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Research Article

The prevalence of viral hepatitis B and C Infection in Najaf Governorate during the year 2022

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Abstract

The purpose of this study was to determine how common HBV and HCV infections were in the Najaf Governorate. between January 1, 2022, and January 1, 2023. Data on 369 patients with viral hepatitis C and B infections were gathered from three facilities in the Al-Najaf Governorate (Al-Sadr Hospital, German Hospital, and Blood Bank) in both urban and rural areas. The patients ranged in age from 1 to 80 years, and they were both male and female. According to the current study's findings, 221 (59.9%) of the 369 individuals with viral hepatitis had hepatitis B virus, and 148 (40.1%) had hepatitis C virus, as illustrated in Figure 1. 166 (45%) of the male population had viral hepatitis B, and 92 (24.9%) of the male population had viral hepatitis C. In turn, 55 (14.9%) of the female population had viral hepatitis B, and 56 (15.2%) of the female population had viral hepatitis C. The results of the current study showed that patients in the Najaf Governorate are more likely to develop cirrhosis if they are at risk of contracting viruses like HBV and HCV. This emphasizes the necessity of recognizing viruses. On a regular basis, particularly among restaurant and health-care workers, as well as school and college students. The study also found that these viruses spread more in cities than in rural areas, particularly among those over the age of forty. The study also found that males were more affected than females.

1. Introduction

Viral hepatitis constitutes a significant public health issue that poses a global hazard. Hepatitis viruses exist in eight distinct types: A, B, C, D, E, G, TT, and SEN 1. Any type may lead to disease outbreaks or mortality. The hepatitis B (HBV) and hepatitis C (HCV) viruses can be transmitted by blood transfusions [1]. In the last ten years, there has been an increase in the incidence of hepatitis cases in Iraq. Unlike its neighbours, Iraq has a low prevalence of hepatitis B and hepatitis C virus infections. Iraq experiences elevated incidence of several hepatitis types attributable to several factors, including the security situation and the substantial influx of refugees and migrants, which also leads to a shortage of vaccination availability [2].

Hepatitis B and C are more common than other forms of hepatitis in affluent countries. Individuals with hepatitis B or C may develop chronic liver disease due to their respective infections. Individuals with hepatitis B or C may get chronic liver cirrhosis due to infection with either type of hepatitis. Approximately 160 million individuals, constituting 3% of the global population, are infected with the hepatitis C virus. approximately 7% of people worldwide have a chronic hepatitis B infection. 3 In 2006, hepatitis B and C prevalences in Iraq were 1.6% and 0.4%, respectively. Due of their transmission, only In the middle-income nation of Iraq, studies on hepatitis B and C have been conducted. Iraqi scholars have not thoroughly recorded different forms of hepatitis, despite the fact that they are common among Iraqis. The current political situation in Iraq may have an impact on the prevalence of certain diseases. One of the cities that drew fugitives following the transition of power was Najaf, which is located 161 kilometers southwest of Baghdad, the nation's capital. The growing population density

in Najaf city is the primary cause of the spread of numerous diseases. Iraq is a developing nation where hepatitis B virus infection is still prevalent, with a 2%–5% carrier rate. Despite the fact that the hepatitis B vaccine has been the mainstay of Iraq's expanding vaccination campaigns, The percentage of coverage is below 80%. Hospital-acquired hepatitis B infection still happens even though doctors are more aware of the problem [3].

2. Materials and Methods

Data on 369 patients with viral hepatitis C and B infections were gathered from three facilities in Al-Najaf (Al-Sadr Hospital, German Hospital, and Blood Bank) in both urban and rural areas of the Al-Najaf Governorate in Iraq. The patients ranged in age from 1 to 80 years, and they were both male and female. Additionally, for the time frame of January 1, 2022, to January 1, 2023.

Statistical analysis

The Statistical Package for the Social Sciences (SPSS) version 20 was employed to do the statistical analysis of the presented study. The ANOVA test revealed age variability. A p-value below 0.05 was deemed statistically significant.

3. Results and Discussion

Prevalence of viral hepatitis B and C types

The results of the current study showed that among 369 people infected with viral hepatitis, 221 (59.9%) had hepatitis B virus, and 148 people (40.1%) had hepatitis C virus as shown in Figure 1.

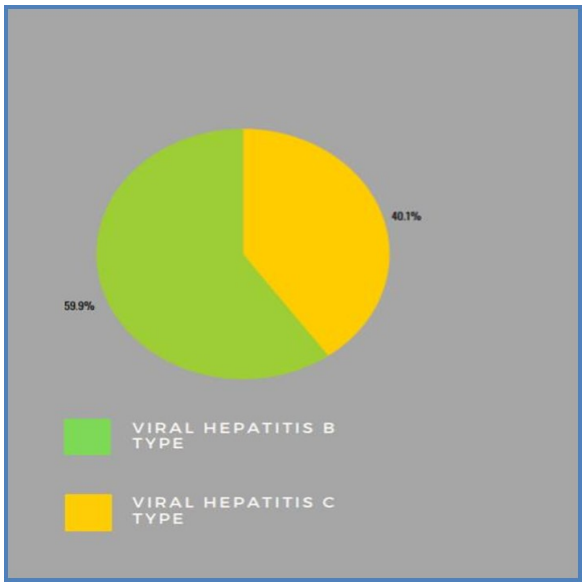

Figure 1: Prevalence of viral hepatitis B and C types

The political and socioeconomic turmoil in Iraq over recent decades has rendered it impossible to ascertain the prevalence of hepatitis infection within the general population. The predominant aetiology of chronic liver disease is hepatitis B and C [4, 5]. Infections caused by HBV and HCV are among the most prevalent infectious diseases globally. Acute or fulminant hepatitis, along with chronic infections that may be clinically asymptomatic or advance to chronic hepatitis and liver cirrhosis, represent the many clinical manifestations linked to both conditions [6]. Globally, there are 350 million chronic hepatitis B carriers and around 20 million new infections each year. Hepatitis B infections are primarily transmitted in high-prevalence regions through maternal routes, specifically via horizontal transmission (exposure to contaminated blood) or perinatal transmission (from mother to child at birth), especially from an infected child to an uninfected child during the first five years of life. Infants infected by their mothers or before the age of five have a considerable likelihood of developing a chronic infection.

In children under five years old or infected by their moms. Reusing contaminated needles, syringes, or sharps at medical facilities, the general public, or by drug injectors can also spread the infection. Tattooing, using razors or other tools contaminated with tainted blood, and medical, surgical, and dental procedures can all result in infection.

Prevalence of viral hepatitis B and C according to sex reported at the sample collection period

According to the percentage of female patients with viral hepatitis B, which was 55 (14.9%), and the percentage of female patients with viral hepatitis C, which was 56 (15.2%), there were 166 (45%) males with viral hepatitis B and 92 (24.9%) males with viral hepatitis C. Figure 2. This outcome was approved with This result is consistent with research from Bangladesh and Pakistan that found that men were more likely than women to have HBV [7].

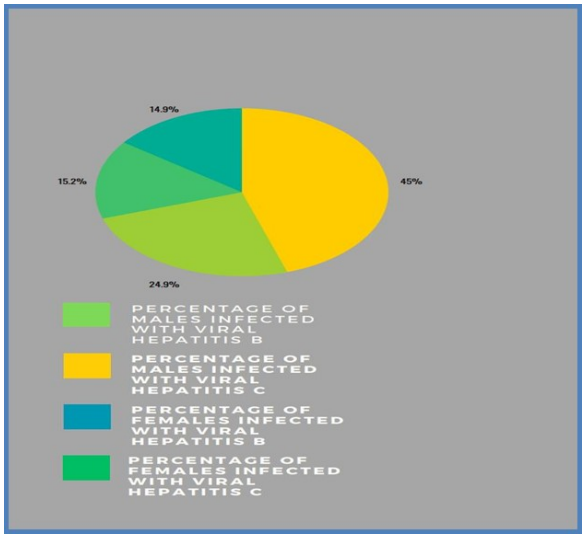

Figure 2: The prevalence of viral hepatitis B and C based on the proportion of male and female infected individuals

Hepatitis B can be transmitted by infections from needles, tattoos, skin punctures, and exposure to contaminated blood and other bodily fluids, including semen, vaginal secretions, menstrual fluids, and saliva. The reuse of contaminated needles, syringes, or sharp instruments in medical or public environments, as well as among drug injectors, might facilitate the transmission of infection. Tattooing, razor use, and other equipment contaminated with infected blood can lead to infection, as can medical, surgical, and dental procedures. Moreover, hepatitis B can be transmitted during sexual intercourse, particularly among uninfected adults with many partners [2].

The frequency of hepatitis B virus infection differs by nation due to a complex interplay of behavioural, environmental, and host factors. The prevalence of hepatitis B in our recent study increased dramatically by 59.9%. A greater frequency of HBV was noted in regions with low economic status, underscoring the necessity of disease control measures [5].

Distribution of viral hepatitis B and C according to age at the period of sample collection

The results indicated that the age group 41-60 years exhibited the highest prevalence of hepatitis B patients at 36.6%, followed by the 21-40 age group at 33.1%, the 61-80 age group at 23.2%, and the lowest prevalence was observed in the 1-20 age group at 7%. The findings indicated that the age demographic of 41-60 years had the highest prevalence among hepatitis C patients, at a rate of 43%. The age group 21-40 follows with a rate of 30.7%, succeeded by the age group 1-20 at 14.9%, while the least represented group is 61-80 at 11%, as illustrated in Figure 3.

In the demographic of those over 40 years, males outnumber females. The noted gender disparity may be attributed to the heightened prevalence of high-risk occupations and behaviours among men, such as engaging in multiple sexual partnerships, substance abuse, and unsanitary shaving techniques by barbers. The incidence of HBV infection increases progressively with age. The older subjects had a greater risk of infection than the younger subjects. The increased prevalence in older age groups may be ascribed to their more frequent and sustained exposure to hepatitis B risk factors (HBV infection). Approximately 60% of vaccinated persons exhibit no detectable antibodies in their blood 9 to 15 years post-vaccination, although they retain immunity through the presence of memory cells (10). Hepatitis B vaccination was first implemented in Iraq in 1993 as part of the Expanded Program of Immunisation (EPI) for children under 5 years of age; consequently, Iraqis over 30 years old at the time of the study were not vaccinated [5].

The prevalence of viral hepatitis C in this study was 40.1%. The occurrence was more prevalent in those over 40 years of age and in males compared to females; however, this finding was contested by [8], who demonstrated a significant difference ($p<0.05$). In HCV infection, the highest infection rates were reported at 54.7% for the age group 1-20 years and 28.3% for 21-40 years. The infection rate for the 41-60 year age group was 13.2%, while the lowest rate, 3.8%, was observed in individuals over 60 years of age. The incidence of the hepatitis C virus is less than that of the hepatitis B virus, likely due to stringent regulations for blood screening for hepatitis indicators.

Geographical distribution of viral hepatitis B and C at the period of sample collection

As illustrated in Figure 4, the prevalence of viral hepatitis B is extremely high in the city at 50.9%, whereas it is much less common in the countryside at 17.1%. The prevalence of viral hepatitis C also increased by 23.3% in the city, while the prevalence of viral hepatitis C decreased to 8.7% in the countryside.

This finding was rejected by [9]. who demonstrated Residents of rural areas are more likely than those in urban areas to have any of the four forms of hepatitis. A growing number of HAV and HEV cases are caused by inadequate sanitation systems, restricted access to safe drinking water, and low health education among rural communities. Rural areas had high rates of HBV and HCV.

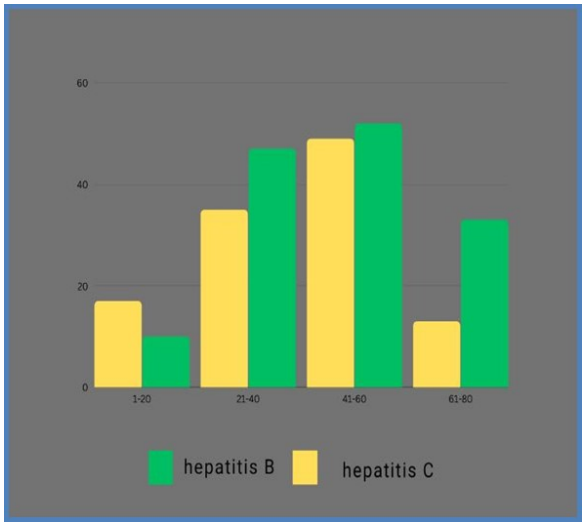

Figure 3: The prevalence of viral hepatitis B and C according to age

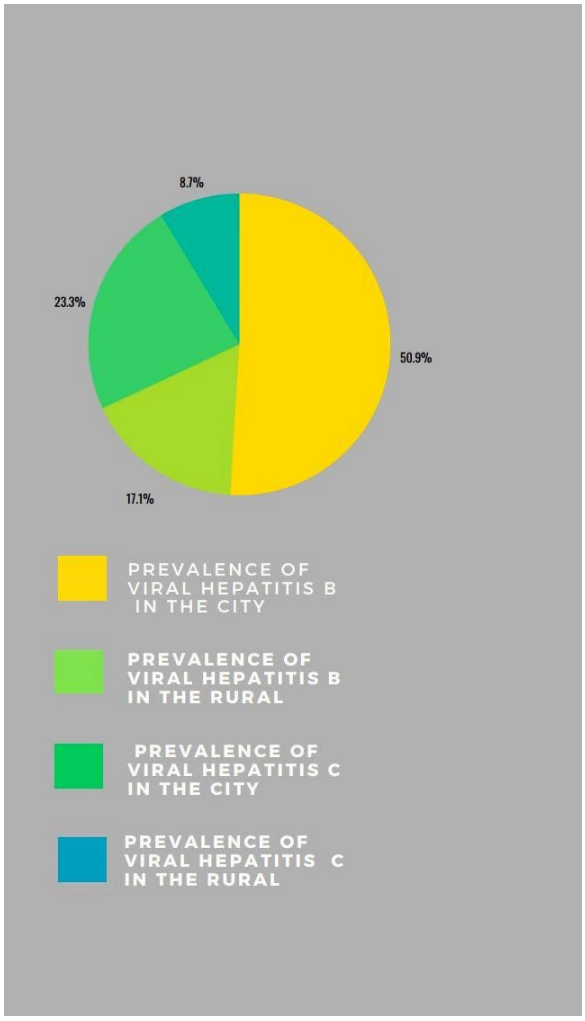

Figure 4: Prevalence of viral hepatitis B and C geographically

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