FREQUENCY OF HEPATITIS B AND C IN PATIENTS VISITING OUTPATIENT DEPARTMENT OF DISTRICT HEAD QUARTERS HOSPITAL LAKKI

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ABSTRACT

Objective: *To find out the frequency of hepatitis B and C among the patients visiting out patient department.*

Methodology: ***A*** *total of 1443 subjects were screened for HBs Ag and anti-HCV in this* ***descriptive*** *study conducted from 1st January 2008 to 31 December 2008 in out patient department (OPD) District Headquarter Hospital Lakki. Patients of either sex and more that 15 years of age were screened for both hepatitis B and C. Patients with evidence of hepatitis B or C in the past were excluded. The HBs Ag and Anti-HCV screening was performed through Immunochromatographic (ICT) method. All sera showing reactivity were then confirmed with Enzyme Linked Immumosorbent Assay (ELISA). The information of the patients was recorded on a proforma and analyzed.*

Results: *The frequency of hepatitis B was found to be 175 (12.12%) with a male predominance of 138 (14.97%). Prevalence of hepatitis C was 58 (4.0%) with a male predominance 39 (4.22%), whereas in 5 (0.35%) cases both hepatitis B and C were present. Highest frequency of HBs Ag was detected in the settled area of the district while anti HCV was positive in high proportions in the frontier region (FR). Overall prevalence of hepatitis was more common in rural population than the urban population.*

Conclusion: *Hepatitis B is more common than hepatitis C in District Lakki. The high frequency of hepatitis needs to launch a major public awareness program and preventive measures to prevent its further spread.*

Key wards: *Hepatitis B, Hepatitis C, Prevalence.*

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INTRODUCTION

Hepatitis B virus (HBV) was first isolated in 1963[1]. An estimated two billion people are infected with HBV worldwide; among them 350 millions are chronic carriers: hepatitis B surface antigen (HBs Ag) positive[2]. More than 520,000 die each year from HBV related acute and chronic liver disease[3]. Pakistan is in the intermediate HBV prevalence area with a carrier rate of 3-4 %[4]. Some hospital- based studies have revealed that 30-42% of the cases of chronic liver disease[5,6] and 78% of the cases of hepatocellular carcinoma[6] were positive for HBs Ag.

Hepatitis C was first cloned in 1989[7]. Prevalence of hepatitis C varies from 0.5% to 29% in different parts of the world. World Health Organization estimates that about 170 million people i.e. 3% of world population are infected with Hepatitis C virus and are at the risk of developing liver cirrhosis or hepatocellular carcinoma[8]. Pakistan is also facing a huge burden of the same disease. The prevalence of HBV and HCV infection among general public in Pakistan is 10%[9,10] and 4-10% respectively[11]. Earlier studies showed that of all patients presenting with chronic liver disease (CLD), 16.6% are anti-HCV positive[12]. More recent data shows nearly 60-70% patients with CLD tend to be positive for anti-HCV[13, 14]. It has been demonstrated that nearly 50% patients with hepatocellular carcinoma (HCC) in Pakistan are anti-HCV positive[15].

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Most common route of transmission of Hepatitis B and C virus is parenteral, mainly as a result of contaminated blood transfusion or blood to blood contact, injury with contaminated sharp instruments, with infected needle pricks or sexual contacts and also through vertical transmission from mother to child[16]. Poor literary, low socioeconomic status and poor hygienic conditions also have a role in the prevalence of Hepatitis B and Hepatitis C[17].

The objective of this study was to find out the prevalence of Hepatitis B and C among the patients visiting out patient department at District Head Quarter Hospital Lakki for various illnesses.

METHODOLOGY

This cross sectional study was carried out in out patient department of District Head Quarters Hospital (DHQ) Lakki Marwat from 1st January 2008 to 31 December 2008. This hospital is a 200 bedded category B hospital where patients from the whole district including far flung areas come for treatment. OPD is part of the hospital where patients are received, initial assessment is done and are either managed and sent home or referred to appropriate department depending upon the initial assessment.

All patients coming to out patient department (OPD) were approached for informed consent and included in the study. Patients with evidence of hepatitis B or C in the past were excluded from the study. The HBs Ag and Anti-HCV screening were performed through Immuno-chromatographic method. All sera showing reactivity were then confirmed with ELISA test in pathology Department DHQ Hospital Lakki Marwat. The information of the patients was recorded on an especially designed proforma having details regarding ethnic origin, social and educational status and rural and urban inhabitation. The data obtained were analyzed statistically using SPSS version 11.

RESULTS

Total of 1443 subjects were screened for HBs Ag and anti-HCV. Nine hundred and twenty two (63.90%) were male and 521 (36.10%) were female. The frequency of Hepatitis B and C (combined) was found to be 238(16.50%), out of which 175 (12.12%) were HBs Ag positive with male to female ratio of 138:37, 58 (4.01%) were positive for Anti- HCV with male to female ratio of 39:19, and 5 (0.35%) were both anti-HCV and HBs Ag positive with male to female ratio of 3:2. The frequency of Hepatitis B and C was more in 3rd and 4th decade of life. The mean age of the patients suffering from Hepatitis was 33.92±11.36 years. The frequency of Hepatitis B and C in various age groups is given in Table 2.

The frequency of Hepatitis B amongst urban and rural population was 23/175 (13.15%) and 152/175 (86.85%) respectively. The frequency of hepatitis C amongst urban and rural population was 17/58 (29.30%) and 41/58 (70.70%) respectively while frequency of Hepatitis B and Hepatitis C combined amongst urban and rural population was 1/5 (20%) and 4/5 (80%) respectively (Table 2 and Figure 1).

The frequency of Hepatitis B, C and Hepatitis B and C simultaneously amongst the various ethnic origins like Marwats, Behtanni, Afghan refugees and others like Banochi and Khattaks is also given in Table 2 and Figure 2.

Jaundice which is considered as a reliable sign for hepatitis was present in 18/175 (10.28%) of HBs Ag positive, 6/58 (10.34%) Anti-HCV positive and in 3/5 (60%) HBsAg and Anti-HCV positive patients. Only 7/175 (4%) patients had vaccination against hepatitis B. 23/175 (13.14%) HBs Ag positive, 11/58 (18.96%) Anti-HCV positive and 1/5 (20%) HBs Ag and Anti-HCV positive patients had awareness of the disease.

Table 1: Frequency of Hepatitis B and Hepatitis C (n=1443)

Number of patients screened	1443
Male	922 (63.90%)
Female	521 (36.10%)
Number of patients with positive viral serology	238 (16.50%)
HBS Ag Positive	175 (12.13%)
Anti HCV Antibody	58 (4.02%)
Both HBS Ag Positive and Anti HCV Antibody	5 (0.35%)

Table 2: Demographic Features of Hepatitis B & C Positive Patients

Parameters	HBs Ag (n=175)	%age	HCV (n=58)	% age	HBs Ag + HCV (n=5)	% age
Age (Years)						
15-20	18	10.28	06	10.34	---	--
21_30	66	37.71	15	25.86	2	40
31-40	48	21.42	21	36.20	2	40
41-50	25	14.28	12	20.68	1	20
51-60	20	13.14	04	6.89	---	---
Population Group						
Urban	23	13.15	17	29.30	1	20
Rural	152	85.86	41	70.70	4	80
Ethnic Origin						
Marwats	106	60.59	16	21.58	2	40
Behtanni	39	22.28	29	50.00	2	40
Refugees	19	10.85	08	13.8	1	20
Others	11	6.28	05	5.62	--	--

Figure 1: Population Group

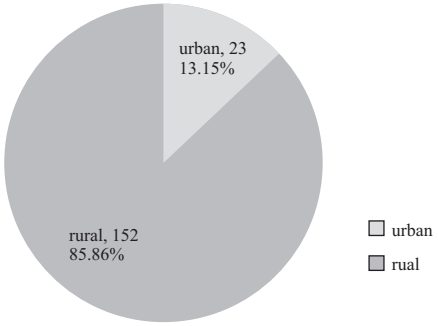
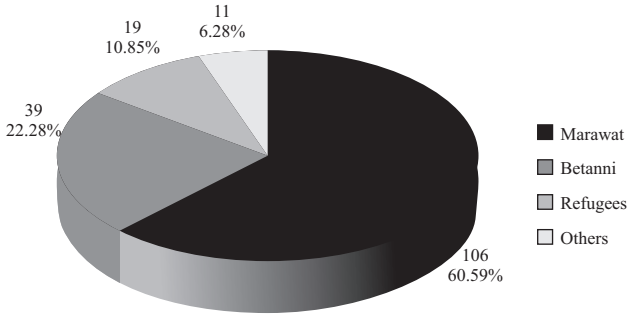


Figure 2: Ethnic Origin



DISCUSSION

Infection due to Hepatitis B and Hepatitis C viruses are significant public health problems around the globe. Pakistan is highly endemic for Hepatitis B and Hepatitis C[18] Poor knowledge and lack of awareness about Hepatitis B and C virus among the general public is the main cause of its rapid spread in our country. This is the reason that prevalence rates in developing or underdeveloped countries are much higher as compared to developed countries. The overall seropositivity of Hbs Ag and Anti-HCV in general Pakistani population ranges between 4-25%[19-21] which is alarming. In our study the prevalence of HBs Ag and Anti-HCV was 12.12% and 4.01% while

0.35% were positive for both HBs Ag and Anti-HCV. In a study by Bhopal FG et al[22] 18.66 % patients were positive for HBV and 6.33% for HCV. Results from another study[23] showed 16.24% for HBsAg and 8.66% for HCV antibody positive patients respectively. These results are higher than ours but are similar to our findings of high rate of HBsAg to HCV.

On further reviewing the literature the seroprevalence of hepatitis B is 2.11% to 3.53% in Rawalpindi [24,25,] 2.5% in Islamabad, 2.6% to 5.05% in Lahore,[26-29] 3% to 5.45% in Karachi[29-32] 4% from Jamshoro (Sindh)[33]. So the prevalence of Hepatitis B is between 2.11% to 5.46% in different parts of the country which is quite low when compared to our study.

The seroprevalence of Hepatitis C observed in our study is 4.01%. On reviewing the literature the prevalence of Hepatitis C is 4.57% in Buner[34] (N.W.F.P) comparable to our study, 9% in Mardan[35] (N.W.F.P), significantly higher to our study, 5.7% to 13.5% from Lahore[27,28] again higher to our study and 2.2% to 4.6% from Karachi[28,32] which is low to comparable to our results.

The results when compared with the international studies there is a marked difference in the prevalence rates. A study conducted in Greece revealed prevalence of HBV as 2.6% and HCV as 0.5%[36]. A study from Japan showed prevalence of HBV as 1.8% while HCV as 7.1%[37]. A study from Turkey[38] reported the prevalence of Anti HCV 2.4% which is low to our findings (4.01%) but HBs Ag in that study was 6.6%[38] which is also significantly lower to our study (12.12%). Another study of 142 patients screened before surgery showed that HCV was 11.26%[25] positive which is significantly higher to our findings (4.01%) while HBsAg was 2.11% positive which is quite low when compared to our study (12.12%).

In our study it was also noted that low socioeconomic status and poor knowledge of hepatitis B and C are associated with high prevalence which is also supported by another study[39]. It was also found in our study that hepatitis B and Hepatitis C prevalence is high in rural population as compared to urban population as supported by another study[1]. It may be due to increased rural population, illiteracy, poverty, lack of proper precautions, quackery in the rural area and less degree of awareness regarding the causative agent and transmission. Keeping in view the high frequency of HBs Ag and anti- HCV in our country, we need nationwide efforts to identify people who are infected with HCV and Hepatitis B virus. Mass education of the public regarding spread of infection through unscreened blood transfusion, reuse of syringes and other medical and dental equipments and instruments, ear and nose piercing from market, circumcision and shaving from the barbers and so on is extremely important. Because of the lack of health resources especially at rural areas and deficiency of well trained medical personals the prevalence is increasing at an alarming rate. It is required to prevent this disease by health education and creating awareness among the general public through involvement of electronic and print media, local body health educators, volunteers, Non Government Organizations (NGO's) and religious scholars. Awareness programs regarding Hepatitis B and C at school level should be started to save our future generation. Awareness and education programs for public and paramedical staff should be initiated on urgent basis with the help of NGO's, medical authorities and local representatives.

CONCLUSION

Hepatitis B is more common than hepatitis C in this part of Khyber Pakhtunkhwa. Moreover it is more common in male as compared to female population.

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None Declared

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CONTRIBUTORS

MIK did the data collection, literature search and writing of initial draft of manuscript. MM reviewed and modified the initial manuscript and did the subsequent revisions of the article.