

الآية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قال تعالى:

لَا يُكَلِّفُ اللَّهُ نَفْسًا إِلَّا وُسْعَهَا ۚ لَهَا مَا كَسَبَتْ وَعَلَيْهَا مَا اكْتَسَبَتْ ۗ رَبَّنَا لَا تُؤَاخِذْنَا إِنْ سِينَا أَوْ

أَخْطَأْنَا ۗ رَبَّنَا وَلَا تَحْمِلْ عَلَيْنَا إصْرًا كَمَا حَمَلْتَهُ عَلَى الَّذِينَ مِنْ قَبْلِنَا ۗ رَبَّنَا وَلَا تُحَمِّلْنَا مَا لَا طَاقَةَ لَنَا بِهِ ۗ

وَاعْفُ عَنَّا وَاعْفِرْ لَنَا وَارْحَمْنَا ۗ أَنْتَ مَوْلَانَا فَانصُرْنَا عَلَى الْقَوْمِ الْكَافِرِينَ

صدق الله العظيم

سورة البقرة: الآية (286)

## **DEDICATION**

**To my mother, father,  
Brother, sister  
and  
my friends**

## ACKNOWLEDGEMENT

Piously my gratitude and prayers to ALMIGHTY ALLAH for the mercy which followed me during the long path of this research. I am owe so much to my supervisor **Prof. Humodi Ahmed Saeed** for his close supervision, valuable advices and stimulating suggestions. Pleasant personality made it easy for me to do this work together and immense efforts not only to accomplish this work inculcate the research's soul on me.

I really appreciate the help and patience of the staff of College of Medical Laboratory Science, Sudan University of Sciences and Technology.

Last but not least, I thank anyone who contributed by any means to this research from the commence, during the processing of the specimens or the final touches.

## ABSTRACT

Hospital personnel are at a great risk of occupational exposure to blood borne pathogens like hepatitis B virus. The risk of occupational exposure to such infection has been the concerns of hospital personnel for years.

This is a descriptive, cross-sectional study conducted to detect the prevalence of hepatitis B Virus among hospital personnel in Sudanese hospitals, Khartoum State. The study was carried out during the period from January to May 2015.

A total of 90 participants working in hospitals were enrolled in this study. Of them 55(66.1%) laboratory technicians, 20(22.2%) nurses and 15(16.6%) physicians. Males were predominant 59 (65.6%) while females were 31 (34.45%). Five ml of blood sample was collected from each participant. The blood was dispensed in a sterile plain blood container. Serum was obtained by centrifugation at 3000 rpm for 5 minutes. The sera were examined for the presence of hepatitis B surface antigen(HBsAg) using Enzyme linked immunosorbent assay (ELISA). The results showed that out of 90 blood samples investigated, 16(17.8%) were positive for HBsAg. Of the positive blood samples, 13 (14.4%) were obtained from laboratory technicians and 3 (3.3%) from nurses. Among hospital personnel, males were more infected than females, 14 (15.6%) and 2(2.2%) respectively.

The study concluded that the seroprevalence of HBsAg among hospital personnel in Khartoum State was moderate. Laboratory technicians had the highest frequency of infection followed by nurses. Further studies with large number of samples and more advanced technique are required to validate the results of the present study.

## المستخلص

العاملون في المستشفيات في خطر كبير للتعرض المهني بالنسبة لمسببات الأمراض التي تنتقل عن طريق الدم مثل فيروس التهاب الكبد "ب". مخاطر التعرض المهني بالنسبة للتعرض للعدوى في المستشفيات ظلت تشكل مخاوف بالنسبة للعاملين في المستشفيات لسنوات طويلة.

هذه دراسة وصفية مقطعية أجريت لتحديد مدى إنتشار فيروس التهاب الكبد "ب" بين العاملين في المستشفيات في المستشفيات السودانية، ولاية الخرطوم. وقد أجريت هذه الدراسة في الفترة من يناير إلى مايو 2015.

شملت الدراسة 90 مشاركاً من العاملين في المستشفيات وكان منهم 55 (66.1%) تقني مختبر، 20 (22.2%) ممرض و15 (16.6) طبيب. كانت نسبة المشاركين من الذكور أعلى من الإناث بنسب 59 (65.6%) و31 (34.45%) على التوالي. تم جمع خمسة مل عينة دم من كل مشارك وتم الحصول علي المصل بواسطة جهاز الطرد المركزي عند 3000 دورة في الدقيقة لمدة 5 دقائق . كل العينات خضعت للفحص وذلك للكشف عن المستضد السطحي لفيروس التهاب الكبد (ب) بواسطة تقنية الإنزيم المناعي المرتبط (الإليزا) .

أظهرت النتائج أن من أصل 90 عينة دم تم فحصها، 16 ( 17.8 %) كانت إيجابيه للمستضد السطحي لفيروس التهاب الكبد "ب". من عينات الدم الإيجابية 13 (14.4%) كانت من تقنيي المختبرات و 3 (3.3%) من الممرضين. بين العاملين في المستشفيات، كان الذكور أكثر إصابة من الإناث، 14 (15.6%) و 2 (2.2%) على التوالي.

خلصت الدراسة إلى أن معدل إنتشار عدوى فيروس التهاب الكبد " بي " بين العاملين في المستشفيات في ولاية الخرطوم كان وسطا وكان تقنيي المختبرات أعلى تكرارا" للعدوى ثم الممرضين. يجب إجراء المزيد من الدراسات بعدد أكبر من العينات وبتقنيات متقدمة للتحقق من النتائج هذه الدراسة.

## ABBREVIATION

ACIP: Advisory Committee on Immunization Practices

BBP: Blood borne pathogens

HBV: Hepatitis B virus

HCP: Health-care personnel

NSIs: Accidental needle-stick

ELISA: Enzyme linked immunosorbent assay

HBsAg: Hepatitis B surface antigen

HBcAg: Hepatitis B core antigen

HBeAg: Hepatitis B enveloped antigen

HCV: Hepatitis C virus

HIV: Human immunodeficiency virus

HBeAg: Hepatitis B envelop antigen

HCWs: Healthcare workers

WHO: World Health Organization



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