

Why is it Difficult to Eliminate Hepatitis-C in Rural Pakistan? An Analysis of the Demographic Variables

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Purpose: The objective of this abstract is to highlight the possible demographic factors that have led to a high prevalence of hepatitis-C in Rural Sindh, Pakistan.

Methods: A mix-method analysis was conducted on our programmatic hepatitis-C dataset from March'2021 till December'2022. This dataset had adults aged 18 years and above, who gave informed consent to participate in the study if they tested positive for hepatitis-C infection by a hepatitis-C screening kit. A short survey outlining the demographics of the population and the possible factors that could have led to hepatitis-C infection was asked. Chi-square test was used to assess a possible association between the demographics and transmission history. Any p-value <0.05 was considered significant. The study focused on two major districts of Sindh i.e. Gharo and Sakro. After the survey each individual was given a chance to elaborate on the survey findings via a short structured interview.

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- The Hepatitis-C screening kit detected a 16% positivity rate in the underprivileged community of rural Sindh.
- 49% of the participants believed that being uneducated was a vital reason for them contracting the disease.
- Chi-Square Analysis shows an association between Hepatitis-C in the rural community and the level of education, history of dental treatment, blood transfusion and reuse of shaving equipment.

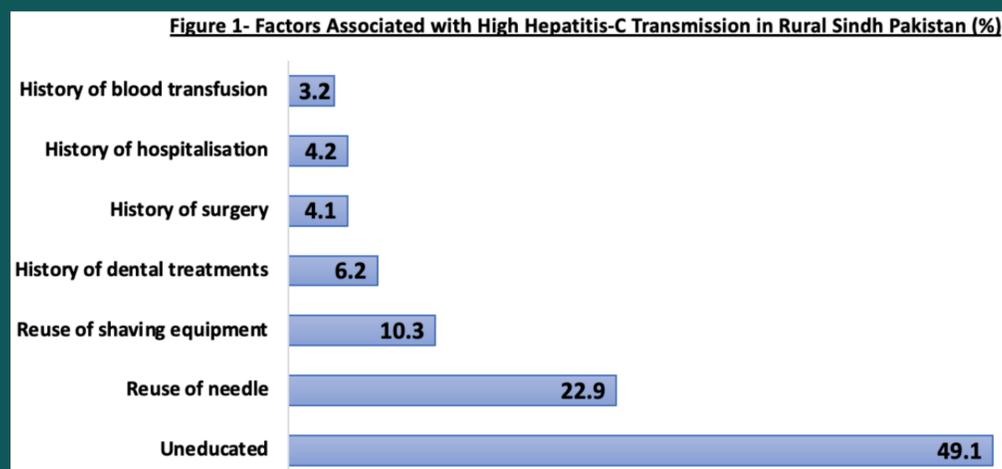


Table-1: Chi-Square Analysis of the Demographic Factors

Demographic(s)	Positive Case (n)	Negative Case (n)	p-value
Gender Male	218	1095	0.25
Gender Female	313	1757	
Educated	61	133	0.25
Uneducated	502	2686	
History of Dental Treatment	87	140	<0.001
No History of Dental Treatment	445	2711	
History of Needle Reuse	157	679	<0.005
No History of Needle Reuse	375	2172	
Reuse of shaving equipment	200	175	<0.001
No Reuse of shaving equipment	332	2676	
History of Surgery	36	115	0.005
No Surgical History	496	2736	
History of Blood Transfusion	51	67	<0.001
No Transfusion History	481	2784	
History of Hospitalisation	32	120	0.064
No Hospitalisation	500	2731	

Results: A total of 3338 hepatitis-C tests were conducted, out of which 532 (16%) showed a positive result. From the positive cases, 462 (87%) participants resided in the Gharo, while the rest belonged to Sakro. The mean age was 43 years and majority of the cases (n= 313) were females. In terms of factors associated with high hepatitis-C transmission, most of the participants (49.1%) believed that being uneducated played a vital role in them contracting the disease (Figure-1). Based on the Chi-Square testing, level of education, history of dental treatment, history of blood transfusion and reuse of shaving equipment showed a highly significant p-value i.e. <0.001, signifying their high chance of association with Hepatitis-C transmission as shown in Table-1. On the other hand, history of hospitalisation and gender showed a p-value of >0.05 signifying no association.

Conclusions: As the rural population constitutes about roughly 63% of the total population, preventative interventions should be implemented, especially health education reforms. Creation of pictorial infographics for greater visualisation of the content and translation of information in regional languages will increase the population's understanding of Hepatitis-C. We recommend the local government assign a task force to identify institutes that are not sterilising medical equipment according to basic guidelines. If no action is taken hepatitis-C cases will lead to a breakdown in the healthcare system of Pakistan.

