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Research Article

**OCCURRENCE OF INFECTIONS DUE TO HBV & HCV AND THE
ASSOCIATED RISK FACTORS AMONG PATIENTS WHO GOT
ADMISSION FOR OCULAR THERAPY**Dr Anam Ashraf, ²Dr. Ziad Jamil, ¹Saman Akhter¹Shalamar Hospital Lahore²Fatima Memorial Hospital Lahore

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Abstract:

Objective: This research work aimed to find out the occurrence of infections due to HBV & HCV and the associated risk factors among patients who got admission for ocular therapy at an eye care center located in Lahore, Pakistan.

Methodology: Total 931 patients got admission in the hospital for the ocular treatment, we conducted the screening of those patients for the presence of infections due to HBV and/or HCV. All the patients with both genders with greater than 30 year of age were the part of this case work. The screening for hepatitis B virus antigen HBsAg & anti-hepatitis C virus antibody carried out with the utilization of the method of chromatography. The positive samples were those which were reactive again and again for HBsAg and/or anti-hepatitis C virus antibody.

Results: Out of total nine hundred and thirty one patients, 53.30% (n: 497) were the male patients & 46.70% (n: 434) were the female patients. We identified the infections of HBV and HCV in 17.90% (n: 167) patients. The prevalence of infections of hepatitis B virus in this study period was 4.60%, hepatitis C infection was 13.30% & for both HBV & HCV was 3.90%. Relating to the prompting features, previous history of transfusion of blood was available in 8.30% patients, injection in 89.20% patients, having shave from barbers in 52.60% patients & 27.50% (n: 46) patients appeared with the previous surgical history.

Conclusion: There should be an arrangement of vaccination and screening on populations to prevent the transmission of infections because of hepatitis C virus and hepatitis B virus and there should be routine programs to for the awareness of the common public for vaccination of these infections and different risk factors which are the main reasons for the spread of these infections.

KEY WORDS: Transmission, HBV, HCV, infection, vaccination, surgical, injection, prompting, risk factors, antibody, screening.

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INTRODUCTION:

The occurrence of HBV is a serious health challenge for the whole world because of its persistence, distribution in the whole world & its severe complications which leads to the high mortality rate. The identification of HCV carried out for the very first time in 1988 [1]. The prevalence of the hepatitis C virus & hepatitis B virus was very common in the recipients of blood, having shave from barbers and various surgical interventions [2]. From 8.0 to 16.0 million infections of hepatitis B virus and 2.30 to 4.70 million infections due to hepatitis C virus are the outcome of unsafe injections [3]. The medical appearance of infection due to HCV and HBV are normally pain in abdomen, malaise and presence of jaundice [4]. There are some silent features of the infection of HCV and it persists ten to thirty year from the onset to appearance of various symptoms of this very disease [5].

Some of the infections due to these viruses are portal hypertension, liver cirrhosis, ascites & varices of esophagus [6]. In accordance with a worldwide survey, approximately 2 billion persons are available with infection of HBV [7, 8] & greater than three hundred and fifty million people are carrier for HBV [9]. The infection of hepatitis B virus in from 3% to 4% in India and chronic HBV infection is present in greater than fifty percent patients of chronic hepatitis [10]. In city of Hiroshima located in Japan, the presence of infection of hepatitis B virus was 2.780/100000 people in one year and HCV infection was in 1.860/100000 people every single year [11]. About ten percent population of China is suffering from the infection of hepatitis B virus [12]. In our country Pakistan, about seven million people are available with infections of HBV [13]. In one case work conducted in Hafiz Abad, Punjab, the prevalence of infection of hepatitis B virus was 4.30% & infection of hepatitis C virus was 6.50% in total population of that case work [14]. A case work conducted in north regions of Pakistan concluded that HBV is present in 2.50% donors of blood and 5.10% persons were the

victims of HCV [15]. Total 170 million population of the world is the victims of infection of 3-4 million [16].

METHODOLOGY:

This elaborated case work carried out in Lahore from the start of June 2017 to April 2018. The research laboratory for the pathology was available in the premises of the hospital. We got the verbal consent from every patient to ensure their participation in the case work. All the gathered data kept confidential. The patients from both genders having more than 30 year of age, with no past history of the acute or chronic diseases of liver, no previous diagnosed infections of HBV and HCV & got admission in the hospital for ocular treatment were the part of this case work. The patients who were in need of surgical intervention were not the part of this case work. Interviews conducted for every patient to gather the information on a questionnaire about their age, gender, residential area, level of education, transfusions of bloods, visit schedule of barber shops and any family or past surgical history.

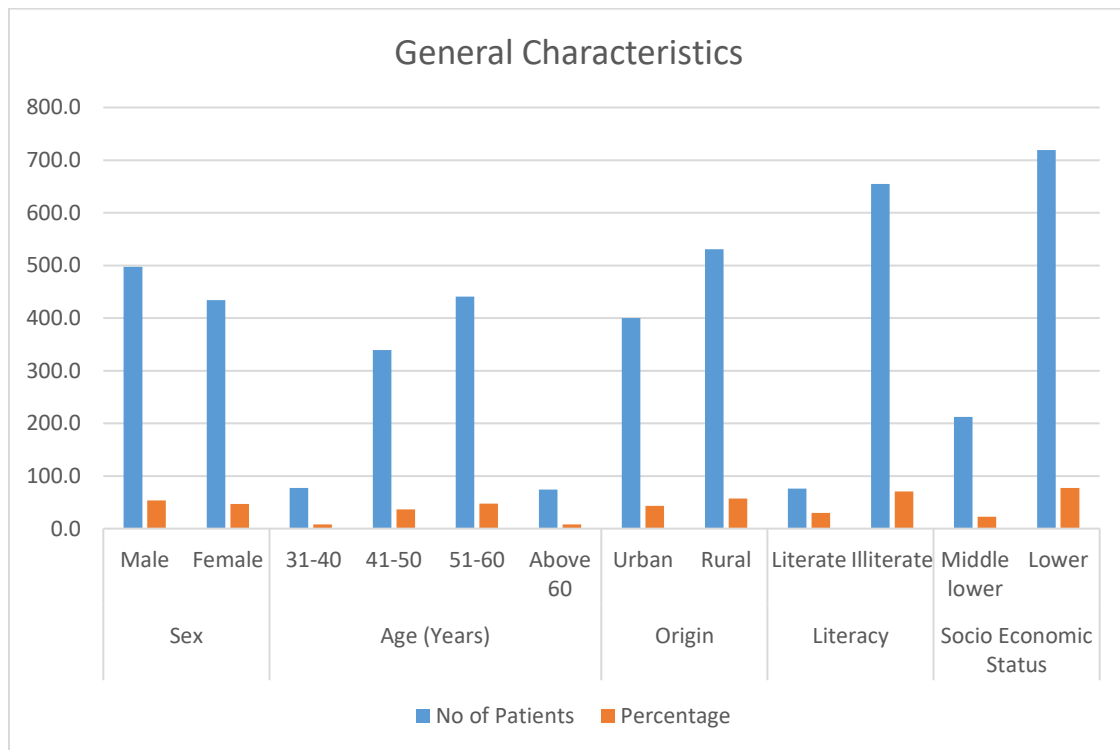
We collected the blood samples from every patient and we carried testing for anti-hepatitis C virus antibody & HBsAg within the twenty four hours after the collection of the blood sample. Chromatography was in use for the screening of the patients for acquired infections. Consultant pathologist was supervising the all procedure of testing. Retesting of the samples carried out for the positive samples with the utilization of the same procedure. The samples which were recurrently reactive for the anti-HCV antibody and/or HBsAg were positive. The referral of these patients to medical department carried out for further evaluation as well as treatment.

RESULTS:

The screening of total 931 patients carried out for infections of HCV & HBV who got admission for ocular treatment. General traits of all the participants of this current work are available in Table-1.

Table-I: General characteristics of study population (N= 931)

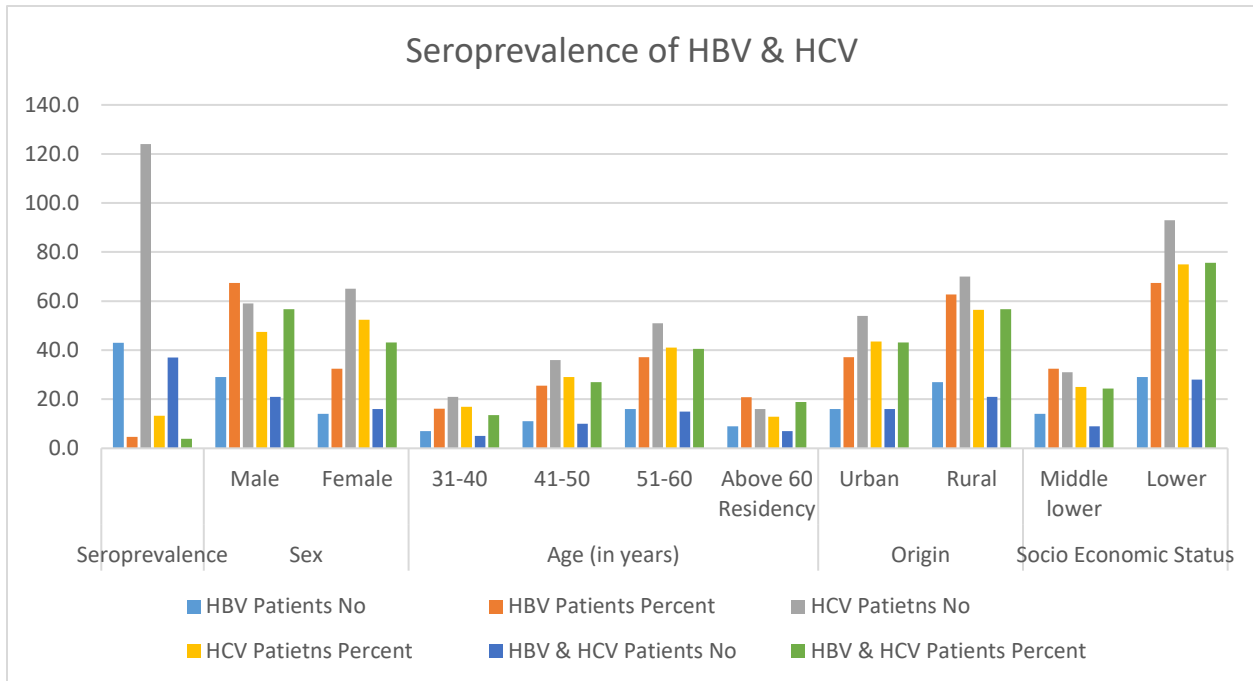
Characteristics		No of Patients	Percentage
Sex	Male	497.0	53.40
	Female	434.0	46.60
Age (Years)	31-40	77.0	8.20
	41-50	339.0	36.40
	51-60	441.0	47.30
	Above 60	74.0	7.90
Origin	Urban	400.0	43.00
	Rural	531.0	57.00
Literacy	Literate	76.0	29.60
	Illiterate	655.0	70.30
Socio Economic Status	Middle lower	212.0	22.70
	Lower	719.0	77.20



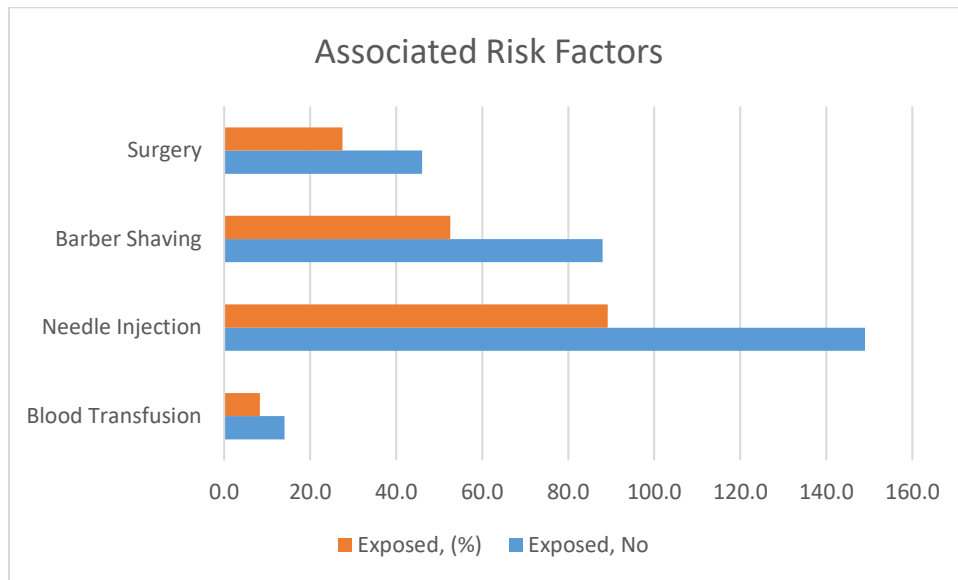
We detected the infection of HCV & HBV in 17.90% (n: 167) patients out of total nine hundred and thirty one patients. The total occurrence of infection of hepatitis B virus in the duration of this case work was available in 4.60% (n: 43), for infection hepatitis C virus in 13.30% (n: 124) & both infections were available in 3.90% (n: 37). The elaborate detail about the occurrence of infection of HBV and HCV is available in Table-2 whereas risk factors are available in Tables-3.

Table-II: Seroprevalence of Hepatitis B and C (N=167)

Characteristics		HBV Patients		HCV Patients		HBV & HCV Patients	
		No	Percent	No	Percent	No	Percent
Seroprevalence		43.0	4.60	124.0	13.30	37.0	3.90
Sex	Male	29.0	67.40	59.0	47.50	21.0	56.70
	Female	14.0	32.50	65.0	52.40	16.0	43.20
Age (in years)	31-40	7.0	16.20	21.0	16.90	5.0	13.50
	41-50	11.0	25.50	36.0	29.00	10.0	27.00
	51-60	16.0	37.20	51.0	41.10	15.0	40.50
	Above 60 Residency	9.0	20.90	16.0	12.90	7.0	18.90
Origin	Urban	16.0	37.20	54.0	43.50	16.0	43.20
	Rural	27.0	62.70	70.0	56.40	21.0	56.70
Socio Economic Status	Middle lower	14.0	32.50	31.0	25.00	9.0	24.30
	Lower	29.0	67.40	93.0	75.00	28.0	75.60

**Table-III: Risk factors of Hepatitis B and C virus transmission (n=167).**

Risk Factors	Exposed, No	Exposed, (%)
Blood Transfusion	14.0	8.30
Needle Injection	149.0	89.20
Barber Shaving	88.0	52.60
Surgery	46.0	27.50



DISCUSSION:

The burden of the diseases because of infections of hepatitis B & hepatitis C is rising in the whole world as well as in our country Pakistan. Punjab is the highest populated province of Pakistan. Rural areas of the country make more than fifty percent population of the province. Lahore is one of the largest city of Pakistan as well as Punjab [17]. In accordance with a retroactive case work, the occurrence of hepatitis B virus infection in Lahore in the year of 1999 was 5.050%, in Karachi in the year of 2000, it was 5.460% and in 2004, it was 5.830%, in Rawalpindi it was 3.530%, in Islamabad in 2004 it was 2.560%, in FFH (Fuji Foundation hospital) in the year of 2006, occurrence of HBV infection was 2.280% & for infection of HCV it was 7.560% [18]. In accordance with the many past case works in Pakistan, the prevalence of the infection of HBV was from 3.16% to 10.40% [19].

There is an estimation from WHO that 67 million new patients with infection of HBV each year [20]. The occurrence of the infection of hepatitis C virus is 14.40% in the south parts of Italy [21]. But in general population in adult age in the country Japan, the prevalence of HCV infection is 0.40%, in Turkey, the prevalence of hepatitis C infection is 2.40% [22]. In accordance with another case work, about 10 million persons in our country are the victims of infection of HCV [23, 24]. In a retroactive case work, the prevalence of hepatitis C infection in Karachi in 2003 was 2.20%, in city of Lahore in the year of 2004 it was 13.50%, and in the city of Rawalpindi in the year of

2005 it was 11.260% [21]. The occurrence of HCV infection in Buner NWFP province, Pakistan it was 4.6% in general population [25]. In this case work, prevalence for the infection of hepatitis C virus was 13.30%. The occurrence of the combine infection because of hepatitis C and hepatitis B was 3.90% in this case work in comparison with one other case work conducted in India with an occurrence of 5.0% [26].

CONCLUSION:

The identification of the infections of these diseases in time is very necessary for the control of this disease in our country Pakistan. There is a need of awareness programs to tackle the problem from its roots. The training of the professionals, workshops for general public, sterilized apparatus, ensured disposal of the syringes are very necessary features to save our generation in future.

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