Epidemiology of *Helicobacter Pylori* among out Patients Visiting Ibrahim Badamasi Babangida (IBB) Specialized Hospital, Minna, Niger State, Nigeria

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ABSTRACT

This study was conducted to determine the Prevalence of Helicobacter pylori among out Patients visiting Ibrahim Badamasi Babangida (IBB) Specialized Hospital, Minna, Niger State. A total of one hundred blood samples were collected from out patients visiting IBB Specialized Hospital in Minna. Out of the 100 blood samples collected 10 were collected from apparent healthy people as control. The one hundred blood samples were screened for possible detection of Helicobacter pylori, using Enzyme Linked Immunosorbent Assay (ELISA). Out of the 10 blood samples (control) none was positive, while the remaining 90, only 7 were positive (7.8%). Out patients within the age 18 – 35years had 5.6% while those within 36 – 50years recorded 2.2%. Similarly, male out patients recorded 6.7% Prevalence and for female, it was 1.1%. Chi square analysis of the results revealed that stomach ulcer is not significantly related to infection with Helicobacter pylori in the study area. More studies involving large samples should be encouraged to ascertain the true situation of the disease in the study area.

Keywords: Prevalence, Ulcer, *Helicobacter pylori*, Blood samples.

INTRODUCTION

Helicobacter pylori are gram positive, microaerophilic bacteria that can inhabit various areas of the stomach, particularly the antrum. The bacteria are spiral in shape and specifically responsible for digestive illnesses such as peptic ulcer and even stomach cancer (Borody *et al.*, 2009). *Helicobacter pylori* occur worldwide but its pathological impact is more in most developing countries like Nigeria. Recent findings revealed that about 10% of children and 80% of adults can have laboratory evidence of *Helicobacter pylori* infection without clinical symptoms (Borody *et al.*, 2009). The incidences of diseases associated with *Helicobacter species* is on the increase in most developing countries with low attention being given to it even among researchers. This study, therefore is an attempt to determine the prevalence of *Helicobacter pylori* among out patients visiting IBB Specialized Hospital for medical attention.

MATERIALS AND METHOD

Sample Collection
Two milliliter of blood was collected from each of the 90 out patients visiting IBB Specialized Hospital for medical care through venous puncture method and same quantity was collected from 10 apparently healthy people as control. These blood samples were collected into EDTA bottles in each case separately and transported to the Microbiology Laboratory, Federal University of Technology, Minna for analysis.

Blood Sample Processing/Screening
The blood samples were spinned at 3000 revolution per minute for 5-minutes. The plasma obtained was used for the ELISA screening. The ELISA reagents was purchased from RIDA screen R-Biopharm, Germany. The screening of the plasma was done in accordance with manufacturer's instructions (Baldwin *et al.*, 2007).

Statistical Analysis
Data generated from the study was analysed using frequency percentage value and was compared to chi square value to determine the level of significance at $P>0.05$.

RESULTS AND DISCUSSION

Out of the one hundred blood samples screened, (90 blood samples from out patients and 10 from apparently healthy people) only seven (7) out of 90 (7.8%) were found positive and none out of the 10 blood samples used as control was positive. Out patients within the age 18 – 35years had 5.6% while those within 36 – 50years recorded 2.2% Prevalence (Table 1). Similarly, male out patients recorded 6.7% while female had 1.1% prevalence (Table 2). Chi square analysis indicated that age and sex are not linked to infection significantly at $P>0.05$ (Table 3).

Table 1: Distribution of Infection Rate According to Age of the Patients

Age (yrs)	Out Patient Cohort			Control Cohort		
	N	P	Pr(%)	N	P	Pr(%)
18 – 35	49	5	5.6	4	-	-
36 – 50	41	2	2.2	6	-	-
Total	**90**	**7**	**7.8**	**10**	**-**	**-**

(N) = Number screened, (P) = Number Positive, (Pr) = Prevalence (%)

Table 2: Distribution of Infection Rate According to Sex of the Patients

Sex	Out Patient Cohort			Control Cohort		
	N	P	Pr(%)	N	P	Pr(%)
Male	52	6	6.7	6	-	-
Female	38	1	1.1	4	-	-
Total	**90**	**7**	**7.8**	**10**	**-**	**-**

(N) = Number screened, (P) = Number Positive, (Pr) = Prevalence (%)

Table 3: Relationship Between Age, Sex and Rate of Infection

Factors	Number of Positive	P-Value
Age		
18 – 35	5	0.563
36 – 50	2	
Sex		
Male	6	0.472
Female	1	

Discussion

In this study, the prevalence of *Helicobacter pylori* among out patients visiting IBB Specialized Hospital in Minna for medical care was investigated. It was found to be 7.8%. Although the prevalence obtained in this study may appear to be low when compared to the Prevalence reported in the previous study (Linz *et al.*, 2007). The fact that it involved life of human cannot be ignored. The infection rate among out patients within the age group 18 – 35years in this study was found to be high compared to those within the age group 36 – 50years. Studies by Linz *et al*. (2007) and Malaty (2007) have reported high prevalence of *Helicobacter pylori* among adolescents consistently, the outcome of this study is therefore comparable with the previous studies conducted. However, despite the prevalence observed in this study, chi square analysis revealed that age of the patients is not a significant factor in terms of infection rate with *Helicobacter pylori* in the study area.

Similarly, male out patients were observed to have recorded high prevalence compared to their female counterpart. Similar incidence has been reported in a study conducted by Linz *et al*. (2007). Although, the environment where Linz *et al*. (2007) conducted their study cannot be compared to the environment where the present study was conducted, the fact that previous report used sex of the patients as one of the demographic information, makes the result of this study comparable with the previous one. However, chi square analysis indicated that sex of the patients is not related to the rate of infection with *Helicobacter pylori* in the study area (Table 3).

More enlightenment campaign about the disease and possible route of transmission should be encouraged. More studies involving large population should be conducted to ascertain the true situation in the study area.

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