

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

# الآية

قال تعالى: ﴿وَلَا تَقْرَبُوا الزِّنَا إِنَّهُ كَانَ فَاحِشَةً وَسَاءَ سَبِيلًا﴾

صدق الله العظيم

سورة الإسراء الآية (٣٢)



# Dedication

*To those*

*Who give us the best of life  
without payment*

*To our parents*

*For their patience and  
support*

*To our brothers and sisters*

*To our teachers*

*To all our friends*

# aknowledgement

*All thanks to Allah from  
the start to the end.....*

*And pray for Prophet  
Mohammed peace of Allah  
be upon him*

*We would like to  
acknowledge the  
contribution of our  
Supervisor*

***Dr: Babeker Mohmoud  
Abdullah***

*Who guide us throughout  
our way and helped us to  
make this research as*

*accurate and useful as  
possible.*

*And we are grateful to our  
beloved friends whom  
shared us happiness and  
sadness.*

*And to all those who  
contributed their time and  
helped us.*

*Our thanks also extend to  
Our College and Our  
teachers*

## ملخص البحث

اجريت هذه الدراسة التحليلية في مدينة عطبرة خلال الفترة من مارس الي يونيو عام ٢٠١٧ والتي تهدف الي الانتشار المصلي لفيروس التهاب الكبدالوبائي النوع ب والعلاقة بين وجود الفيروس وعوامل الخطورة بين المتبرعين بالدم في ولاية نهر النيل مدينة عطبرة في عام ٢٠١٧ في فترة من مارس الي يونيو وتم جمع ٩١ عينة دم من المتبرعين (٢مل من الدم الوريدي) وتم فصل السيرم لتتوافق مع النتائج ايجابية وفقا لمعادلة ستيفن طومسون واطهرت نتائجنا ان ٢,٢% من جميع المتبرعين بالدم كانت ايجابية الفيروس الالتهاب الكبد من النوع ب وذلك باستخدام اختبار الطيف المناعي لجميع العينات وتم تأكيد النتائج الايجابية منها باستخدام الفحص الانزيمي الممنع

بعد التحليل الاحصائي من قبل برنامج التحليل الاحصائي النوع (١٥), تبين انه لم تكن هناك فروقات ذات دلالة احصائية بين وجود الفيروس و عوامل الخطورة مثل نقل الدم والعمليات الجراحية و الوشم وتعاطي الكحول والمخدرات والتدخين والتطعيم لان القيمة الاحتمالية من جميع عوامل الخطورة اعلاه اكبر من ٠,٠٥ كما ذكر في جداول الفصل الرابع.

## **Abstract**

This descriptive analytical prospective study was conducted in Atbara town during the period from April to June 2017. Aimed to detect the Sero-prevalence of hepatitis B virus antigen among blood donors attending blood transfusion center at Atbara River Nile state in 2017

A total of 91 donor samples were collected from various capillary bloods or 2ml of venous blood sample in plain container for ICT hepatitis B viral screening and then serum was separated for ELISA to conform the positive results according to the formula of Stephen Thomson.

Our results showed that 2.3% of all blood donors in Atbara town during the period from March to June were positive for hepatitis B virus.

After statistical analysis by SPSS Also statistical analysis showed that there was no relationship between the presence of HBvAga and risk factor like blood donation, blood transfusion, surgical operation, tattooing, alcoholic intake, smoking, vaccination and drug abuse because the p values of all these risk factors are greater than 0.05 as it mentioned in tables of chapter four.

## List of Contents

No	Subject	Page
1	الآية	I
2	Dedication	II
3	Acknowledgment	III-IV
4	Arabic abstract	V
5	English abstract	VI
6	List of content	VII
7	List of tables	VIII
8	List of figures	IX
9	List of abbreviation	IX
<b>Chapter one</b>		
1.1	Introduction	1
1.2	Objective	2
1.3	Research problem	2
1.4	Justification	2
<b>Chapter two</b>		
2	Literature review	3
2.1	Hepatitis b virus	3
2.2	Stability of HBV	3
2.3	Chemical structure of HBV	4
2.4	HBV subtypes	5
2.5	genetic variation of hepatitis B virus	6
2.6	Clinical types of hepatitis B Virus infection	6
2.7	Clinical and serological course of HBV infection	9
2.8	Epidemiology of hepatitis B virus infection	9
2.9	Hepatitis B virus transmission	11
2.10	Diagnosis of HBV:	11
2.11	Hepatitis delta virus (HDV)	15
<b>Chapter three</b>		
3	Material and method	17-24
<b>Chapter four</b>		
4	Results	25-39
<b>Chapter five</b>		
5.1	Discussion	40
5.2	Conclusion	41
5.3	Recommendation	42
<b>Chapter six</b>		
6	References	43-45

### List of table

No	Title	page
Table(4.1.1)	sero- prevalence of hepatitis B virus antigen among blood donors	26
Table(4.1.2)	show frequency percent of blood donors among age	27
Table(4.1.3)	show frequency percent of blood donors among gender	27
Table(4.1.4)	show frequency percent of blood donors among residence	27
Table(4.1.5)	show frequency percent of blood donation	28
Table(4.1.6)	show frequency percent of blood transfusion	29
Table(4.1.7)	show frequency percentage of smoking in blood donors	30
Table(4.1.8)	show frequency percentage of surgical operation in blood donors	31
Table(4.1.9)	show frequency percentage of tattooing in blood donors	32
Table(4.1.10)	show frequency percentage of alcoholic intake in blood donors	33
Table(4.1.11)	show frequency percentage of vaccination	34
Table(4.1.12)	show frequency percentage of drug abuse	35
Table(4.2.1)	co-relation between presence of hepatitis B virus antigen and blood donation	36
Table(4.2.2)	co-relation between presence of hepatitis B virus antigen and blood donation	36
Table(4.2.3)	co-relation between presence of hepatitis B virus antigen and smoking	37
Table(4.2.4)	co-relation between presence of hepatitis B virus antigen and surgical operation	37
Table(4.2.5)	co-relation between presence of hepatitis B virus antigen and tattooing	38
Table(4.2.6)	co-relation between presence of hepatitis B virus antigen and alcoholic intake	38
Table(4.2.7)	co-relation between presence of hepatitis B virus antigen and vaccination	39
Table(4.2.8)	co-relation between presence of hepatitis B virus antigen and drug abuse	39

## List of figure

No	Table	Page
Figure(4.1.1)	sero prevalence of hepatitis B virus antigen among blood donors	26
Figure(4.1.2)	show frequency percent of blood donation	28
Figure(4.1.3)	show frequency percent of blood transfusion	28
Figure(4.1.4)	show percentage frequency of smoking in blood donors	30
Figure(4.1.5)	show frequency percentage of surgical operation in blood donors	31
Figure(4.1.6)	show frequency percentage of tattooing in blood donors	32
Figure(4.1.7)	show frequency percentage of alcoholic intake in blood donors	33
Figure(4.1.8)	show frequency percentage of vaccination	34
Figure(4.1.9)	show frequency percentage of drug abuse	35

## List of abbreviations

HBV	Hepatitis B virus
HCC	Hepato cellular cancer
TTI	transfusion transmissible infection
HBsAg	Hepatitis B surface antigen
Anti-HBc	Antibody to hepatitis B core antigen
ELISA	Enzyme linked immune sorbancy assay
ICT	Immune chromatography test
TSB	Total serum bilirubin
ALT	alanine aminotransferase
AST	aspartate aminotransferase
ALP	alkaline phosphatase
PCR	Polymerase chain reaction
IU/ml	Intranational unit per mill equivalent
HDV	Hepatitis B delta
SPSS	statistical package for social science
DNA	Deoxy ribonucleic acid
RIA	Radioimmunoassay
CHB	Chronic hepatitis B
AHB	Acute hepatitis B

