

DEDICATION

To my Wife & Children

ACKNOWLEDGEMENT

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ABSTRACT

Background and objectives: Hepatitis E virus (HEV) is significant international public health problem with estimated 2.3 billion people infected globally. The objectives of this study were to determine the seroprevalence of hepatitis E virus among volunteer blood donors attending Sheikh Khalifa Medical City blood bank and to evaluate its correlation to demographic variables.

Method: A cross-sectional study was carried out, in which 318 blood samples; 286 male and 32 female volunteer donors were tested by enzyme linked immuno-sorbent assay (ELISA) for the detection of hepatitis E virus antibodies (anti-HEV Abs) during the period from February 2015 to April 2015.

Results: Anti-HEV Abs were detected in 34/318 (10.69%). High seropositivity rate was observed among males 32/286 (11.18%) compared to females 2/32 (6.25%) of the total positives. A significant correlation was observed between HEV seropositivity and donors from South-East Asia 24/34 (70.58%) of the total positives ($p=0.0006$). The presence of anti-HEV Abs antibodies was higher among young adults 31-45 years 15/34 (44.11%) of the total positives and declines in age group 46-60 years 5/34 (14.70%).

Conclusion: The findings were consistent with prevalence ratios reported by similar studies in the region and worldwide. These results raise the potential risk of HEV infection by blood transfusion and justify screening of donated blood. Further studies are required to determine the molecular and epidemiological pattern of hepatitis E virus in the country.

المستخلص

الخلفية والأهداف: فيروس التهاب الكبد الوبائي (HEV) مشكلة كبيرة للصحة العامة الدولية ويقدر ان 2.3 مليار شخص مصاب على مستوى العالم. الهدف من هذه الدراسة تحديد الانتشار المصلي لفيروس التهاب الكبد الوبائي E بين المتطوعين المتبرعين بالدم في مدينة الشيخ خليفة الطبية - بنك الدم المركزي - ابوظبي وتقييم علاقة الاصابة ببعض المتغيرات الديموغرافية.

الطريقة: أجريت دراسة قطعية وتم اختبار 318 عينة دم من المتبرعين بالدم (286 ذكور و 32 اناث) باستخدام فحص (ELISA) للكشف عن مجموع الأجسام المضادة لفيروس التهاب الكبد الوبائي (anti-HEV Abs) في الفترة من فبراير 2015 إلى أبريل 2015.

النتائج: تم الكشف عن مجموع الاجسام المضادة لفيروس التهاب الكبد الوبائي E في 318/34 (10.69%). لوحظ ارتفاع معدل الانتشار بين الذكور 286/32 (11.18%) مقارنة مع الإناث 32/2 (6.25%) وبينت الدراسة وجود ارتباط كبير بين معدل الانتشار المصلي و الجنسية (المتبرعين من جنوب شرق آسيا 34/24 ; 70.58%) من إجمالي العينات الموجبة ($p=0.0006$) و ارتفاع نسبة الاصابة بين الفئة العمرية 31-45 سنة 34/15 (44.11%) وانخفاضها في الفئة العمرية 46-60 سنة 34/5 (14.70%).

الخلاصة: نتائج هذه الدراسة تتفق مع نسبة الانتشار المصلي لفيروس التهاب الكبد الوبائي E بين المتبرعين بالدم الواردة في دراسات مماثلة في المنطقة و العالم والتي تؤكد احتمالية عدوى فيروس التهاب الكبد الوبائي E عن طريق نقل الدم.

هناك حاجة لدراسات إضافية لتحديد النمط الجزيئي والصيغ الوبائية لفيروس التهاب الكبد الوبائي E في الامارات العربية المتحدة.

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LIST OF ABBREVIATIONS

E LISA	Enzyme-linked immuno-sorbent Assay
Hel	Helicase
HEV	Hepatitis E virus
MT	Methyltransferase
nt	Nucleotide
ORFs	Open Reading Frames
PCR	Polymerase Chain Reaction
Pro	Cysteine protease
RdRp	RNA dependent RNA polymerase
RNA	Ribonucleic acid
UAE	United Arab Emirates
USA	United States of America
WHO	World Health Organization

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