



Screening analysis of viral hepatitis A, B and C infection from 2013 to 2020 in Wasit Province, Iraqi

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Received: Sept. 27, 2022	Abstract A total of 1553 individuals who were diagnosed with hepatitis A, B, and C virus infections at Waist Health Centers between 2013 and 2020 were investigated. After using statistical program, the results show the viral hepatitis n male more than female also the disruption of type B viral hepatitis more when compared with other types.
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Introduction

This great Inflammation of the liver caused by a viral infection is known as viral hepatitis. It can appear in acute (new infection, quick onset) or chronic (longer onset) forms. Hepatitis A, B, C, D, E, G, TT, and SEN viruses are the eight types of hepatitis viruses that have been identified Only the hepatitis B (HBV) and C (HCV) viruses are able to stay in the host and contribute to the development of chronic hepatitis, despite the fact that they all cause acute hepatitis after varying incubation times after exposure. Liver inflammation continues the cycles of liver cell death and regeneration throughout a persistent infection, and it is the pathologic basis of chronic hepatitis, which can develop to nodular fibrosis, cirrhosis, and, finally, hepatocellular carcinoma (HCC) [1]. Blood transmission illnesses include hepatitis type B (HBV) and hepatitis type C (HCV). Hepatitis A (HAV) and E (HEV), on the other hand, are considered poor hygiene infections. Because it depends on the presence of HBV, hepatitis type D (HDV) is termed a subviral satellite [2,3,4].

Hepatitis cases have grown among Iraqis during the previous decade. Between 2009 and 2014, there was a threefold increase in the number of HAV cases. Iraq is considered a low endemic nation for HBV and HCV when compared to its neighbors. The rising frequency of all varieties of hepatitis in Iraq might be related to the security situation and the overcrowding of migrants and refugees, as well as a lack of vaccine availability [5]

Hepatitis A Virus (HAV) and Hepatitis E Virus (HEV) are the two most common viruses that cause acute viral hepatitis across the world. HEV can be transferred from animals to people by infectious bodily fluids of infected animals, despite the fact that these viruses spread via the fecal-oral route or through contaminated water. HAV can



be transmitted via sexual activity or through serum and blood products, but this is uncommon. The frequency and prevalence of these illnesses are strongly linked to poor socioeconomic and sanitary conditions in several developing countries [6].

In industrialized nations, HBV and HCV are more common than other kinds of hepatitis. Receiving infected blood or blood products, as well as invasive medical operations conducted with contaminated equipment, are the most prevalent means of transmission for these two viruses [7].

Hepatitis cirrhosis can develop in people who have either HBV or HCV because of the chronicity that comes with infection with type B or type C. Although HCV infection is discovered in 160 million people, or 3% of the entire world population, while 7% of the whole world population is chronically infected with the HBV [8]. Rural inhabitants have a greater prevalence of the four forms of hepatitis (A, B, C, and E) than urban residents. In rural regions, poor sanitation, limited access to safe drinking water, and a lack of health education among locals have resulted in an increase in the number of cases of HAV, HEV, HBV, and HCV [9]. According to the World Health Organization (WHO), one in every three persons worldwide has been infected with HBV or HCV, with 1.3 million people dying as a result of the disease in 2015. 2 billion individuals are infected with HBV, 185 million with HCV, and 20 million with HEV, the Hepatitis viruses affect around 2.3 billion individuals worldwide [10].

Natural killer (NK) cells respond quickly to viral illnesses such viral hepatitis by cytotoxicing infected target cells and secreting antiviral cytokines. NK cells assist T cell priming and regulate the recruitment of other immune cells to the site of infection by killing immature dendritic cells and secreting proinflammatory cytokines and chemokines. These systems help the adaptive immune response eliminate the infection and give immunological memory and protection against reinfection [11].

This study, therefore, was aimed to estimate the prevalence of hepatitis A, B and C virus infections over the last eight years ago from 2013 to 2020 and to determine the prevalence associated with age, healthy centers and gender of patients in Waist province.

Materials and Methods

This study comprised a total of 1553 positive individuals who were diagnosed with hepatitis A, B, and C virus infections. Patients' information was acquired from medical records at Waist province's Central Public Health Laboratory, hospitals and health clinics between 2013 and 2020. We analyzed the prevalence of viral hepatitis infections among patients during the last eight years, as well as the relationship between gender, health centers, and patient age by using statistical program SPSS version 23.

Results and Discussion

In Waist Province, the prevalence of HAV, HBV and HCV in both genders were 811(52%) in males and 742(48%) in females as we showed in (Table 1, Figure 1) , this results were agree with [11,12,13,14, 8] when showed the distribution of hepatitis virus in males was more than females.

Table (1): Distribution of cases according to type of viral hepatitis infections, age group , health centers and gender through the period from 2013 to 2020

Factors	Measurements	HAV(n)	HBV(n)	HCV(n)	Total(n)
Gender	Male	303	411	97	811(52%)
	Female	281	325	136	742(48%)
Healthy Centers	Al- Azizya	71	146	33	250
	Al- Kut	150	89	36	275
	Al-Hay	49	29	10	88
	Al-Numania	74	85	15	174
	Al-Swayra	60	131	40	231
	Al-zahra	112	156	75	343
	laboratory Health center	47	74	14	135
	other	21	26	10	57
Year	2013	123	101	31	255 (16.4%)
	2014	67	100	40	207 (13%)
	2015	49	92	20	161 (10%)
	2016	40	70	21	131 (8.4%)
	2017	25	90	31	146 (9.4%)
	2018	146	145	44	335 (21.5%)
	2019	122	98	35	255 (16.4%)
	2020	12	40	11	63 (4%)
Age groups	1-10	285	26	23	334
	11-20	151	87	33	271
	21-30	48	163	68	279
	31-40	38	110	16	164
	41-50	30	160	43	233
	51-60	18	100	31	149
	Up 61	14	90	19	123

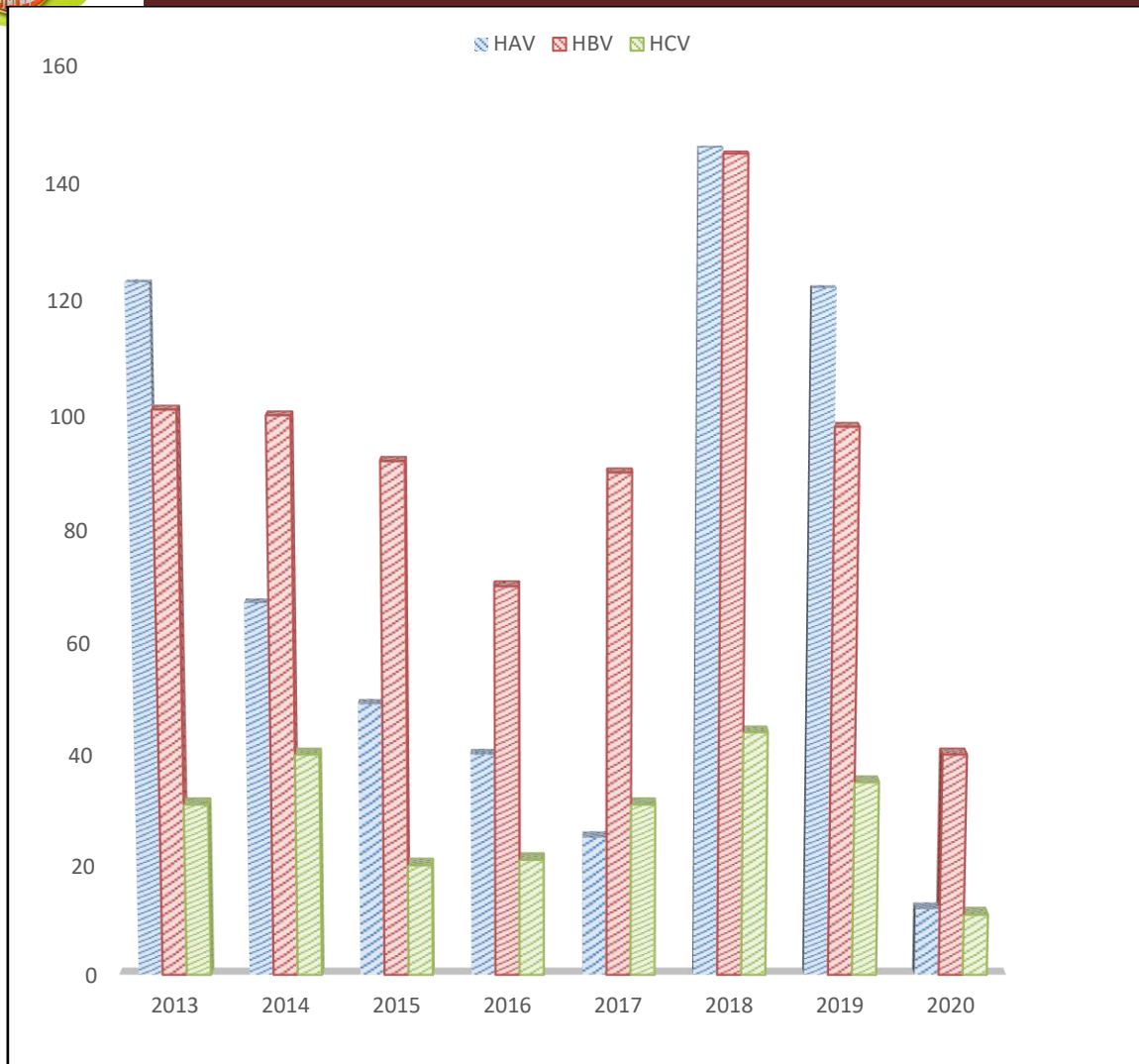


Figure (1): The prevalence of viral hepatitis A, B and C during 8 years (2013-2020)

Hepatitis B, as well as other viral hepatitis infections, are a major public health issue that affects more people than HIV [15]. They are the seventh leading cause of death worldwide and a major cause of disability and mortality. HBV, an important cause of chronic liver disease, is responsible for half of this burden [16] and according to the reports in this study as we showed in figure 2, the hepatitis B virus cases were the most predominant type representing (47%) of cases followed by hepatitis A virus (38%) and hepatitis C virus (15%). these results that talking about the prevalence of type B hepatitis were closely similar to studies of researcher such as [17] Reid et al, 2017 and [18] Tarky et al, 2013.

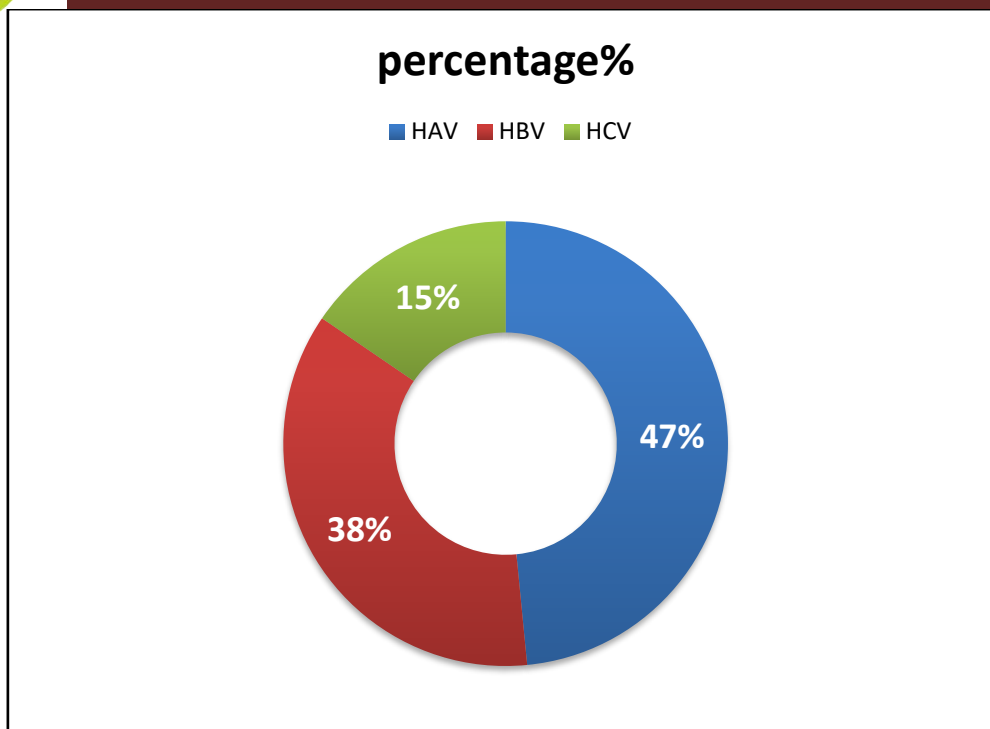


Figure (2): The Percentage of viral hepatitis infections A, B and C through the period from 2013 to 2020.

Also this outcome was in line with the findings of the research and according to the Ministry of Health's studies on hepatitis A, B, and C infections in all districts in Saudi Arabia from January 2006 to December 2010, the hepatitis B virus was the most prevalent, accounting for 53% of cases [19]. Hepatitis B virus (HBV) is a chronic infection that affects about 300 million individuals. Hepatocellular carcinoma is a disease caused by chronic HBV infection (HCC). its responsible for more than half of all HCC cases globally, and 70–80% of HCC cases in HBV-endemic areas [20].

To control the spread of viral hepatitis, prevention and control strategies such as early diagnosis, vaccination, careful screening of blood and blood products, adequate sterilization of reusable surgical and dental instruments, professional and public health education, and implementation of infection control practices in all health facilities should all be followed.

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