

## Reproductive Tract Infections Among Females in Ihiala Local Government Area , Anambra State, Nigeria.

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### Abstract

A study was conducted to determine the reproductive tract infections among females aged 15-44 years. A total of 100 samples of blood and high vaginal swab were collected from females in Ihiala Local Government Area, Anambra State. Of the total number sampled 48 respondents showed positive infection of either high vaginal swab infection and/or HIV positive. While 52 respondents had no infection at all. Organisms associated with reproductive tract infections in this study include virus (Human Immune deficiency virus) ; bacteria (*Staphylococcus aureus*, *Escherichia coli*; *Klebsiella spp* ; protozoan (*Trichomonas vaginalis*) and fungi (*Candida albican*). The overall result showed that fungi (*Candida albican*) had the highest prevalence infection with (72.1%) followed by bacteria infection, *Staphylococcus aureus* (18.6%) while protozoan infection had the least infection with 2.3% respectively. In conclusion, female should avoid multiple sex partners and live a healthy life style. The Government (Women Affairs Commission) should create more awareness campaign on reproductive tract

infection in our society and follow up to this study is advocated.

**Key words:** Reproductive tract infections, female, Ihiala, Women Affairs Commission.

### INTRODUCTION

According to Krishna; et al,(1998) they defined reproductive tract as a system of organs within an organism which work together for the purpose of reproduction which has important accessories as many non-living substances such as fluids,hormones and pheromones.

The medical dictionary gave the definition of infection as the invasion of body tissues by disease causing microorganisms,their multiplication and the reaction of body tissues to these microorganisms and the toxins that they produces. Infections are caused by microorganisms such as viruses,prions,bacteria and viroids,though larger organisms like macroparasites and fungi can also infect.Chowdhury,et al;(2007),defined reproductive tract in female as those infections that occur in or on the

female reproductive tract. Reproductive tract infection being increasingly recognised as a serious global health problems with impact on individual women ,men,their families and communities(Cowen,et al;2000). They can have severe consequences including infertility ,ectopic pregnancy ,chronic pelvic pain,miscarriages and increased risk of HIV transmission. Reproductive tract infections in female can occur in either their upper reproductive tract (Fallopian tubes ,Ovary and Uterus)and the lower reproductive tract (Vagina,Cervix and Vulva). Reproductive tract infection can be divided into three types: Endogenous infection,Intrigenous and Sexual Transmitted infections(STIs)(Cowen,et al;2000) .

Endogenous infections are those infections of reproductive tract that are common worldwide(Tsui,et al;1997). They result from an outgrowth of organism normally present in the vagina. It includes bacterial vaginosis and candidiasis. These infections can be easily treated and cured. If they are not treated,they can cause problems ranging from localised irritation to more serious consequences such as pelvic inflammatory disease.

iatrogenic infections of the reproductive tract results from bacteria being introduced into the normal sterile environment of the upper reproductive tract through a medical procedure,as induced abortion or during delivery(Bang,et al;1989). The causes of

bacterial originate either from improperly sterile examination of medical instruments(such as vaginal specula)or from endogenous or sexually transmitted infections already present in the lower reproductive tract.

Sexually transmitted infections are those infections that are passed between people through sexual contact(Adler,et al;1998). Some cause no symptoms at all and some are easily treatable. Others result in severe long-term consequences and cannot be treated like HIV, the virus that causes AIDS, can lead to death. This study was conducted to determine the occurrence of reproductive tract infection among females in Ihialla Local Government Area of Anambra State. The age related prevalence among females and the risk factors of the infection will also be determined.

## METHODOLOGY

### Study Area

The study was carried out in Ihiala Local Government Area of Anambra State between May to September,2012.Ihiala Local Government is located on at the southern part of Anambra State and lies between latitude  $5^{\circ} 14' N$  and  $6^{\circ} 36' E$ . There are two distinct rainy and dry season with most of the rainfall(1800-2200mm) occurring between March and October. The average relative humidity is about 80% with a temperature of 20-38°C(Mean 29°C). The vegetation is typical tropical rain forest.The inhabitants

predominantly engaged in peasant agriculture and fishing. Farming and trading are the major education activities. Education status of the indigenous people of the area is poor.

**Sample Collection**

Prior to the collection of sample, advocacy visit was made to the community to seek for the support of resident health workers. Interactive session were held with the people to explain the aims and objectives of the research. A total of 100 females respondents with age ranging from 15-44 years were sampled for this study. Sterile swab sticks were used to collect High Vaginal samples of each patient while 2ml of venous blood of each patient was also dispensed into Ethylene Diaminetetracetic acid(EDTA)bottles.

Samples were labelled and taken directly to the Laboratory for examination. The blood test carried out are human immune deficiency virus (HIV) test and syphilis test. For high vagina swab tests microscopy, Gram staining and

culturing of samples were carried out. Cultured samples were incubated for 24hrs in the incubator and thereafter identification made using Chesbrough Method.

**Data Analysis**

The data obtained was analysed using chi-square test to determine the hypothesis. However, tables were drawn to show the prevalence of the infections.

**RESULTS**

The results of the observation made during the course of this study are summerized in the tables. Of the one hundred females sampled, 48 were positive for different types of characteristic micro-organisms. The prevalence of infection varied significantly ( $P > 0.05$ ) among the respondents between the ages of 15-44 years (Table 1). Reproductive Tract infections were most prevalent among the 20-24 years age group (37.5%) while age group 40-44 years had the least infection with 4.2% (Table 1)

**Table 1:** Prevalence of RTIs in female in Ihiala Local Government Area of Anambra State in relation to their age ranges

Age ranges	No of samples	No infected	% infected
15-19	25	10	20.8
20-24	35	18	37.5
25-29	15	5	10.4
30-34	15	8	16.7

35-39	5	5	10.4
40-44	5	2	4.2
Total	100	48	100

Table2 presents the prevalence of pathogenic organisms in high vaginal swab. A total of five different organisms were isolated from the respondents. They include *Candida albicans*, *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella pneumoniae* and *Trichomonas vaginalis*. Of these organisms, *Candida albicans* had the highest prevalence rate 31(72.1%), the least prevalence were among *E.coli* and *Trichomonas vaginalis* which recorded one case(1) each with 2.3% respectively. However there was a significance difference in the infection rates  $P=0.05$ .

**Table 2:** Prevalence of Pathogenic Organisms in High Vagina Swab

Organisms Isolated	No of cases	% of Isolates
<i>Candida albicans</i> ,	31	72.1
<i>Staphylococcus aureus</i>	8	18.6
<i>Escherichia coli</i>	2	4.7
<i>Klebsiella pneumoniae</i>	1	2.3
<i>Trichomona vaginalis</i>	1	2.3
Total	43	100

$$X^2 (r-x)(r-1)(c-1)$$

$$X^2_{tab} = 9.49 \quad p=0.05$$

The demonstration of pathogenic organisms that causes reproductive tract infection among the age groups were also shown (Table 3). The results from HVS and blood samples showed that *Candida albicans* without HIV recorded highest (28) among all the pathogens isolated and infection highest amongst 20-24 age range while no person showed positive for syphilis infection.

Age ranges	<i>Candida albicans</i> without	<i>Candida albicans</i> with	<i>Staphylococcus aureus</i>	<i>Escherichia coli</i>	<i>Klebsiella pneumoniae</i>	<i>Trichomonas vaginalis</i>	Syphilis	HIV only	No of cases	% of incidence
15-19	6	-	4	-	--	-	-	-	10	20.8
20-24	13	3	-	1	-	1	-	-	18	37.5
25-29	3	-	-	-	-	-	-	2	5	10.4
30-34	2	-	4	-	-	-	-	2	8	17.7
35-39	2	-	-	1	1	-	-	1	5	10.4
40-44	2	-	-	-	-	-	-	-	2	4.5
Total	28	3	8	2	1	1	0	5	48	100

$\chi^2 (r-x) (r-1) (c-1)$

$\chi^2_{tab} = 49.8$

$p=0.05$

### DISCUSSION

The result of the study shows that Reproductive tract infection among female is a major challenge to the problem of reproduction and some terminal illnesses like cervical cancer all over the world (Watch and Dixon, 1996). The overall prevalence of reproductive tract infection in our study is higher than prevalence rate of 47.2% found among female population in Benin City, Nigeria (Richard, 2010). The reason for this higher prevalence may be due to variation in

the level of exposure and educational status. Ihiala which is located in the Southern part of Anambra State is a semi-urban town, whose inhabitants were predominantly engaged in peasant agriculture and fishing. The Education status of the indigenous people of the area is poor.

The results obtained were lower to that of Nguyen (2009) from Vietnam with 54% prevalence. This might be as a result of carefree in that area. This also shows the level of their exposure where once a child attains

age of 18years can live on his/her own without receiving directives from their parents.

This result is not different from the ones previously reported from other parts of the Country(Terri,2010).Of the five organisms isolated *Candida albicans* were detected in almost all the females sampled. The Universal occurrence and high organism prevalence have been attributed by previous studies to poor personal hygiene,lack of knowledge and multiple sex partners. Most of the time, the female engages in night life especially among peasant farmers who comes out early in the morning and closes very late at night. The people of this area are known to be promiscuous and engages in multiple sex partners which encourages the spread of this infection(Bradshaw;et al;2006). For *E.coli* and some enteric bacteria presence they are known to be members of the normal intestinal flora (Bang;et al;1989). The bacteria becomes pathogenic when they reach tissues outside the intestinal tract. They therefore contributes to the infection of the reproductive tract. *Klebsiella pneumoniae* occasionally produces reproductive tract infection (Lakshmi;et al;2012). The very deplorable state of environmental hygiene and inadequate supply of clean potable water as well as the near absence of toilet facilities and Universal lack of shoes usage have greatly contributed to the

presence of enteric bacteria isolated from the samples.

Although, isolates were observed in all age groups the prevalence varied considerably among age groups and thus showed a gradual increase followed by sharp decrease as age increases. The rate was highest in 20-24age group and lowest in 40-44age groups. The chi square test analysis showed no statistical difference among age-group ( $P>0.05$ )thus suggesting that there was no age difference in exposure to infection. This observation is in consonance with the report of (Tsui;et al;1997). The highest level of infection among age bracket 20-24years could also be attributed to lack of information or awareness campaigns,group discussions,seminars and research work on Reproductive tract infection. It is also the ages when they are too inquisitive about life,contributing to the environment of the area which lack essential amenities and has lower level of education (Terri;2010). According to lakshmi,et al,(2012),it is the age when they are sexually active which make them to have multiple sex partner as a result of this,contact so many infections.

In conclusion,Health Education on reproductive tract infection is advocated in this area. Young females are admonished to remain sexually faithful to one partner. Once a female reaches the age of 15years,she should maintain regular gynaecological examination

or checkup. Self medication should be discouraged. Abstinence is also advocated to young female adults but if they must have sex ,they should use condoms.

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