

PATTERN OF SEXUALLY TRANSMITTED INFECTIONS IN A REFERENCE CLINIC OF AMINU KANO TEACHING HOSPITAL, KANO

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ABSTRACT

Background: Sexually transmitted infections (STIs) are common communicable diseases worldwide and constitute part of major cases seen at Aminu Kano Teaching Hospital (AKTH), Kano.

Objective: To determine the pattern of STIs and other associated clinical conditions/ sequelae among patients attending skin/ STI referral clinic at AKTH, Kano.

Methods: A prospective study with respect to the spectrum of STIs among patients who attended the Skin/STI clinic and who were physically examined and made to undergo appropriate laboratory diagnostic tests during the period November, 1998 – October, 2000 is presented.

Results: A total of Ninety patients were investigated comprising 53 (58.89%) women and 37 (41.11%) men. Candidiasis (vulvovaginitis) constituted the highest 21 (23.33%) of STI recorded followed by HIV/AIDS 13 (14.44%), pelvic inflammatory disease (PID) 12 (13.33%), genital warts 9 (10%) and non – gonococcal urethritis (NGU), 8 (8.89%) in that order. Others were lues, chancroid and *Tinea cruris* infections constituting 5.56% each. Gonorrhoea and scabies made up 3 (3.33%) each of the cases while genital herpes including infective Herpes zoster and *Molluscum contagiosum* associated infections accounted for 2.22% each of the cases.

Conclusion: The patients presented with significant range of STIs with some showing similar prevalence rate. The majority

(approximately 37%) of the clinical conditions were associated with bacterial agents while parasite related cases were the least encountered. There was relatively high occurrence of vulvovaginitis caused by *Candida albicans* in female patients while genital herpes, Herpes zoster and *M. contagiosum* associated infections were the least seen.

Key Words: Pattern, Spectrum, STIs, Patients, Skin/STI-referral clinic, AKTH.

INTRODUCTION

Sexually transmitted infections (STIs) are common communicable diseases worldwide. In 1996 alone, about 333 million new cases of curable and preventable STIs occurred in both developed and developing countries and were particularly predominant in men and women aged 15 – 49 years¹. The above report also indicates that the most common STIs was trichomoniasis accounting for about 167 million followed by chlamydia (89 million), gonorrhoea (62 million) and syphilis (12 million).

In developing countries and especially sub – Saharan Africa, STIs and their complications rank in the top five categories for which adults seek health care services. Some of the complications and sequelae that may arise from STIs if not diagnosed and treated early include infertility, neonatal and fetal wastage, (including cervical) cancer and death². Consequently, Wasserheit and Holmes³ noted that STIs are a major public health problem in both developed and developing countries, but prevalence rates apparently are far higher in the latter where STIs treatment is less accessible. It was estimated that for adults between 15 and 44 years of age, STIs (excluding HIV infection) are the second cause

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of healthy life lost in women after maternal morbidity and mortality. Whereas if HIV/AIDS is combined with conventional STIs, the latter account for up to 15% of all health lost in this productive age group of society⁴.

Although there were several reports on STIs,⁵⁻¹⁰ however, the true prevalence of many STIs in Nigeria is not known. Despite its under representation, incidence of acute STIs is believed to be high in most communities and is on the increase.

Kano (where our hospital is located) is a large commercial center of northern part of Nigeria. It has a population of over five (5) million people. The objective of the study was to ascertain the spectrum and pattern of STIs in this cosmopolitan city with respect to patients attending referral skin/STI clinic at AKTH. It was also hoped that the outcome of the study would serve as a useful tool for future studies on skin/STIs in the hospital.

PATIENTS AND METHODS

Majority (over 80%) of the patients examined during the period in review (November, 1998 – October 2000) were referred to the skin/STI clinic by medical officers working in the General Outpatient Department (GOPD). Other individuals were brought and registered by AKTH staff and relatives. Some of the cases were diagnosed while examining patients for other problems such as infertility, erectile dysfunction, fevers etc. After conducting physical examination and obtaining history, all patients were further made to undergo necessary laboratory investigations including urinalysis, analysis of genital swab, venereal disease research laboratory (VDRL) and HIV serology where appropriate. Following standard procedures, identification of suspected etiological agents of the clinical conditions presented were carried out at the pathology section of AKTH. These include:

Candidiasis: Genital swabs were obtained from all patients concerned, which were subsequently plated on saboured dextrose agar medium (Difco, Detroit), incubated at 35°C for 48 hours. All *Candida* isolates were identified as described previously⁸.

Gonorrhea: Urethra and endocervical swabs of male and female patients respectively were obtained for analysis. Smears for direct Gram stain were made from the specimens on sterile glass slides and then streaked onto chocolate agar and Thayer – Martin medium (Oxoid). The plates were incubated in candle extraction jar at 37°C for 48 hours. Oxidase and Gram staining reactions were carried out on suspected colonies. Colonies showing Gram negative cocci and producing oxidase positive test were confirmed as *Neisseria gonorrhoea* by rapid sugar fermentation and nitrate reduction tests as described earlier^{11,12}.

Non-gonococcal Urethritis (NGU): All male and female patients who presented with urethral and vaginal discharge respectively with more than four (4) polymorphonuclear cells (PMNC) per high power field (hpf) in Gram stained urethral/ vaginal smear which however, gave negative cultures for *N. gonorrhoea* were regarded as having NGU as prescribed by World Health Organisation (WHO)¹³

Pelvic Inflammatory Disease (PID) sequela: all concerned female patients were examined for vaginal discharge or bleeding, lower abdominal pain and tenderness, adxenal/ cervical motion tenderness. Further laboratory test results were also collated and analyzed including presence of ≥ 5 WBCs per oil – immersion field of Gram stained endocervical discharge and erythrocyte sedimentation rate (ESR) > 15 mm/hr as recommended by sweet (1987).¹⁴

HIV/AIDS: Ten mls of venous blood samples were collected aseptically from individual patients and centrifuged at 3000 rpm for 5 minutes at room temperature. Serum obtained in each case was first screened using rapid latex agglutination method based on capillus HIV – 1 and HIV – 2 test procedures (Biotech, Wiclow)¹⁵. Positive HIV samples after screening were confirmed by immunocomb HIV – 1 and HIV – 2 immuno confirm as prescribed by organics (Organics, Isr.)¹⁶. All samples were monitored and regulated with controls. Serum samples were considered positive if they indicated reactivity as prescribed by WHO¹⁷.

RESULTS

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Of the ninety (90) patients examined 37 (41.11%) were males and 53 (58.89%) were females (Table 1) comprising both young and adults. The preponderance of STIs was evident among individuals within age range of 21 – 40 years (73.33%). Outside of this group were two young females who were below ten years and presented clinical cases of STIs. One of them, a six and half year old girl had vulvovaginitis associated with *C.albicans* while the other (about nine years of age) had gonorrhoea. Candidiasis was the most common 21 (23.33%) of all STIs encountered followed by HIV/AIDS 13 (14.44%), while viral genital herpes and herpes zoster were among the least seen (Table 2). Cases of gonorrhoea were not as rampant as reported elsewhere.^{9,10} Lues was as common as chancroid And *Tinea cruris* infection, each constituting 5.56 percent of cases. In addition, PID, genital warts and NGU were found to constitute 12 (13.33%); 9 (10%) and 8. (8.89%) respectively out of all cases.

DISCUSSION

In this study, a total of ninety patients; 53 (58.89%) females and 37 (41.11%) males were investigated and all were found to present with one form of STI or another including its sequelae (Table 2). This outcome may be due to the fact that our clinic is a referral center, and in general, attendance was normally facilitated mainly by other doctors working in GOPD based on presence of STI symptoms and suspected complications and sequelae that might have arisen from STIs.

The age distribution pattern of STIs (Table 1) in our clinic showed high occurrence of this form of infection among young adults aged 21 – 40 years constituting about 73 percent of the total number of patients examined. Majority of infected males 20 (52.63%) and their female counterparts 24 (45.28%) were found in age group 21 – 30 years and is consistent with findings in other studies.¹⁰ This is not surprising as this group constitutes sexually active members of the society who are regularly exposed to sex – related diseases. It is note worthy that two of the female patients aged six and half years and nine years presented with

clinical cases of candidiasis and gonorrhoea respectively. We could not ascertain the source and mode of infection of the young girl with gonorrhoea due to her unwillingness to volunteer necessary information, we however, suspected environmental factors such as poor sanitary and unhygienic living as being major facilitator of Candida infection in the second girl considering her unwholesome physical presentation.

The most common STI recorded in our clinic was candidiasis caused by *C.albicans* accounting for 23.33 percent of the total STIs. This compares with reports from other centers⁸ and may be due to alteration (by various factors) in the acidic contents of vagina normally maintained by normal bacterial flora of the area. HIV/AIDS ranked second (14.44%) in the hierarchy of STIs encountered (Table 2). HIV transmission has become a serious and alarming problem. It is estimated that average infection amongst adults in Nigeria between 15 – 49 years is 5.4%. Cumulatively, 6.5 million adult Nigerians are infected with HIV and 250,000 of them are already dead¹⁹. It is estimated that half of the HIV – seroreactive population acquired infection between the ages of 15 and 24 years²⁰. It is around this age bracket that most men and women tend to attain social and sexual maturity and have the tendency to be adventurous in their sexual life. More so, young people who are readily prone to HIV infection include those who engage in unprotected sexual intercourse, drug addicts and those who incidentally are living at the margins of mainstream society²¹.

Amongst all cases of STIs and sequelae, NGU, PID and genital warts were more predominant than other conditions excluding candidiasis and HIV infection (Table 2). It was observed that more men presented with cases of NGU than females. Similar result was obtained in a previous study²² and was attributed to intense sexual behaviors and multiple partnership common among male folk. Moreover, male patients have greater tendency of presenting recognizable clinical effects (urethritis) when infected whereas most females often remain asymptomatic. It is estimated that between 8 to 20% of women with untreated cervical gonorrhoeal and chlamydial infections develop

PID²³ which in the same manner as NGU, has the capacity to render the victims infertile and may lead to a serious psychological depressions as well as broken homes or marriages in some cases.

Of the 90 patients examined, five persons (5.56%) presented as cases of chancroid, lues and *Tinea cruris*, while lesser number of patients (3.33%) presented parasitic infection by scabies. Our results were in agreement with reports from Sweden and US²⁴, which indicated that chancroid and primary syphilis or lues are becoming more prominent, that gonorrhoea in those environments. Their report also showed a significant decrease in STIs (excluding HIV/AIDS) in the last decade compared to previous ones and was attributed to perhaps early initiation of sex education at school and preventive measures such as condom promotion and wide availability of STI treatment in those areas.

Considering the contrast situation in Nigeria, other extraneous factors could be responsible for the similar presentation of events in our hospital.

Genital herpes and herpes zoster accounted for 2.22 percent each of all STIs recorded. In Africa, seeing a patient with herpes zoster makes one think of HIV infection because since the HIV/AIDS epidemic began in the early 1980s, Herpes zoster has often been one of the first manifestations of HIV.²⁵ Leopard and Naburi²⁶ reported that herpes zoster is the commonest skin manifestation of HIV infecting those mainly between ages of 20 and 50 years (infact more than 90% of these patients attending their clinic were said to be seropositive for HIV). We also found that the two cases of herpes zoster in our clinic were infected with HIV. Owili²⁷ reaffirmed that the most common viral skin manifestation in HIV patients in Africa is genital warts caused by papilloma virus affecting both male and female gender. However, we did not obtain the same result as our patients with this clinical condition were negative for HIV screening test.

In conclusion, the findings from the study indicate an appreciable spectrum of STIs in patients attending the skin/STI clinic at AKTH

with similar prevalence rate in some cases. The majority of cases were associated with bacterial agents with parasitic infection occupying the last position in the hierarchy of STI conditions encountered.

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Table 1: Age Distribution Of Patients

Age (yr.)	No. of Male	No. of Female	Total No	% of Total No.
0-10	-	2	2	2.22
11-20	5	8	13	14.44
21-30	20	24	44	48.86
31-40	8	14	22	24.44
41-50	3	2	5	5.56
> 50	1	3	4	4.44
TOTAL (%)	37 (42.21)	53 (58.89)	90	100

TABLE 2: DISTRIBUTION OF SEXUALLY TRANSMITTED INFECTIONS BY DIAGNOSIS AMONG PATIENTS EXAMINED

Diagnosis Infected	No. Of Male Infected	No. Of Female	Total No. (%)
Candidiasis	3	18	21 (23.33)
HIV/AIDs	6	7	13 (14.44)
PID	-	12	12 (13.33)
Genital warts	5	4	9 (10)
NGU	7	1	8 (8.89)
Lues	3	2	5 (5.56)
Chancroid	5	-	5 (5.56)
<i>Tinea cruris</i> Infection	1	4	5 (5.56)
Gonorrhoea	2	1	3 (3.33)
Scabies	2	1	3 (3.33)
Genital herpes	1	1	2 (2.22)
Herpes zoster	1	1	2 (2.22)
<i>M. contagiosum</i> associated infections	1	1	2 (2.22)
TOTAL	37	53	90 (100)

Key: HIV/AIDS=> Human immunodeficiency Virus/Acquired Immunodeficiency syndrome.

PID => Pelvic Inflammatory Disease.

NGU => Non - gonococcal Urethritis

M. contagiosum => Molluscum contagiosum