

# Prevalence of Hepatitis B, Hepatitis C and HIV in Cataract Surgery Patients at DHQ Teaching Hospital Sargodha

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## ABSTRACT

**Purpose:** To investigate prevalence of hepatitis B, hepatitis C and HIV in patients admitted for cataract surgery in DHQ teaching hospital Sargodha.

**Study Design:** Cross sectional study

**Place and Duration of Study:** This study was conducted at the Department of Eye, DHQ Teaching Hospital Sargodha from 1 January 2017 to 30 June, 2017.

**Materials and Methods:** After taking the informed consent patients were tested in the DHQ hospital Sargodha laboratory for Hepatitis B surface antigen (HBsAg), Anti-HCV and HIV. Those with the positive results were used to determine the prevalence of Hepatitis B, Hepatitis C and HIV.

**Results:** 767 patients were admitted for cataract in the period of six months (January 2017 - June 2017) in DHQ Teaching Hospital Sargodha. Mean age was 61 years. Number of male patients was 417 (54.37%) and of female patients was 350 (45.63%). Total patients who were Hepatitis B positive were 15 (1.95%), Hepatitis C positive were 84 (10.95%) and HIV positive were 2 (0.26%).

**Conclusion:** Prevalence of Hepatitis B and C is higher among the patients presenting in DHQ teaching hospital Sargodha as compared to the average prevalence in Pakistan as well as globally. Furthermore 2 patients with HIV positivity were also found.

**Key Words:** Hepatitis B, Hepatitis C, HIV, Prevalence

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## INTRODUCTION

Hepatitis B, Hepatitis C and HIV are viral communicable diseases that are affecting general population globally. Hepatitis is inflammation of liver. It has multiple variants that manifest in different ways. Hepatitis B and C, however, are leading causes of liver cirrhosis and hepatocellular carcinoma<sup>1</sup>. Hepatitis B is a DNA virus. Pakistan is highly endemic with HBV<sup>2</sup>. About 2 billion people are infected with HBV worldwide<sup>3,4,5</sup> and about 9 million people are infected in Pakistan<sup>6</sup> with its infection rate steadily rising<sup>7</sup>. Hepatitis C is a RNA virus that affects around 3% of global population or 120-170 million people according to WHO data<sup>8</sup>. HIV is a RNA virus that causes AIDS. In Pakistan about 0.1% of population with 1% in high risk population is affected by it according to the estimations of joint effort team of WHO and UNAIDS.

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These virulent agents are transmitted by contaminated needles, contaminated blood products, sexual intercourse, vertically and infected surgical instruments<sup>9</sup>. Factors that result in spread and increasing incidence of these diseases include lack of knowledge, lack of screening facilities, intentionally avoiding preoperative screening of patients in hospitals<sup>10</sup>. This puts health care workers at serious health risk.

## MATERIALS AND METHODS

This study is a cross-sectional study that was done at DHQ teaching hospital Sargodha. It is a tertiary care hospital with a well-equipped ophthalmology department. About 2000-2500 eye surgeries are performed here annually. Cataract surgery is one of the common surgery performed here in this establishment. In this only the patients that were admitted for cataract surgery during this period of six months were included. All of the patients were screened for Hepatitis B, Hepatitis C and HIV after informed consent and all the data was recorded in the indoor unit register of all the consultants. All the infected patients were operated with labelled surgical sets. Surgeons as well as O.T staff took all the protective measures and later patients were referred to medical specialists for further evaluation and treatment. It was also

ensured to inform the health care department regarding the HIV cases.

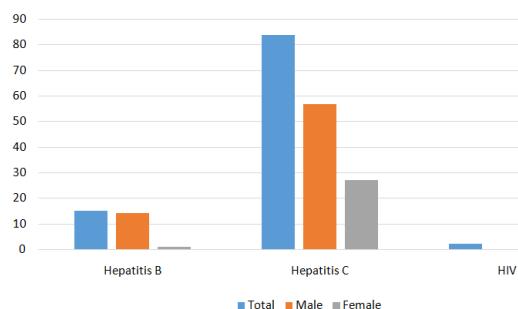
## RESULTS

Total of 767 patients were included in this study during the defined span of six months. Out of these 417 patients were male (54.37%) and 350 patients were female (45.63%). There was an observable difference in the difference of prevalence Hepatitis B, Hepatitis C and HIV between Male and Female patients.

**Table No.1: Gender Distribution of Hepatitis B, C and HIV**

Gender	Total	Uninfected	Infected	B+	C+	HIV
Male	417	346 (82.97%)	71(17.03%)	14 (93.33%)	57 (67.86%)	0
Female	350	320 (91.43%)	30 (8.57%)	1 (6.64%)	27 (32.14%)	2 (0.26%)

Similar results are exhibited by bar chart showing distribution of infected patients suffering from Hepatitis B, Hepatitis C and HIV respectively.



**Figure No.1: Distribution of Patients according to gender**

Above mentioned results were tested for association using chi-square in Minitab 18 using gender and overall patients infected with Hepatitis B, Hepatitis C and HIV. It showed a p-value of 0.002 which is below 0.05 exhibiting statistical significance as shown below.

**Tabulated Statistics: gender, Worksheet columns  
Rows: gender Columns: Worksheet columns**

	total	infected	All
male	417 (431.22)	71 (56.78)	488
female	350 (335.78)	30 (44.22)	380
All	767	101	868

Cell Contents

Count

Expected count

Chi-Square Test

	Chi-Square	DF	P-Value
Pearson	9.201	1	0.002
Likelihood Ratio	9.521	1	0.002
Fisher's Exact Test			
P-Value			
	0.0026929		

Total of 15 (1.95%) patients were Hepatitis B positive with 14 (93.33%) male and 1 (6.64%) female patients. As with Hepatitis C, 84 (10.95%) patients were infected with 57 (67.86%) male while 27 (32.14%) female patients. In case of HIV only 2 (0.26%) patients were infected and both were females. Total of 101 (13.17%) patients were infected with either Hepatitis B, Hepatitis C or HIV while remaining 666 (86.83%) of patients were uninfected. Following table 1 summarizes these results.

## DISCUSSION

When we compare the prevalence of Hepatitis B and C in Pakistan with the global numbers there is an evident higher prevalence rates in Pakistan. Other regions with high prevalence rates include Asia, Africa and middle east<sup>11</sup>. There are various risk factors that contribute to this including unsafe dental procedures, lack of vaccination, lack of screening facilities at primary and secondary health care centers, male gender, age more than 16, family history of liver disease etc<sup>12</sup>. Other sources include barber instruments and drug abuse. As far as our study is concerned we have found a clear difference of prevalence rates between male and female gender. Men are more affected as compared to female patients in case of Hepatitis B and C while in case HIV only 2 female patients were found. This trend has also been observed in various other studies one of these include a study by Riaz S<sup>13</sup>. However their study only discusses Hepatitis B and C prevalence rates which were still higher among male patients. One factor that was also observed that more male patients usually seek medical attention this may also be the reason of higher prevalence rates in males as compared to females.

To lower this growing health issues and preventing the medical professionals we have to eliminate the sources of transmission especially needle pricks and surgical malpractices<sup>14-17</sup>. To achieve that is a dire need to educate the community at a national level via television campaigns and door to door yearly visits.

## CONCLUSION

In Pakistan, health system is barely enough to meet the health needs of a growing population. This increasing rate of infection of Hepatitis B, C and HIV further imparts a threat to the health

system failure. To avoid a health crisis effective measures have to be adopted including health education, provision of screening facilities, improving general hygiene and preventing the transmission of the infection especially in health care establishments.

**Author's Contribution:**

Concept & Design of Study: Nasrullah Khan  
 Drafting: Tamoor Iqbal  
 Data Analysis: Wajid Ali Kanju  
 Revisiting Critically: Tamoor Iqbal, Wajid Ali Kanju  
 Final Approval of version: Nasrullah Khan

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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