

AN EPIDEMIOLOGICAL STUDY OF HEPATITIS VIRUS DISEASE FOR SOME PATIENTS IN AL_SHATRAH GENERAL HOSPITAL

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Abstract

This study was reviewed by relying on the available records of the spread of hepatitis A, B and C in Dhi Qar Province during this year in Al-Shatrah General Hospital. The study included 20 cases of males and females, where the number of males was 13 while the number of females was 7. The comparison was made with the control group, which numbered 8 males and 12 females, this study did not shows a significant difference between the control group and the patients group when the two groups were divided by sex, where the value of $P < 0.05$. The current study also recorded a higher prevalence of hepatitis C virus in this region followed by type B and finally type A. Also, the present study shows that most patients were males with type C virus

Key words: *C virus, Al-Shathar*

INTROUCTION

Hepatitis is an inflammation of the liver, most commonly caused by a viral infection. There are 5 main hepatitis viruses, referred to as types A, B, C, D and E. These five types are of greatest concern because of the burden of illness and death they cause and the potential for outbreaks and epidemic spread. In particular, types B and C lead to chronic disease in hundreds of millions of people and, together, are the most common cause of liver cirrhosis and cancer. Hepatitis A is a vaccine-preventable, communicable disease of the liver caused by the hepatitis A virus (HAV). The infection is transmitted via the fecal-oral route, usually from direct person-to-person contact or consumption of contaminated food or water. Hepatitis A is an acute, self-limited disease that does not result in chronic infection. HAV antibodies (immunoglobulin G [IgG] anti-HAV) produced in response to HAV infection persist for life and protect against reinfection; IgG anti-HAV produced after vaccination confer long-term immunity (Nelson., et al 2020). HBV most prevalent in Asia and Sub-Saharan Africa, in the Amazon Basin, and less prevalent in the United States, Northern Europe, Australia and parts of South America; the Middle East, some countries of Eastern Europe and the Mediterranean Basin were considered areas of intermediate endemicity (Franco, et al., 2012). Hepatitis C virus (HCV) infection is a global public health problem (Marie.,2011). Overall, the available data suggest that the prevalence of HCV infection

is approximately 2.2%–3.0% worldwide. While individual estimates from different regions or countries have undergone some changes since the first estimates were made by the WHO in 1997, the overall picture is still similar, with the highest prevalence of HCV infection found in the African and Eastern Mediterranean regions(Lavanchy.,2009). An estimated 350,000 people die of HCV-related conditions, including cirrhosis and liver cancer annually(Averhoff., et al ,2012). Hepatitis A and E are typically caused by ingestion of contaminated food or water. Hepatitis B, C and D usually occur as a result of parental contact with infected body fluids. Common modes of transmission for these viruses include receipt of contaminated blood or blood products, invasive medical procedures using contaminated equipment and for hepatitis B transmission from mother to baby at birth, from family member to child, and also by sexual contact (World Health Organization ,2009). See the below table Hepatitis Viruses comparison.

Materials and methods

The study groups have been investigated, which include:

The study groups have the following included:

Patients group

Comprised twenty people who were infected with viral hepatitis A ,B and C were obtained by looking at the statistical records of Shatraa General Hospital, from the beginning of 2022 . After they were diagnosed in the hospital laboratories. The patients in this study were divided into three groups as in the following:

- Group 1: Hep A patients
- Group 1: Hep B patients
- Group 1: Hep C patients

Healthy Control Group

Total of twenty people who were apparently healthy are the subjects of the control group, they have no history or clinical evidence of Hepatitis , and no obvious abnormalities .

Statistical Analysis

The comparisons among the three Disease groups of Hepatitis patients and control group were performed with analysis of variance (Chi – square) . All the statistical analyses were done by using Statistical Package For Social Sciences (SPSS) .

Results

Distribution of the all studied groups according to sex

The results of the current study, showed an increase in the rate of males with Hepatitis than females , there were no significant difference between healthy control group and patients (P< 0.05) as seem in table (1) , The chi-square statistic is 2.5063. The p-value is .113394,not significant at p < .05

Table (1) Distribution of the all studied groups according to sex

Chi- squire			

Distribution of the all studied groups according to the type of hepatitis virus (A, B, and C)

The results of the current study, showed an increase in the rate of patients with HCV, while the rate of patients with HBV were in the second, finally the patients with HAV.

Table (2) Distribution of the all Patients groups according to the type of hepatitis (A, B, and C)

Hep A	Hep B	HepC
N .5	6 N.	N.9
Total 20		

Distribution of the patients groups according to sex

The results of the current study showed there were no significant difference among three patients groups as seen in table (3-3), where the chi-square statistic is 2.7778. The *p*-value is 0.249352. The result is not significant at $p < .05$.

Table (3) Distribution of the patients groups(HAV ,HBV ,HCV) according to sex

Chi - squire			

4-Discussion

Hepatitis is an inflammation of the liver, most commonly caused by a viral infection. There are 5 main hepatitis viruses, referred to as types A, B, C, D and E. In our study we collect the data for type Hepatitis viruses A, B, and C. The Patients and Control group were divided according the sex and type of virus.

By analyzing the distribution of studied group according to the sex, the results showed that the majority of patients were males, the reason of this result due to the It is well-known that sexual dimorphism occurs in humans and animals with regard to immune responses and viral infections (Ghosh,2021). Female individuals usually are less susceptible to viral infections than males, since they mount a more efficient, intense and prolonged immune response, either innate, as well as humoral and cell-mediated (Christ & Latz 2019), (Ruggieri., *et al*.,2016). The innate immune response is the first line of defense against viruses and it is mediated by Toll-like receptors (TLRs), retinoic acid-inducible gene I-like receptors (RIG-I) and nucleotide oligomerization domain-like receptors (NOD-like receptors). These, named pattern recognition receptors (PRRs), recognize viral components (such as DNA, dsRNA, ssRNA, and viral proteins) and activate production of type 1 interferon (IFN) and inflammatory cytokines (IL-1, TNFs). In rodents and in humans expression of TLRs (such as TLR7) as well as number of monocytes, macrophages and dendritic cells, that are innate immune response players, have been reported to be significantly higher in females than in males (Klein,2012), (Melgert, 2010), thus accomplishing the more intense inflammatory responses in female subjects than in males (Ruggieri,2018), (Klein,2012).

Also this study showed that the number of patients with HCV is more than types A and B this result because of some incorrect practices such as tattoo piercing and cupping.

These habits are an important means of transmitting the hepatitis C virus. because HCV infection, which is primarily transmitted through percutaneous exposure to contaminated blood this result agree with (Tohme & Holmberg, 2012), (Hand, Vasquez, 2005) and (Lasher *et al*., 2005). Also this study showed there was no statistical difference between male patients and female where the p value was 0.2493, this result agree with (Ibrahim & Hashem, 2019).

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