

Vulvovaginal Candidiasis among Women of Reproductive Age: A Study from Asokoro District Hospital, Abuja, Nigeria

Aigbogun S.E.¹, Iyevhobu K.O.^{2,3}, Oko P.I.¹, Udeh I.¹, Okparaku S.O.², Ikede R.E.⁴, Dongyeru E.⁵, Eigbedion A.O.^{6,7}, Innih R.E.^{3,8}, Obohwemu O.K.⁹, Oni I.V.¹⁰, Ezeanyim C.I.¹¹, Ekwuluo E.C.¹²

¹Nile University Teaching Hospital/Asokoro District Hospital, Abuja, Nigeria

²Department of Medical Microbiology, Faculty of Medical Laboratory Science, Ambrose Alli University, Ekpoma, Edo State, Nigeria

³Department of Medical Laboratory Science, Edo University Iyamho, Ekpoma, Edo State, Nigeria

⁴Department of Medical Microbiology, Federal College of Medical Laboratory Science and Technology Jos, Nigeria

⁵Northwest Community Laboratories (NWCL), United States of America

⁶Department of Paediatrics, Faculty of Clinical Sciences, Ambrose Alli University, Ekpoma, Edo State, Nigeria

⁷Department of Paediatrics, Irrua Specialist Teaching Hospital, Irrua, Edo State, Nigeria

⁸Department of Histopathology and Cytopathology, Faculty of Medical Laboratory Science, Ambrose Alli University, Ekpoma, Edo State, Nigeria

⁹PENKUP Research Institute, Birmingham, United Kingdom

¹⁰Department of Microbiology, Faculty of Life Sciences, Ambrose Alli University, Ekpoma, Edo State, Nigeria

¹¹Department of Internal Medicine, Ahmadu Bello University Teaching Hospital, Zaria, Nigeria

¹²Department of Nutrition, Health Sector - Crisis Response, Family Health International, Ukraine

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Corresponding Author: **Iyevhobu Kenneth Oshiokhayamhe**

E-Mail: kennylamai@yahoo.com

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ABSTRACT

Candida species are frequently the cause of vulvovaginal candidiasis (VVC), a fungal infection of the vulva and/or vagina. Approximately 75% of women will have it at least once in their lifetime, making it one of the most common gynecological disorders. More than 40% of them will experience two or more episodes, which is known as recurrent VVC. In this study, women of reproductive age who visited Asokoro District Hospital in Abuja were asked about the prevalence and risk factors of vulvovaginal candidiasis. Candida albicans was detected after collecting and cultivating high vaginal swab (HVS) specimens. Women between the ages of 26 and 35 had the highest prevalence (16.8%), followed by those between the ages of 18 and 25 (9.6%), and those between the ages of 36 and 45 (7.4%). Key contributing factors included low socioeconomic status, sexual activity, tight clothing, previous sexually transmitted infections, limited awareness, and poor personal hygiene. The study recommends ongoing health education for women, enhanced access to social amenities and quality healthcare, timely diagnosis and treatment of STIs and vaginosis, and routine microbiological screening of HVS samples during the first antenatal visit for pregnant women.

Keywords: Vulvovaginal Candidiasis, Women, Childbearing, Asokoro.

1. INTRODUCTION

Fungi are eukaryotic organisms that can exist as unicellular yeasts, filamentous molds, or dimorphic forms exhibiting both morphologies. Candida, an opportunistic fungal pathogen, commonly causes yeast-like infections. Candida species are benign commensals that live in the oral cavity, gastrointestinal system, respiratory tract, vaginal tract, and other body surfaces under normal circumstances [1,2]. The word Candida comes from the Latin candidus, which means "glowing white," and refers to the distinctively glossy, creamy colonies seen on culture media [3]. Candida species pose a serious threat to public health since they contribute significantly to morbidity and mortality on a global scale [4].

They are linked to a number of illnesses, such as systemic disease, cutaneous infections, oral candidiasis, and vaginitis [2,5,6]. The most common pathogen is still Candida albicans, which is linked to greater mortality, prolonged hospital stays, and higher medical expenses [7]. Notably, infections brought on by Candida species that are not albicans are increasing in frequency [2,8].

Since candidiasis can affect toddlers and celibate women, and because Candida species frequently appear as a normal element of the vaginal flora in healthy women, it is not considered a sexually transmitted disease, despite its clinical significance [9]. Candidiasis is an opportunistic infection caused by an overabundance of endogenous fungi that are normally found in

the human host [6]. Since up to 50% of asymptomatic women may carry *Candida* organisms as part of their normal vaginal flora, diagnosing *Candida*-related vaginitis can be challenging. As a result, the reliability of clinical signs and symptoms in making a diagnosis is limited [11]. About 75% of women may at some point in their lives experience vulvovaginal candidiasis (VVC), a fungal infection that affects the vulva and/or vagina. It is one of the most prevalent gynecological conditions [2,6,11]. Furthermore, recurrent VVC, or recurrent episodes, afflict over 40% of individuals impacted [12,13]. Finding the prevalence and risk factors for VVC in women of reproductive age who visit Asokoro District Hospital in Abuja, Nigeria, is the goal of this study. The results are meant to support evidence-based strategies for precise diagnosis and efficient treatment of impacted patients.

2. MATERIALS AND METHODS

2.1 Study Area

The study was conducted in the Federal Capital Territory (FCT) in Abuja, Nigeria, at the Asokoro District Hospital. The government-owned Asokoro District Hospital is a multispecialty medical center with several departments devoted to offering accessible and reasonably priced healthcare. Internal Medicine, Gynaecology, Paediatrics and Child Health, Physiotherapy, Radiology, Laboratory Services, Antenatal and Postnatal Care, Accident & Emergency, and a Diabetes Support Center are among its departments. The hospital has consistently delivered quality healthcare to a wide range of patients, regardless of race, religion, social class, or background.

2.2 Study Population

Women with vaginitis symptoms who were of childbearing age and presenting to the laboratory section of Asokoro District Hospital in Abuja, Nigeria, made up the study population.

2.3 Study Design

This was a cross-sectional study employing both biological and demographic data.

2.4 Selection Criteria

Women between the ages of 18 and 45 years were included in the study, while women below 18 or over 45 years were excluded from the study.

2.5 Sample Collection

Aseptically, high vaginal swab (HVS) samples were obtained from the patients. High vaginal swab samples were collected from patients treated in the laboratory departments of the Asokoro District Hospital in Abuja throughout a six-month period, from January to June 2022. The samples were collected by a qualified medical laboratory scientist who rotated a sterile speculum and cotton wool swab into the vagina to collect vaginal discharge. After being properly labeled and packaged, the samples were quickly transported to the medical microbiology lab at the Asokoro District Hospital for microbiological and cultural analysis.

3. RESULTS

After a brief overview of the study population, the results are presented. After that, the findings of *Candida* in women by age range are shown. The findings of the analysis of 459 High Vagina Swab samples for the presence of *Candida* species were categorized by age ranges between January and June of 2022, as shown in the tables.

Table 1: HVS Samples Analyzed and Number of *Candida* species Isolated in Year 2022

Month	NO of HVS samples analyzed	Women between 18-25	Women between 26-35	Women between 36-45
January	68	4	15	7
February	66	5	11	3
March	80	8	16	4
April	71	7	9	4
May	84	11	12	11
June	90	9	14	5
TOTAL	459	44	77	34

Table 2: Prevalence of *Candidiasis* in Percentage with respect to age

18-25 years	26-35 years	36-45 years
44	77	34
9.6%	16.8%	7.4%

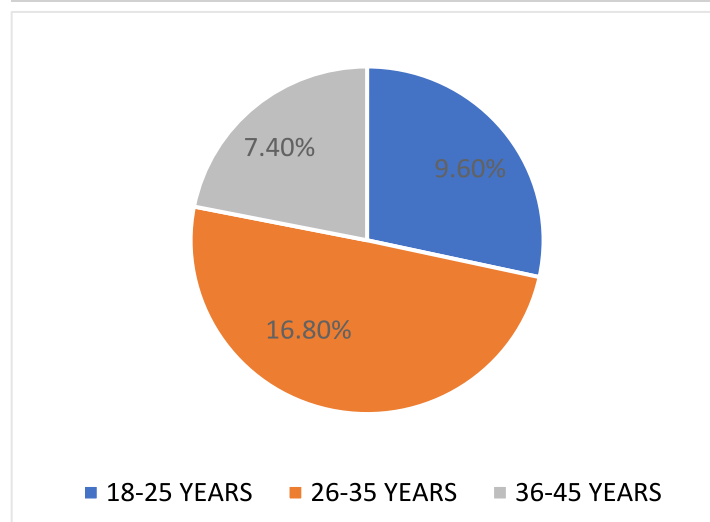


Figure 1: chart showing the percentage of women of child bearing age with candidiasis

4. DISCUSSION

The prevalence of vulvovaginal candidiasis (VVC) among women who visited Asokoro District Hospital in Abuja, Nigeria, was examined in this study, with an emphasis on population distribution by age. Women aged 26–35 years had the highest prevalence (16.8%), followed by those aged 18–25 years (9.6%), while women aged 36–45 years had the lowest prevalence (7.4%), according to the statistics. These results are consistent with those of Emeribe et al. [9], who found that women aged 20 to 30 years had a higher prevalence of *Candida albicans* (8.5%) than women under 20 or over 40. Nevertheless, they are in contrast to the findings of Alo et al. [14], who observed that the frequency was lowest (20.42%) among women aged 20–25 years and highest (33.33%) among those aged 36–40 years. The peak reproductive years for Nigerian women are between the ages of 26 and 35, which could account for the higher risk of VVC in this demographic. Poor personal hygiene and frequent antibiotic abuse are two factors that have been suggested as potential contributors [2].

With increasing age, reduced estrogen activity lowers susceptibility to infection. Women above 46 years, who are mostly menopausal, are often less sexually active, rarely use contraceptives, and seldom abuse drugs [15]. In addition, they may exhibit enhanced vaginal immunity due to decreased estrogen and corticoid levels, making them less prone to *Candida* infections [2, 6, 9]. Nonetheless, no age group was completely free from VVC.

The study underscores the significant role of *Candida* species in vulvovaginitis among women of reproductive age. It highlights the need to combine culture results with clinical symptoms for accurate diagnosis. Based on these findings, health education programs should be organized to raise awareness about *Candida*-related infections, preventive strategies, and the importance of good personal hygiene.

Moreover, improved access to quality healthcare, timely diagnosis, and effective management of sexually transmitted infections and vaginosis are strongly recommended [2, 6].

5. CONCLUSION

Women's health and sex education should be improved using all available means. Periodically conducting adequate education programs on vaginal candidiasis is necessary to lower the disease's prevalence. All pregnant women should have their HVS microbiologically analyzed at their initial prenatal visit and at the conclusion of each trimester. Also, in order to reduce the possibility of congenital transmission, pregnant women with VVC should be administered prepartum therapy. Women of all ages should be taught the value of maintaining proper personal hygiene, but especially those under 35, since they may be most susceptible to infection.

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Disclosure of Conflict of Interest

The authors report no conflicts of interest and take full responsibility for the content and authorship of this manuscript.

Statement of Ethical Approval

Ethical clearance for the study was granted by the Ethics and Research Committee of Asokoro District Hospital, Abuja, Nigeria. Prior to sample collection, all participants provided informed consent, which was obtained from every individual included in the study.

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Availability of Data and Materials

The authors confirm that they have obtained consent for the use of all data included in this study.

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