to global public health. As per the World Health Organization (WHO), an estimated 58 million people are living with chronic HCV worldwide, with 1.5 million new infections reported annually as of 2023 data. The virus is primarily transmitted through exposure to contaminated blood, commonly via unsafe medical practices, transfusions of unscreened blood, intravenous drug use, and less frequently, through sexual contact and from mother to child. The progression from acute to chronic HCV occurs in approximately 75–85% of infected individuals, and chronic infection can lead to serious complications, including liver cirrhosis, liver failure, and hepatocellular carcinoma. In recent years, advancements in antiviral therapies have made it possible to cure over 95% of individuals infected with HCV; however, access to diagnosis and treatment remains a challenge in many low- and middle-income countries (LMICs). The study highlights the significant prevalence of Hepatitis C in Gujranwala and the complex factors influencing screening behavior, including education, professional background, and the knowledge of screening opportunities. By understanding these factors, targeted interventions can be designed to increase participation in screening programs, particularly for those who are less educated or unaware of the benefits of early screening. Enhancing public awareness, improving accessibility to screening, and emphasizing the importance of regular health checkups can help reduce the burden of Hepatitis C in the region.

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INTRODUCTION:

Hepatitis C virus (HCV) is a blood borne pathogen that causes both acute and chronic infections, posing a serious threat to global public health. As per the World Health Organization (WHO), an estimated 58 million people are living with chronic HCV worldwide, with 1.5 million new infections reported annually as of 2023 data¹. The virus is primarily transmitted through exposure to contaminated blood, commonly via unsafe medical practices, transfusions of unscreened blood, intravenous drug use, and less frequently, through sexual contact and from mother to child². The progression from acute to chronic HCV occurs in approximately 75–85% of infected individuals, and chronic infection can lead to serious complications, including liver cirrhosis, liver failure, and hepatocellular carcinoma³. In recent years, advancements in antiviral therapies have made it possible to cure over 95% of individuals infected with HCV; however, access to diagnosis and treatment remains a challenge in many low- and middle-income countries (LMICs)⁴. Pakistan ranks among the countries with the highest HCV prevalence globally. According to a 2023 systematic review, the pooled prevalence of active HCV infection in Pakistan is estimated at 4.9% (95% CI: 4.3–5.5%)⁵. This represents nearly 10 million individuals living with active infection, making HCV one of the leading causes of chronic liver disease in the country. The widespread use of injectable medications, reuse of syringes, unsafe blood transfusions, and lack of awareness are the primary drivers of transmission in Pakistan⁶. The healthcare system in Pakistan also struggles with weak regulatory oversight, particularly in rural and peri-urban areas where unqualified practitioners may use unhygienic practices⁷. Moreover, blood donation is often performed without rigorous screening, and awareness regarding preventive measures remains limited in the general population⁸. Among various occupational groups, food chain workers represent a critical population due to their direct contact with consumable goods and close interaction with the public. This group includes individuals working in hotels, restaurants, bakeries, meat shops, food processing units, and street food vendors. Despite their central role in public health safety, food chain workers are often overlooked in health policy and disease surveillance strategies. Intraprovincial comparison reveals that the Punjab province, have highest prevalence of HCV (6.7%); then Sindh province (5.0%) followed by Balochistan (1.5%) and Khyber Pakhtoonkhwa (1.1 %). In Gujranwala—a major industrial city in Punjab—thousands of people are employed in the food industry, often under informal work arrangements without access to

regular health screening or occupational health support. The lack of structured medical surveillance in this sector raises concerns about the potential risk of communicable diseases, including hepatitis C, both for the workers and for public exposure. Studies have demonstrated that low-income, uneducated workers with limited access to health facilities are more likely to engage in high-risk behaviors, including getting medical treatment from unqualified providers, sharing razors or dental tools, and receiving injections from untrained staff⁹. In many cases, these workers are unaware of their infection status and do not undergo testing unless symptoms appear—by which time liver damage may already be significant¹⁰. A 2021 study conducted in Faisalabad among barbers and salon workers reported a high prevalence of HCV, indicating a need for occupational screening in jobs involving direct contact or hygiene risks¹¹. Although direct blood contact is less likely in food handling compared to barbering or dentistry, the potential for cross-contamination and the lack of hygiene training remain concerns¹². While several studies have assessed HCV prevalence in different populations across Pakistan—including blood donors, healthcare workers, prisoners, and injecting drug users—very little attention has been paid to food chain workers. No recent data is available that quantifies the HCV burden among food industry personnel in Gujranwala specifically.

Given the high HCV burden in Punjab and the city's status as a densely populated urban center with an active informal economy, the possibility of silent carriers working in the food sector cannot be ignored. Furthermore, because HCV remains asymptomatic for years, routine screening is essential to identify cases early and prevent further transmission¹³.

The public health implications of undiagnosed HCV cases among food workers are substantial. Although the risk of foodborne transmission of HCV is negligible under normal circumstances, poor hygiene practices—such as lack of hand washing after exposure to bleeding injuries—could indirectly contribute to viral spread or contamination of shared surfaces¹⁴. Moreover, awareness campaigns and preventive efforts are often not targeted toward this occupational group, leaving a significant gap in disease control strategies¹⁵. This study aims to determine the prevalence of Hepatitis C among different food chain workers in Gujranwala and assess associated socio-demographic and occupational risk factors. The findings will be crucial for: Informing local health authorities about the magnitude of the problem. Advocating for regular

HCV screening and awareness programs in the food sector. Developing guidelines for mandatory health checks for individuals working in food preparation and handling. Ensuring food safety and protecting public health by mitigating the risk of silent carriers in high-contact occupations.

Such research is especially timely in the context of Pakistan's national HCV elimination strategy, which aims to significantly reduce the disease burden by 2030 in line with WHO's global targets¹⁶. To achieve this, it is imperative that high-risk, under-assessed occupational groups such as food chain workers are included in screening and treatment programs.

MATERIAL AND METHODS:

Screening for hepatitis C was carried out among apparently healthy male and females working in different food chains and local food suppliers or persons belonging to food industry located in district Gujranwala (Pakistan). The blood samples were collected by certified technicians. Blood was allowed to coagulate. Sera were collected after centrifugation at 5000 rpm for 10 minutes at 4°C. The detection of antibodies against hepatitis C virus in the sera was detected using enzyme immunoassays. All procedures were performed according to informed institutional guidelines.

RESULTS:

Screening of about 1000 persons were carried out in district Gujranwala by holding voluntary screening camps for HCV at different food points and food street. The prevalence of hepatitis C in this population was found to be 8.9% (89/100). From these 89 20 persons knew about his hep status previously. And from 1000 about 520 persons underwent screening for hep C previously from which 434 persons underwent screening while blood donation and only 86 persons underwent the screening properly previously in last 5 years. Literacy rate of all persons were also noted from 1000 only 56 persons were graduated 457 has passed middle school or matriculation level and 487 persons were with less than education level of primary school. 221 from middle and matriculation level education has undergone screening for Hep C and 250 from the primary or less level of education persons underwent screening for Hep C previously. From 86 persons who underwent screening for Hep C 47 persons got screening for hep C after his close relative ended into the DCLD. Only 39 persons got him or her screened for Hep C voluntarily after getting information regarding Hep C screening from any seminar. From all the persons who were graduated 49 persons underwent screening for hep c voluntarily previously

and remaining has not undergone screening for Hep C.

DISCUSSION:

This study provided the knowledge about the prevalence and about the knowledge behavior of persons towards Hep c and knowledge and importance of Hep C screening in Gujranwala district

The prevalence of HCV in the screened population was found to be 8.9%, (89/1000) which is a significant public health concern. As acute hep c is converted into chronic and leads to the chronic liver disease and decompensated liver disease¹⁷

In our study we found out that 520 out of 1000 individuals had previously undergone Hepatitis C screening, only 86 had done so properly in the last five years. This study also highlights the gap in regular screening practices, which is a critical issue for the long-term control of Hepatitis C as only 520/1000 persons has undergone screening in last 5 years in which majority of individuals underwent during the blood donation. Research suggests that while many individuals may undergo screening at some point, there is a notable decline in routine or follow-up testing, which is essential for managing the disease¹⁸

47 out of 86 individuals who underwent screening recently did so after a close relative was diagnosed with decompensated cirrhosis, emphasizing a reactive rather than proactive approach to health screening. Similar patterns of delayed health-seeking behavior have been observed in other studies, where individuals only take action following a health crisis in their immediate family¹⁹. Only 39 individuals participated in screening voluntarily after receiving information through seminars or health education efforts. This low participation rate suggests that while awareness campaigns play a role, they may not be sufficient to prompt widespread voluntary participation. Enhanced outreach programs that include more personalized, targeted messaging could increase engagement²⁰. Data reveals that individuals with higher education levels were more likely to undergo screening. People with higher levels of education are more likely to be aware of health risks such as Hepatitis C and are more likely to seek preventive health measures²¹

Although this study did not directly categorize individuals by profession, the relationship between education and screening behavior suggests that people in more educated or higher-status professions

are more likely to be screened. This is in line with findings from other studies, which show that individuals in higher socio-economic positions often have better access to healthcare services, including regular screenings²²

health campaigns should aim to promote proactive health behaviors, emphasizing the importance of screening even in the absence of symptoms or family health crises. Research has shown that early detection and treatment of Hepatitis C can significantly reduce the risk of liver cirrhosis and cancer, making early screening essential¹⁷

CONCLUSION:

In conclusion, the study highlights the significant prevalence of Hepatitis C in Gujranwala and the complex factors influencing screening behavior, including education, professional background, and the knowledge of screening opportunities. By understanding these factors, targeted interventions can be designed to increase participation in screening programs, particularly for those who are less educated or unaware of the benefits of early screening. Enhancing public awareness, improving accessibility to screening, and emphasizing the importance of regular health checkups can help reduce the burden of Hepatitis C in the region.

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