
Sero-prevalence of hepatitis B Virus, Hepatitis C Virus and Human Immuno deficiency Virus infections among Blood donors in the National center of blood transfusion in Baghdad.

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Summary:

Background: Several infectious diseases are transmissible by blood transfusion, especially viral infections the most common blood transmitted viruses are hepatitis B Virus (HBV), Hepatitis C Virus (HCV) and human Immunodeficiency virus (HIV)

Objective: to determine sero-prevalence of marker of Hepatitis B Virus (HBV), Hepatitis C Virus (HCV) and Human immuno deficiency Virus (HIV), among Blood donors in the National center of blood transfusion in Baghdad

Materials & Method: A case series study was conducted in the National center of blood transfusion in Baghdad from October 2003 to May 2004. A special questionnaire was designed by the investigators to include information concerning demographic characters such as age, gender, residence. Serum hepatitis B Antigen (HBsAg), anti-HCV and anti-HIV were tested by commercially available enzyme-linked immunosorbent assay kits. We included all blood donors.

Results: The majority of cases (more than 80%) were from rural area. The percentage of donors infected with HBV, HCV were 13.3%, 11.1% respectively and zero for HIV. All cases infected with HBV and HCV were in male donors.

Conclusion: Sero-prevalence of HBV, HCV are 1.5%, 1% respectively and zero for HIV among asymptomatic blood donors in the national center of blood transfusion in Baghdad, during the period of the study.

Keywords: Blood donors, Hepatitis Virus, HIV.

Introduction:

Several infectious diseases are transmissible by blood transfusion, especially viral infections the most common blood transmitted viruses are hepatitis B Virus (HBV), Hepatitis C Virus (HCV) and human Immunodeficiency virus (HIV). These viruses cause total, chronic and life-threatening disorders, the prevalence of these viruses varies by national geography ^[1]. Transfusion of safe blood requires a safe donor; the voluntary donors' movement encompasses the concept of a donor who is free from transfusion transmissible infections. It is now mandatory to screen blood for Hepatitis B surface antigen, antibodies to HIV₁, and HIV₂, antibodies to hepatitis C virus, syphilis and malarial parasites ^[2].

Materials & Methods:

The study was conducted in the National center of blood transfusion in Baghdad from October 2003 to May 2004.

A special questionnaire was designed in a well structured form by the investigators to include information concerning demographic characters such as age, gender, residence.

Serum hepatitis B Antigen (HBsAg), anti-HCV and anti-HIV were tested by commercially available enzyme-linked immunosorbent assay kits. We included all blood donors.

Results & Discussion:

Sero-prevalence of HBV, HCV were 1.5% and 1% respectively and zero for HIV among asymptomatic attendants in National center of blood transfusion in Baghdad, during the period of the study. The highest percentages of HBV, HCV were found in the age group (26-35) years 2.59% and 1, 89% these results are similar to Sakarya *et al* in Turkey [4] who found that the prevalence of HBV and HCV was 1.5% and 0.19% respectively and differ from Oronsay *et al* in Nigeria ^[5] who found that the percentage of HBV 11% and 7% for HIV (**Table 1**).

While table 2 shows the distribution of cases according to gender, all cases infected with HBV and HCV were male donors about (100%) this result differs from another published study ^[9].

Table 1: Percentages of HBV, HCV HIV according to age group

Age group	No of donors	HBV+		HCV+		HIV+	
		No	%	No	%	No	%
16-25	222	1	0.45	-	-	-	-
26-35	501	13	2.59	9	1.89	-	-
36-45	215	1	0.47	1	0.47	-	-
41-55	59	-	-	-	-	-	-
56-65	3	-	-	-	-	-	-
Total	1000	15	1.5	10	1.0	-	-

Table (2): Distribution of cases according to the gender.

Gender	No of donors	HBV+		HCV+		HIV+	
		No	%	No	%	No	%
Male	968	15	1.54	10	1.0	-	-
Female	32	-	-	-	-	-	-
Total	1000	15	1.5	10	1.0	-	-

The majority of cases more than 80% were from urban area, compared to 13%, 20% for HBV, HCV respectively from rural area (**Table 3**). This result is similar to other published studies Bashawri *et al* in Saudi Arabia ^[6] and Singh *et al* in India ^[7]. **Table 4** shows the distribution of cases according to history of blood transfusion, the percentage of donors with history of blood

transfusion infected with HBV and HCV were 13.3%, 11.1% respectively and zero for HIV. This result is similar to other published studies ^[8, 9]. According to marital status we found that the percentages of HBV and HCV were higher in married donors than unmarried donors (2.04, & 0.88) respectively (**Table 5**), these results are similar to the other published studies ^[1, 2].

Table (3): Distribution of cases according to the residence.

Residence	No. of cases	%
Rural	21	84
Urban	4	16
Total	25	100

Table (4): Distribution of cases according to the history of blood transfusion.

History of blood transfusion	Cases			
	Hepatitis B virus		Hepatitis C virus	
	No.	%	No.	%
Yes	2	13	1	10
No	13	87	9	90
Total	15	100	10	100

Table 5: The distribution of cases according to marital status.

Marital status	No of donors	Positive		Negative	
		No	%	No	%
HBV Married	683	14	2.04	669	97.96
Unmarried	317	1	0.32	316	99.68
Total	1000	15	1.5	985	98.5
HCV Married	683	6	0.88	677	68.87
Unmarried	317	4	1.26	313	98.73
Total	1000	10	1.0	990	99.0
HIV Married	683	-	-	683	100
Unmarried	317	-	-	317	100
Total	1000	-	-	1000	100

Conclusion:

Sero-prevalence of HBV, HCV are 1.5%, 1% respectively and zero for HIV among asymptomatic blood donors in the national center of blood transfusion in Baghdad, during the period of the study.

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