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Sero-diagnosis of Hepatitis C Virus infection in IDPs of Waziristan Residing at Bannu Camp in 2014

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Abstract: HCV is highly prevalent in Khyber Pakhtunkhwa (KPK) Pakistan. To check the Serological prevalence of Hepatitis C infection in IDPs of Waziristan residing at Bannu Camp, this Research study was conducted in the Blood Bank main laboratory of Hayatabad Medical Complex Peshawar Khyber Pakhtunkhwa. Samples were collected from the IDPs Patients in the month of July and brought it in closed icebox container to the laboratory of Hayatabad Medical Complex, Peshawar. HCV infection was diagnosed on the basis of RDT Rapid Diagnostic Test and Serologic test by using Enzyme linked Immuno Sorbent Assay (ELISA). Out of 500 patients high prevalence was observed in age group of 40-60 years which was 82.17% while in age group 10-20 years the prevalence was 61.11%. The lowest prevalence was observed in the age group of 20-40, which was 55%. The data was significant when analyzed by chi square test with $P < 0.05$. In gender wise, high prevalence was observed in females which were 72.69% while in children it was 50%. The lowest prevalence was observed in the males (66.66%). It was concluded from the present study that Hepatitis C Virus infection was more prevalent in IDPs of North Waziristan. This study will be helpful to the health care policy makers to design strategies for controlling and eradication of Hepatitis C infection.

Key words: Hepatitis C, Serological, Anti-HCV, Patients

Introduction

Hepatitis C infection is one of the major causes of liver diseases all over the world. HCV is the main cause of Hepatitis C infection and the majority of patients with chronic hepatitis is untreated, which may

cause hepatocellular carcinoma (HCC) and finally liver cirrhosis (Hoofnagle, 2002). Hepatitis C virus belongs to the family Flaviviridae and is an RNA virus (Ogata et al, 1991; Lindenbach et al, 2007). Hepatitis

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C virus is the principal source of chronic liver disease (Poynard et al., 2000) with estimated 170-200 million infected persons globally (Butt et al., 2010) counting about 17 million in Pakistan (Idrees et al., 2008).

The main cause of HCV transmission in Khyber Pakhtunkhwa is multiple use of syringes, minor and major surgery, dental procedures, blood and blood product transfusion, using of razors for multiple shaving or shaving in the shops of barbers, sharp instruments, nail cutters, tooth brushes and sexual transmission (Farhana et al., 2009; Idrees and Riazuddin, 2008). A recent report by WHO has stated that every twelfth person in the world is living either with HBV or HCV infection (World Hepatitis Alliance, 2009). World data shows that HBV with combination of HCV accounts for 75% of all cases of liver diseases. These diseases are highly endemic in Asian countries (Qureshi, 2008). Khyber Pakhtunkhwa is an endemic area for hepatitis B & C. Some recent studies have reported prevalence of HBV and HCV to be 2.5% and 5% respectively (World Health organization, 2000).

Hepatitis C is caused by HCV virus it is an infectious disease of liver. Initially it is asymptomatic and gradually progressing to hepatocellular carcinoma and cirrhosis in a no of patients (ALI et al., 2011). In the world there are about 170 million patients with HCV Infection among them every year 3 to 4 million new cases were diagnosed (Re and Kostman, 2005; Kim, 2002). In developing country Pakistan 170 million people has alarmingly rate of outbreaks of HCV (Bari et al., 2001; Kabir et al., 2006; Syed and Jamal, 2006; Ali et al., 2010) which need proper diagnosis. Sero-prevalence studies of anti-HCV antibodies in the general population of Pakistan have been recorded as 5.31% to 7.5% (Khokhar et

al., 2004; Luby et al., 1997; Syed et al., 2009). The prevalence of hepatitis C virus infection is in the range of 4.1 to 36% reported from various areas of KPK Khyber Pakhtunkhwa Province (Khattak et al., 2008; Ali et al., 2007).

Materials and Methods

Study samples

A total of 500 blood samples were collected from the IDPs of Waziristan which were residing in camp at Bannu. With the help of sterile disposable syringe 5ml of blood sample was collected from each suspected patient for further processing blood was stored in EDTA tube. EDTA tube was stored at cooled temperature and brought it to the Blood Bank of Hayatabad Medical Complex Peshawar for RDT (Rapid diagnostic test) and ELISA Enzyme Linked Immuno-sorbent Assay).

Statistical Analysis

SPSS version 14.0 for windows was used for the statistical analysis of the data. The results were obtained in rates (%)

Results

A total of 500 HCV samples were observed out of which, high prevalence was observed in age group of 40-60 years which was 189 (82.17%) while in age group 10-20 years the prevalence was 55 (61.11%). The lowest prevalence was observed in the age group of 20-40 which was 99 (55%) (Table 1, Fig. 1). The data was significant when analyzed by chi square test with $P < 0.05$. In gender wise prevalence, high prevalence was observed in females, which was 189 (72.69%) while in children it was 75 (50%). The lowest prevalence was observed in the males 60 (66.66%) (Table 2, Fig. 2).

Table 1. Age wise prevalence of Hepatitis C.

Age of the Patients	Total Samples of HCV	Total Positive Samples of HCV	Prevalence of HCV
10-20	90	55	61.11%
20-40	180	99	55%
40-60	230	189	82.17%
Total	500	343	68.6%

Fig. 1: Age wise prevalence of Hepatitis C

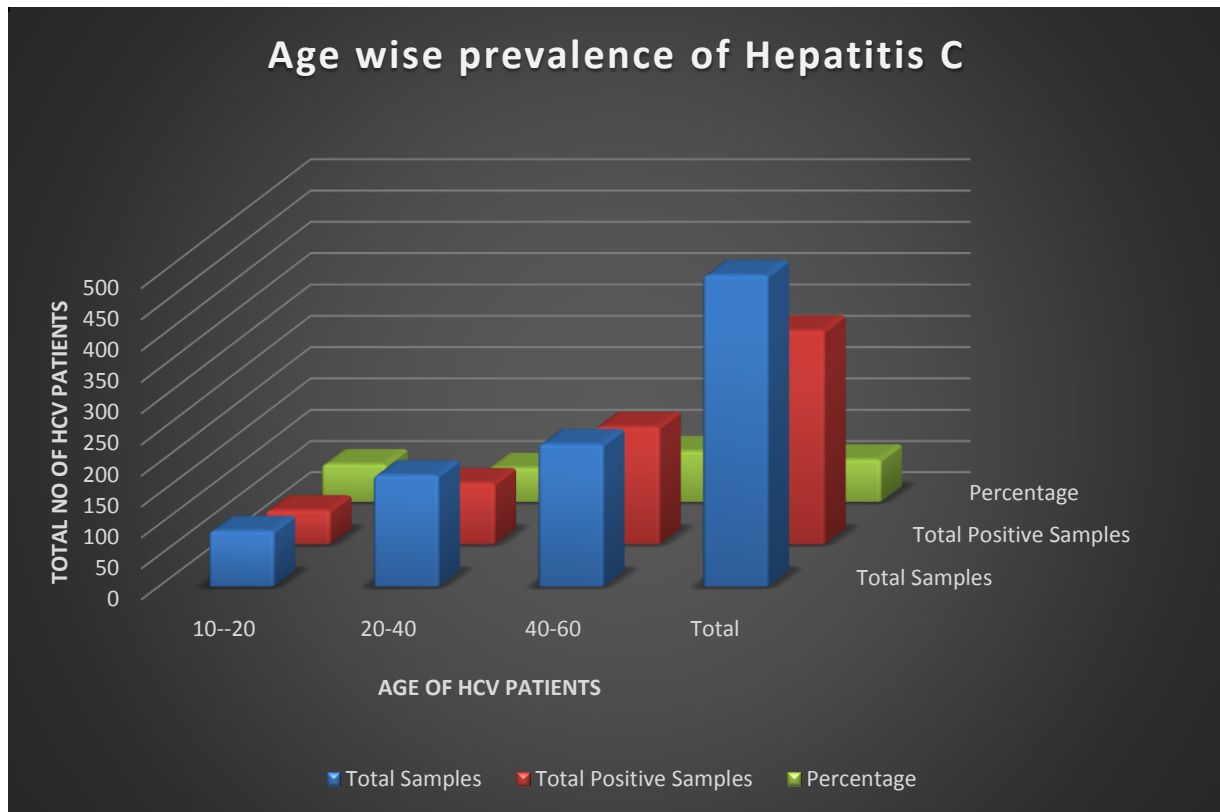
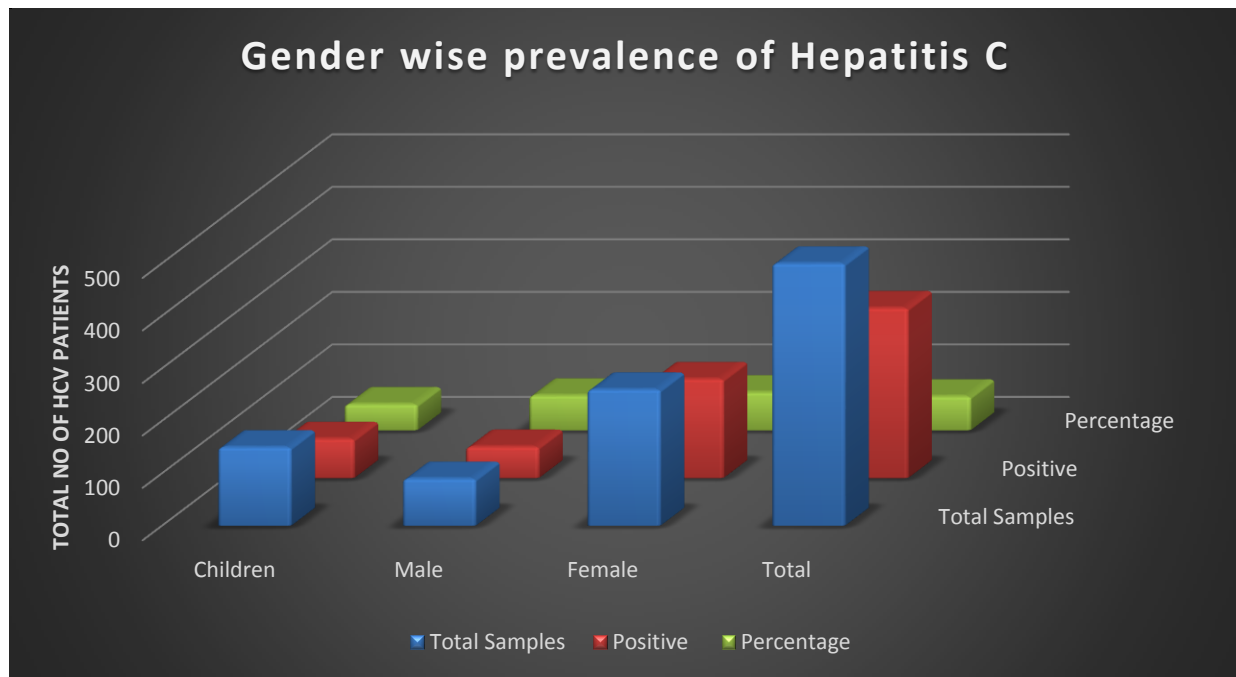


Table 2. Gender wise prevalence of Hepatitis C.

Sex	Total Samples of HCV	Positive Samples of HCV	Prevalence of HCV
Children	150	75	50%
Male	90	60	66.66%
Female	260	189	72.69%
Total	500	324	64.8%

Figure 2. Gender Wise prevalence of Hepatitis C

Discussion

A total of 500 HCV samples were observed, out of 500, the high prevalence was observed in age group of 40-60 years which was 82.17%. While in age group 10-20 years the Prevalence was 61.11%. The lowest Prevalence was observed in the age group of 20-40 which was 55%. Our result is similar with the research of Abida et al. (2013) concluded that the Prevalence was higher in age groups of 40-60 years and lower was in the age group of 20-50 years. In rising states of the world hepatitis C is Key health problem. At the onset of infection the signs and symptoms of this disease is very mild (Saha et al., 2000), so the epidemiology of this virus is less understood. In gender wise prevalence high prevalence was observed in females which was 72.69% while in children it was 50% the lowest prevalence was observed in the males 66.66% our result was similar to the research of (Waseem et al., 2014) He observed 582 patients for active HCV the total Prevalence he recorded was 56.5% out of the total samples 267 were male and 315 were female in which the rate of Hepatitis C virus infection 59.9% and 53.6%. Our results also show similarity with Abida et al. (2013). As in Pakistan more of the peoples are living below the life standard so most of them came to know about their disease in advance stages. In developing countries diagnostic of HCV is done mostly by Immuno chromatographic Technique (ICT) and Enzyme Linked Immuno Sorbent Assay (ELISA) (Ji-Su et al., 1995).

Conclusion

It was concluded from the present study that Hepatitis C Virus infection was more prevalent in IDPs of North Waziristan. Patients with age group above 40 were found with high rate of HCV infection. In females it was more as compared to males. There is a definite need for health education

in our society and health awareness programs through print and electronic media regarding HCV infection. This study will be helpful to the health care policy makers to design strategies for controlling and eradication of Hepatitis C infection.

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