

## Prevalence of Hepatitis B among Patients in Rural Areas of Rivers State

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### ABSTRACT

This experimental study was undertaken to determine the prevalence of hepatitis B in rural areas of Rivers State. A total of 250 samples made up of 108 males and 142 females were randomly sampled from five communities in Rivers State. Hepatitis B surface antigen was detected with the use of ACON rapid diagnostic test strips. The findings show:

- That the prevalence of hepatitis B was very low in the rural areas of Rivers state.
- Females are more exposed to hepatitis B than males. Based on the findings, recommendations were made.

### INTRODUCTION

The earliest record of an epidemic caused by hepatitis B virus was made by Lurman in 1885. Outbreak of small pox occurred in Brewmen in 1883 and 1,289 shipyard employees were vaccinated with lymph from other people. Eight months later, 191 of the vaccinated workers became ill with jaundice and were diagnosed as suffering from serum hepatitis (Komas, 2013). Other employees who had been inoculated with different

batches of lymph remained healthy. This Lurman's finding is regarded as a classical example of an epidemiological study and a prove that contaminated lymph was the source of the outbreak. Transmission of hepatitis B virus results from exposure to infectious blood or body fluids through sexual contact, blood transfusions, use of contaminated needles and syringes and vertical transmission from mother to

child during childbirth, (Fairley and Read, 2012). Hepatitis B can also be transmitted between family members, within household, possibly by contact of non-intact skin or mucous membrane with secretion or saliva containing hepatitis B. Shi (2001), showed that breastfeeding after proper immunoprophylaxis no longer contribute to hepatitis B. In rural area of Nigeria, transmission of hepatitis B occurs when blood or body fluid of an infected person enters the body of the person who is not immune. Most studies in Nigeria also found a low prevalence in infancy and an increasing rate with age (Amazigo and Chime 2001).

Most studies in Nigeria also showed that blood transfusion is an important source of hepatitis transmission. While in South Africa, other sources of transmission is linked to tattoos and body cutting/piercing, most studies linked that of Nigeria to traditional practices like scarification, circumcision, ear

piercing to hepatitis infection (CDC, 2003).

According to CDC (2003), there is higher prevalence among prisoners and rural dwellers due to overcrowding and clustering living and also implicated unprotected sex in the transmission of hepatitis. The primary method of transmission reflects the prevalence of chronic hepatitis B infection in a given area. In low prevalence in developed or urban areas such as the continental United States and Western Europe, injection, drug abuse and unprotected sex are the primary methods, although other factors may also be important (Redd, 2007).

In moderate prevalence areas like Eastern Europe, Russia and Japan where 2-7 percent of the population is chronically infected, the disease is predominantly spread among children. In high prevalence areas such as China and South East

Asia, transmission through child birth is most common, also in other areas of high endemicity such as Africa; transmission during childhood is a significant factor (Arter, 2003). Komar (2013) reported that China has about 120 million infected people with hepatitis B, followed by India and Indonesia with 40 million and 20 million people respectively.

According to World Health Organization, an estimated 600,000 people die every year as a result of hepatitis B infection (WHO, 2000).

### **STATEMENT OF THE PROBLEM**

Reports has shown that despite the availability of an effective vaccine, infection with hepatitis B virus remains a major worldwide health problem of which over two billion people from both rural and urban areas have been in contact with virus and there are about 400 million chronic carriers and 1 million deaths per

year, WHO (2000). Almost, most studies of the prevalence of hepatitis B in Africa have been conducted in urban areas with only very few in rural areas. Amazigo (1990), found that in Eastern Nigeria, carriage and exposure rate to hepatitis B were significantly higher in rural areas than in urban areas. This was attributed to overcrowding and clustering living. It has also been reported that the awareness of hepatitis B is low in rural areas (WHO, 2000). It is therefore in tandem with this that the researcher developed keen interest in obtaining a more precise idea of the impact of hepatitis B infection in rural areas of Rivers State.

### **PURPOSE OF THE STUDY**

The purpose of this study is to determine the prevalence of hepatitis B among patients in health centers in rural area of Rivers State. In specific terms the study intend to:

- i. find out the prevalence rate of hepatitis B in rural areas of River State.
- ii. Determine which gender is prone to hepatitis B infections.

### **Research Questions**

Based on the stated purpose the following research questions were posed.

1. What is the rate of prevalence of hepatitis B in rural areas of Rivers State?
2. Which gender is more exposed to hepatitis B infection?

### **Scope of the Study**

The study covers all health centers in the rural areas of Ogba/Egbema/Ndoni Local Government Area of Rivers State.

### **Area of the Study**

This study covers all health centres in rural areas of Ogba/Egbema/Ndoni Local Government Area of Rivers State, Nigeria.

### **Design of the Study**

An experimental design was used in this study to determine the prevalence of hepatitis B among patients in health centers in rural areas of Rivers State.

### **STUDY POPULATION**

The population of the study comprises of all patients in five health centers in rural areas of Ogba/Egbema/Ndoni Local Government Area of Rivers State.

### **Sampling and Sampling Technique**

A total of two hundred and fifty (250) patients were randomly sampled from five health centers in Ogba/Egbema/Ndoni Local Government Area of Rivers State. The sample comprised of one hundred and eight (108) males and one hundred and forty two females (142).

### **Instrumentation**

The research instrument comprises blood sample bottles, needles, syringes,

alcohol pads, cotton wool, tourniquet, disposable Pasteur pipettes and hepatitis B test strips.

### Procedure for Data Collection

Socio-demographic data such as sex and age of the samples were recorded. The blood samples were collected through the use of syringes into blood sample bottles and stored at room temperature before testing. Serological analysis of hepatitis B was carried out using test strip for the qualitative detection of hepatitis B surface antigen.

### Data Analysis Technique

Simple percentage method was used to illustrate the prevalence rate of hepatitis across the subjects.

### Presentation of Results

**Research Question One:**  
What is the prevalence rate of hepatitis B in rural areas of Ogba/Egbema/Ndoni Local Government?

The rate of prevalence of hepatitis B virus in the rural area as indicated by the surface antigen is shown in table below:

**Table 1: Prevalence rate of Hepatitis B**

S/N	HEALTH CENTRES	MALE	FEMALES	TOTAL	NO. OF CASES
1	A	21	29	50	1
2	B	27	23	50	2
3	C	20	30	50	2
4	D	18	32	50	2
5	E	22	28	50	1

**Table 1:** above shows a low rate of hepatitis B, eight out of two hundred and fifty.

**Research question Two:** Which gender is more vulnerable to hepatitis B virus?

**Table 2: Vulnerability of Hepatitis B based on gender**

S/N	HEATH CENTRES	NO. OF MALE	NO. POSITIVE	NO. OF FEMALES	NO. POSITIVE
1	A	21	NIL	29	1
2	B	27	NIL	23	2
3	C	20	1	30	-
4	D	18	NIL	32	2
5	E	22	1	28	1

**Table two:** above shows that females have more positive cases than male - 6 against 2.

## DISCUSSION OF RESULTS

In table one, the data analysis shows that eight of the samples were positive for the hepatitis B virus surface antigen. This finding is in consonance with the findings of Acar (2010), who reported that among blood samples taken from rural areas in Turkey, the prevalence rates of hepatitis B was 1.76%. According to Warda (2012), similar study in Lebanese the prevalence was 1.9%. Still in agreement, Baddoura, (2002), reported that the rate of hepatitis among age group was between 20-29 years. The possible reason for this age related high rate was attributed to unhealthy

sexual life style commonly practiced. It is therefore imperative that protective measures be strickly adhered to among youths who are prone to sexual risk behaviors and also found to be associated with higher prevalence of hepatitis B.

The findings in table two shows that females are more vulnerable to hepatitis B than males in the study area. This may be attributed to frequent visit to Salon where they are pricked with contaminated needles, razors and sharp objects. Some of them are involved in multiple and unprotected sex with infected persons. Mustapha (2004) and Seresena (2002), found that in Gombe and Jos

respectively that having multiple sex partner by females increases the carriage of hepatitis B.

### **SUMMARY**

This experimental study was carried out to determine the rate of prevalence of hepatitis B in rural area of Ogba/Egbema/Ndoni Local Government Area of Rivers State. To achieve the purpose of this study; the blood sample of two hundred and fifty (250) people in rural areas of Ogba/Egbema/Ndoni Local Government were collected and tested for hepatitis B. the findings indicate that prevalence of hepatitis is very low in the rural area of the study, the rate of prevalence was higher in females than in males.

### **CONCLUSION**

The rate of prevalence of hepatitis B is low in rural area of Rivers State; females are more vulnerable to hepatitis B than males.

### **RECOMMENDATIONS**

Based on the findings, the following recommendations are made:

1. Awareness campaign be created and vaccination carried out especially in rural area.
2. Local government agencies and health officers should be able to reach every corner in rural areas to sensitize the rural dwellers about the danger of hepatitis and the mode of transmission.
3. Government should provide health centres in rural areas.

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