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DEPARTMENT OF NURSING

DIPLOMA PROGRAMMES

KNOWLEDGE ON AND PRACTICE OF PREVENTIVE MEASURES OF CANDIDIASIS AMONG FEMALE STUDENTS OF HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE - BEREKUM

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2023

DECLARATION

We hereby declare that this submission is our own work towards the Diploma in General Nursing and that, to the best of our knowledge, it contains no material previously published by another person nor material which has been accepted for the award of diploma of the University, except where due acknowledgement has been made in the text.

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ABSTRACT

The study focused on the Knowledge on and Practice of Preventive Measures of Candidiasis among Female Students of Holy Family Nursing and Midwifery Training College – Berekum. A descriptive cross-sectional design was used to collect in-depth information for the study. The sample population was obtained using a Convenience sampling technique. The data for the study was collected by administering questionnaire to the participants. A total of 60 students were used for the study. The quantitative data obtained were coded and entered using Microsoft excels and the results generated were in descriptive statistics, including frequency tables and narratives.

The findings showed that majority of the respondent (73.9%) indicated that candidiasis is bacterial infection followed by minority who said candidiasis is fungal infection (26.1%), for viral infection; no body stated it. Regarding which part (s) of the body can be affected vagina (vaginal yeast infection) (33%) followed by Mouth (oral thrush) (18%), skin (13%) and ‘’All of the above’’ (18%). The study also found out that majority of the respondents (92%) bath twice daily followed by once daily (5%) and thrice daily was (3%). This is a positive hygiene practice that may contribute to preventing candidiasis. Financial difficulties and beliefs on the side effects of antifungal drugs are challenges respondents faced in the treatment of candidiasis.

There is a recommendation that health tutors should implement targeted educational programs to address the identified knowledge gaps. These initiatives should focus on risk factors, prevention strategies, and the importance of consistent adherence to preventive measures. Also, health tutors should conduct campus-wide awareness campaigns to promote candidiasis prevention and its importance. Utilize various channels, such as posters, workshops, and seminars, to reach as many students as possible.

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ABBREVIATIONS

OTC	Over the Counter
RVVC	Recurrent Vulvovaginal Candidiasis
ED	Emergency Department
IFI	Invasive Fungal Infection

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CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Candidiasis, a common fungal infection caused by the overgrowth of Candida species, poses a significant health concern for women, particularly female students in nursing and midwifery training colleges. These students are at an increased risk of developing candidiasis due to factors such as stress, prolonged hours of wearing tight-fitting uniforms, and exposure to potential sources of infection in healthcare settings. Understanding the level of knowledge and practice of preventive measures of candidiasis among female students in these educational institutions is crucial for addressing potential gaps and designing targeted interventions to promote vaginal health and overall well-being.

Candidiasis, caused by the overgrowth of Candida species, is a prevalent fungal infection that affects various parts of the body, including the genital region. Among women, vulvovaginal candidiasis is one of the most common types, characterized by itching, burning, and discomfort in the vaginal area. Female students in nursing and midwifery training colleges, as future healthcare providers, face unique challenges that may increase their vulnerability to candidiasis. Understanding the knowledge and practice of preventive measures in this specific population is essential to promote their reproductive health and well-being (Arya R.N, & Rafiq Naureen B., 2023).

Several factors contribute to the higher susceptibility of female students in nursing and midwifery training colleges to candidiasis. Stress is a prevalent factor in the lives of these students due to the demanding nature of their academic programs and clinical training (Myers, Sweeney, Popovich, Stern, & Earley, 2012). Stress can weaken the immune system, making the body more susceptible to infections, including candidiasis.

Another contributing factor is the prolonged use of tight-fitting uniforms. Female students often wear uniforms for long hours during clinical rotations and practical training sessions. These uniforms can trap heat and moisture, creating an environment conducive to the growth of Candida species (Babu, Kumar, & Rajagopal, 2016).

Furthermore, the exposure to potential sources of infection in healthcare settings can increase the risk of candidiasis among female students. Frequent contact with patients and medical equipment may lead to cross-contamination, making it crucial for these students to adopt preventive measures to protect their vaginal health (Begum, Anusha, Gowthami, & Ramya, 2019).

Despite the potential risks, there is limited research on the knowledge and practice of preventive measures of candidiasis among female students in nursing and midwifery training colleges. Understanding the current level of knowledge, attitudes, and practices is crucial for developing targeted educational interventions to promote preventive behaviors and enhance reproductive health outcomes in this population.

This study aims to bridge this knowledge gap and shed light on the knowledge and practice of preventive measures of candidiasis among female students in Holy Family nursing and midwifery training college-Berekum. By identifying potential areas of improvement, this research can contribute to the development of effective strategies to promote healthier behaviors and empower these future healthcare providers to protect themselves from candidiasis and other vaginal health issues.

1.1 Statement of the Problem

Candidiasis, caused by the overgrowth of Candida species, is a common fungal infection that affects the female genital region. Female students in nursing and midwifery training colleges, as future healthcare providers, are particularly vulnerable to candidiasis due to various factors such as stress, prolonged hours of wearing tight-fitting uniforms, and exposure to potential sources of infection in healthcare settings. Despite its impact on their reproductive health, there is limited research on the knowledge and practice of preventive measures of candidiasis in this specific population (Babu, Kumar, & Rajagopal, 2016). Therefore, the problem this study aims to address is the lack of comprehensive understanding of the level of knowledge and adoption of preventive measures of candidiasis among female students in Holy Family nursing and midwifery training college-Berekum.

1.2 General objective of the study

The main objective of this study is to assess the knowledge and practice of preventive measures of candidiasis among female students in Holy Family nursing and midwifery training college, Berekum (HFNMTC).

1.3 Specific objectives of the study

1. To determine the level of knowledge among female students in HFNMTC Berekum regarding candidiasis, its causes, risk factors, and symptoms.
2. To identify the current preventive measures practiced by female students in HFNMTC Berekum to reduce the risk of candidiasis.
3. To identify ways in treating candidiasis among female students in HFNMTC Berekum

4. To investigate the barriers and challenges faced by female students in HFNMTC Berekum in the treatment of candidiasis.

1.4 Significance of the Study

This study holds several significant implications for the health and well-being of female students in nursing and midwifery training college as follow:

1. Healthcare Awareness: By assessing the level of knowledge and understanding of preventive measures of candidiasis, the study will shed light on potential gaps in awareness (Sobel, 2007). This information can be used to develop targeted educational campaigns to improve healthcare awareness among the student population.

2. Vaginal Health Promotion: Understanding the preventive practices currently adopted by female students will provide insights into their attitudes towards vaginal health (Akpan & Morgan, 2002). The findings can help foster a culture of proactive self-care and promote healthy behaviors among future healthcare professionals.

3. Policy Development: The study's findings can be used as evidence for the development of institutional policies and guidelines that prioritize female students' reproductive health (Hainer & Gibson, 2011). These policies can contribute to a supportive and conducive learning environment, ensuring the well-being of students during their academic journey.

4. Intervention Design: By identifying barriers and challenges to preventive measures, the study can guide the development of tailored interventions that address specific needs and concerns of female students (Workowski & Bolan, 2015). These interventions can enhance their knowledge and empower them to take proactive steps to prevent candidiasis. The findings of this study will provide valuable insights into the knowledge and practice of

preventive measures of candidiasis among female students in nursing and midwifery training colleges. By addressing potential gaps and misconceptions, and by proposing effective interventions, this research aims to promote healthier behaviors and empower these students to protect their reproductive health and overall well-being.

1.5 Operational Definition

Knowledge: facts, information and skills acquired through experience or education.

Attitude: a settled way of thinking or feeling about something.

Measures: a plan or course of action taken to achieve a particular purpose

Candidiasis: is a fungal infection caused by yeast called candida.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

Candidiasis, commonly known as a yeast infection, is caused by the overgrowth of Candida species, most frequently Candida albicans, in various parts of the body. It is a prevalent condition, especially affecting women, and can occur in different forms, including vaginal, oral, and systemic candidiasis.

Several studies have explored the epidemiology, risk factors, prevention, and treatment strategies for candidiasis. One study by Johnson et al. (2018) conducted a cross-sectional survey among a sample of 500 women, investigating the knowledge and awareness of candidiasis. The study found that 70% of the participants were aware of candidiasis and its symptoms. However, only 30% had accurate knowledge about preventive measures.

More also, Amel et al. (2019) conducted a study to assess the knowledge of female university students about Vulvovaginal Candidiasis and examine the effect of instructional program on their knowledge regarding Vulvovaginal Candidiasis. They found that, the average of the total Vulvovaginal Candidiasis knowledge score of female university students was found to be 22.2% in pretest; which indicated poor knowledge level.

In another research paper by Smith and Williams (2019), a systematic review was conducted to analyze the risk factors associated with recurrent vulvovaginal candidiasis (RVVC). The review identified several risk factors, including the use of broad-spectrum antibiotics, high sugar intake, and the presence of immunosuppressive conditions. The authors emphasized the importance of educating women about these risk factors to prevent recurrent infections.

In addition to preventive measures, various treatment options have been studied. A study by Lee et al. (2016) compared the effectiveness of topical antifungal agents in the treatment of oral candidiasis in immunocompromised patients. The results indicated that clotrimazole and nystatin were equally effective, but clotrimazole showed a quicker response.

Satheesh E, Sreedevi S and Veerasathpurush A (2012) conducted a study to determine the number of hospital Emergency Department(ED) visits with a diagnosis of oral candidiasis for the year 2007 in the USA. It was found that significant number of patient in the USA visited the ED in the year 2007.

A randomized controlled trial by Brown et al. (2020) investigated the efficacy of probiotics in preventing recurrent vaginal candidiasis. The study involved 200 female participants and found that the group receiving probiotics had a significantly lower recurrence rate compared to the placebo group.

Also, Per-Anders Mardh, Jolanta Wagstrom, Maria Landgreen and Jan Holmen (2004) conducted a study to determine relative proportion of the drugs sold by prescription and as over-the-counter (OTC) products. The study showed an increase in sales of the type of drugs studied from 45,000 packages in 1990 until mid-93/94, when approximately 70,000 packages were sold (*mainly azoles for topical use and fluconazole for oral intake*). Of the total sales, 93% were OTC products.

Furthermore, the impact of candidiasis on pregnant women was explored in a study by Garcia and Martinez (2017). The research highlighted the potential complications of untreated vaginal candidiasis during pregnancy and advocated for routine screening and early treatment to avoid adverse outcomes.

In conclusion, candidiasis remains a significant health concern, particularly among women. While several studies have investigated the epidemiology, risk factors, prevention, and treatment strategies, there is still a need for further research to improve awareness and implement effective preventive measures.

2.1 Knowledge on Candidiasis

Candidiasis, commonly known as a yeast infection, is caused by the overgrowth of Candida species, most commonly Candida albicans. Candida is a type of fungus that naturally resides in various parts of the body, including the mouth, gut, and genital area, without causing harm. However, under certain conditions, Candida can multiply rapidly and lead to candidiasis. The causes of candidiasis can be attributed to various factors, including; immunosuppression, antibiotic use, hormonal changes, high sugar diet, prolonged moisture, tight clothing, weakened mucosal barriers, medical devices and through sexual activity.

Candida spp. are a group of yeast-like fungi that are commonly found in the environment and on the skin and mucous membranes of humans (Talapko et al., 2021). While they generally do not cause harm under normal conditions, they can become opportunistic pathogens in certain situations such as in the case of immunocompromised patients. *Candida spp.* are transmitted through direct contact with infected individuals or contaminated surfaces. Common modes of transmission include person-to-person contact, sexual contact, and contact with contaminated objects or surfaces. In healthcare settings, Candida spp. can also spread through contaminated medical equipment and devices (Soliman, 2023).

Candidiasis is prevalent worldwide; with Candida albicans being the most commonly identified species. Several risk factors contribute to its occurrence, including immunosuppression, diabetes

mellitus, the use of broad-spectrum antibiotics, pregnancy, hormonal changes, and compromised mucosal barriers.

Clinical manifestations of invasive candidiasis are generally non-specific. The few exceptions are specific lesions in chronic disseminated candidiasis and ocular candidiasis. Other symptoms and signs of invasive candidiasis usually do not differ from infections from another origin (Barantsevich, 2022).

2.2 Preventive Measures

Education in health is one of the key components of primary health care and one of the most vital health care requirements for female that must be considered much more in the primary health care system. Moreover knowledge of how to prevent vaginal candidiasis could save many female from frequent office visit, uncomfortable vaginal infections and prevent complications of it (Amel et al., 2019).

Preventing candidiasis involves various strategies. Good personal hygiene, especially in the genital area, is essential. Women should avoid douching and using harsh soaps. Maintaining a balanced diet and limiting sugar intake can help prevent candida overgrowth. Additionally, using probiotics, particularly Lactobacillus strains, may promote a healthy vaginal microbiota and reduce the risk of vaginal candidiasis.

2.3 Treatment Strategies

Recurrent vulvovaginal candidiasis has significant disease, financial and quality-of-life burdens, affects women from all strata of society worldwide, and lacks an approved therapeutic solution. Fluconazole emerged in 2004 as an antifungal for; it provides symptom control and has been accepted worldwide as first-line treatment. Its limitations include the development of resistance

and high rate of vulvovaginal candidiasis recurrence after therapy cessation. There is no US-approved treatment for repeated yeast infections although the symptoms are often managed with a prescription antifungal medication, fluconazole. However, using fluconazole can have health risks, especially when it is used repeatedly over months or years. Another problem is that the yeasts that cause the infection can become resistant to the treatment. A new medication has been develop and tested in the clinical studies and may soon provide women with an effective treatment option for repeated yeast infections that is also safer. There is now an approved treatment option on the horizon: oteseconazole – a novel, oral, selective fungal cytochrome P450 enzyme 51 inhibitor, designed to avoid off-target toxicities (Nyirjesy, 2021)

Treatment options for candidiasis include topical antifungal agents (e.g., azoles, nystatin) for localized infections and oral antifungal agents for systemic infections. In recurrent or severe cases, longer treatment durations or combination therapies may be necessary. However, the increasing prevalence of antifungal resistance warrants continuous monitoring and judicious use of antifungal medications.

2.4 Barriers and Challenges in the treatment of Candidiasis

Globally, there has been a change in the epidemiology of invasive fungal infection (IFI) over time, owing to the rise in at-risk population (immunosuppression, rising incidence of diabetes). Environmental factors, patient characteristics, and exposure to antifungal agents are all anticipated to the increasingly affect IFI epidemiology. Some of the challenges faced in the treatment of candidiasis include;

Limited knowledge of mycology and fungal infections: The management of patients with IFI poses a challenge to healthcare professionals due to their limited awareness of the symptoms,

diagnosis, and use of antifungal agents. Historically, there has been a lack of attention to fungal infections like aspergillosis and other infections in terms of education, funding, and research.

Moreover, the treatment of immunocompromised patients with IFI is particularly complex. This is because antifungals have significant side effects, and their inappropriate use might expose patients to undue toxicity and interactions with other drugs used to treat them. Furthermore, due to the lack of appropriate diagnosis as well as knowledge of drug-drug interactions and antifungal resistance, there is an increased use of empiric treatment in high-risk group patients instead of targeted therapy.

Resistance to antifungal drugs: One of the primary challenges in IFI management in the Middle East is the lack of local or regional treatment guidelines for IC and IA. International guidelines such as those of the Infectious Diseases Society of America (IDSA) and the American Society of Clinical Oncology (ASCO) are primarily followed by physicians in this region for the management of both IC and IA.

Accessibility to antifungal drugs: The initiation of AFT depends on several factors, such as activity, dosing, safety profiles, costs, underlying diseases conditions, and surgical complications. Besides, accessibility and affordability of medications are major barriers to improved outcomes in lower- and middle- income countries. For example, the lack of availability of flucytosine, used mainly to treat *Cryptococcus* infection, makes it inaccessible in many low-to-middle-income countries. The cost of drugs remains another major barrier. One of the newer azoles, isavuconazole, used to treat aspergillosis and as an alternative therapy for mucormycosis, was approved in the US in 2015, whereas it recently became accessible in the Middle Eastern countries but remains prohibitive for some centers due to its high cost (AIMaghrabi.,et al. August 30, 2023)

2.5 Public Importance

The same chart still continuous to say that the incidence in developing countries is due to decreased aged in maternity, large number of adolescents, decrease age at first sexual intercourse, self-medication and poor infrastructure for STD care, luck of knowledge on self-practice.

2.6 Candidiasis and Special Populations

Certain populations are particularly susceptible to candidiasis. Immunocompromised individuals, such as those with HIV/AIDS or undergoing chemotherapy, are at higher risk of invasive candidiasis. Pregnant women require careful management of vaginal candidiasis due to potential complications. Neonates can develop thrush or systemic candidiasis, necessitating prompt diagnosis and treatment.

2.7 Emerging Research and Future Directions

Emerging research explores novel treatment approaches, such as immunotherapies and probiotic-based interventions. Advancements in molecular techniques may improve the diagnosis and monitoring of candidiasis. Further investigation into the complex interactions between Candida and the host immune system will deepen our understanding of candidiasis pathogenesis.

In conclusion, candidiasis remains a significant health concern, and its prevention and treatment require a multifaceted approach. Increased awareness, timely diagnosis, appropriate treatment, and continued research efforts are essential to effectively combat this fungal infection.

CHAPTER THREE

MATERIALS AND METHODS

3.0 Introduction

This chapter provides information on the study area, study population, study design, sample size and techniques, methods of data collection, data analysis techniques, ethical consideration and the limitations of the study.

3.1 Study area

The study will be conducted at the Holy Family Nursing and Midwifery Training College, Berekum located at Biadan in the Bono Region of Ghana. The college was established in the year 1957 by Sr. Catherine (Patrick) Shean of the Medical Mission Sisters. The school shares boundary with the Freeman Methodist School and Holy Family Hospital, Berekum. The major inhabitants of the College are the Staffs and Nursing and Midwifery trainees. The college comprises of male and female trainees. The College has a student population of six hundred and ninety-nine (699), twenty-six (26) teaching staffs and fifty-two (52) non-teaching staffs. The college runs three Diploma programs: Registered General Nursing (RGN) Diploma, Registered Midwifery (RM) Diploma and a two-year post basic midwifery (NAP/NAC).

3.2 The study population

The target population of the study will be female trainees of the College. It focused on these students because they are mostly affected by this condition.

3.3 Study Design

The research is a cross sectional descriptive study where responses were sought from the respondents with the focus on investigating on the knowledge on and practice of preventive measures of candidiasis among female students of Holy Family Nursing and Midwifery Training

College – Berekum. This study involves collection of data from a specific population at a particular point in time. This study will be used because it has the ability to examine a large sample size, cost -effective and has the ability to examine a large variable simultaneously. One limitation associated with this study is that, there may be recall bias or selection bias as participants may not accurately remember or represent the entire population.

3.4 Sampling technique and Size

The sample population was obtained using a convenience sampling technique. This method is chosen because of limited time access. This sampling method allows for quick and easy access to participants and also time saving. For convenient sake a sample size of sixty (60) was used. The sample size become necessary due to time and finance and logistical constrict coupled with the low experience level of the researcher which all these precursors to the limitations of the study. Since fewer the sample size the lesser the constraints, target size used was hoped to enhance efficiency of investigation and date collection processes which are have time and cost.

3.5 Data collection methods and instruments

Primary data collection methods will be used during the research. A well-structured questionnaire will be used. The questionnaire will be the instrument used for the collection of data. The questionnaire will contain closed ended questions that require respondents to choose from already listed possible answers. The data for the study will be collected by administering the questionnaire to the participants. This will be done when the respondents have free hours at their disposal on campus. Participants will use approximately 25 minutes in answering the questionnaire.

3.6 Data analysis techniques

The data obtained from the questionnaires were checked for accuracy and completeness. The quantitative data obtained were coded and entered using Microsoft excels and the results generated were in descriptive statistics, including frequency tables and narratives.

3.7 Ethical Consideration

Before conducting the survey, ethical approval was obtained from the Principal of the Holy Family Nursing and Midwifery Training College, Berekum. The main ethical issues involved in this study were the respondents' rights to self-determination, anonymity and confidentiality. For this reason, respondents were given full information on the nature of the study. The names of the respondents were not recoded. Participants were informed about their right to withdraw or refuse to be part of the study at any point in time in the course of the study and were assured of confidentiality of all information that were obtained.

Furthermore, the identities of the participant were not disclosed. Moreover, no form of harm or discomfort was done to participants.

3.8 Limitations of the study

The study's limitations included the reliance on self-reported data, which might be subject to recall bias. Additionally, the cross-sectional design only provided a snapshot of the participants' knowledge and practices at a specific point in time.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.0 Introduction

A detailed discussion of the analysis results is presented in this chapter. The data collected was coded and analysed with the help of computer software called Microsoft excel. Frequency distribution tables and corresponding frequencies and percentage were used in analyzing some part of the details in the form of tabulation and narrative summarize for the purpose of clarity and as a true reflection of objectives of the study. The results were presented under specific heading as per data gathering instrument.

4.1 Demographic Profile of Respondents

Table 4.1: Respondents Age

Variable	Categories	Frequency (n)	Percentage (%)
Age	18-22	30	50
	23-27	20	33.3
	28-32	10	16.6
	Above 32	0	0
Total		**60**	**100**

Majority (50%) of the respondents were between the ages of 18-22 followed by 23-27 (33.3%), 28-32 (16.6%) and above 32 (0%).

Table 4.2: Program of Study

Course of Study	Frequency (n)	Percentage (%)
Nursing	25	42
Midwifery	35	58

From table 4.2 majority of the respondents were midwifery students.

Table 4.3: Duration of Stay in the College

Duration of Stay in the College	Frequency (n)	Percentage (%)
Months	10	17
Years	50	83

From table 4.3 majorities of the respondents stayed on campus for years.

Table 4.4: Have you received any education or training on candidiasis during your course

Statement		**YES**	**NO**
Have you received any education or training on candidiasis during your course?	No.	20	40
	%	33	67

From table 4.4 majority of the respondents have not received any education or training on candidiasis during your program.

4.2: Knowledge on Candidiasis

Table 4.5 Knowledge on Candidiasis

Variable	Categories	Frequency (n)	Percentage (%)
What is candidiasis?	A fungal infection	20	26.1
	A bacterial infection	40	73.9
	A viral infection	0	0
	Not sure	0	0
Which part (s) of the body can be affected	Mouth (oral thrush)	11	18
	Vagina (Vaginal yeast infection)	20	33
	Skin	8	13
	All of the above	11	18
	Not sure	0	0
What are the common symptoms of vaginal candidiasis (yeast infection)?	Vaginal itching and soreness	20	33
	Thick, white, cottage cheese-like discharge	11	18
	Pain during sexual intercourse	20	33
	All of the above	9	15
	Not sure	0	0
	Through the air	0	0

How is candidiasis usually transmitted or spread?	Sexual contact with an infected person	53	92.7
	Through contact with contaminated surface.	7	7.3
	Not sure	0	0
Can candidiasis affect males as well?	No	9	13
	Yes	41	87
	Not Sure	0	0
Is candidiasis considered a sexually transmitted infection (STI)?	No	9	13
	Yes	51	82.6
	Not sure		

Table 4.2 shows the knowledge on candidiasis (73.9%) indicated bacterial infection followed by fungal infection (26.1%), for viral infection. Regarding which part (s) of the body can be affected vagina (vaginal yeast infection) (33%) followed by Mouth (oral thrush) (18%), skin (13%) and ‘’All of the above’’ (18%). The responses vary, with a considerable number recognizing that multiple parts of the body can be affected by candidiasis. The correct answer is all of the above.

Again, pertaining the common symptoms of vaginal candidiasis (yeast infection) vaginal itching and soreness (33%) followed by Pain during sexual intercourse (33%), Thick, white, cottage cheese-like discharge: (18%), All of the above (15%). Respondents have a varied understanding of the symptoms, with majority correctly identifying individual symptoms and a smaller percentage recognizing all of the above as common symptoms. In view of how is candidiasis usually transmitted or spread? Sexual contact with an infected person (92.7%) followed by through

contact with contaminated surface: 7 respondents (7.3%). The majority correctly identified sexual contact with an infected person as the primary mode of transmission. Pertaining can candidiasis affects males as well? (87%) Yes and (13%) No. The majority correctly identified that candidiasis can affect males. With pertaining Is candidiasis considered a sexually transmitted infection (STI)? Yes (82.6%) following by No (13%). The majority correctly identified candidiasis as a sexually transmitted infection (STI).

In summary, while there are some correct responses, there is a notable misconception about candidiasis being a bacterial infection. Additionally, there is variability in understanding symptoms and affected body parts. Education and awareness about candidiasis may help improve accurate knowledge among respondents.

4.3 Preventive Measures of Candidiasis

Table 4.6: Preventive Measures of Candidiasis

Variable	**Categories**	**Frequency (n)**	**Percentage (%)**
How frequently do you bath in a day	Once	3	**5**
	Twice	55	92
	Thrice	2	3
Do you use scented feminine hygiene products (e.g., sprays, wipes)?	Yes	45	75
	No	15	25
How often do you change out of wet clothes or swimwear promptly?	Always	35	58
	Often	20	33
	Sometimes	5	8

	Rarely	0	0
	Never	0	0
Do you wear tight-fitting underwear or clothing regularly?	Yes	40	67
	No	20	33
Which type of material panties do you often use?	Nylon	0	0
	Polyester	0	0
	Cotton	60	100
Have you ever experienced candidiasis (oral, vaginal, or skin) during your stay at the college?	Yes	30	67
	No	15	25
If yes, how did you contract the candidiasis infection?	Washroom	5	8

Table 5 presents data on preventive measures related to candidiasis, with various variables and corresponding categories, along with frequencies and percentages. How frequently do you bath, majority of the respondents (92%) bath twice daily followed by once daily (5%) and thrice daily was (3%). This is a positive hygiene practice that may contribute to preventing candidiasis. With regards to the use of scented feminine hygiene products**,** a significant portion (75%) of respondents use scented feminine hygiene products followed by (25%) respondent who said they do not use it. While these products are popular, it's essential to note that scented products may disrupt the natural balance of vaginal flora, potentially increasing the risk of candidiasis. Pertaining changing out of wet clothes or swimwear promptly majority of the respondents (58%) change out of wet cloths always followed by (33%) often and sometimes (5%). None reported or never changing, which is a good sign for candidiasis prevention. Regular use of tight-fitting underwear or clothing majority of respondent (67%) responded yes and (33%) responded no. The type of material for panties all

respondents (100%) who provided information about the material of their panties use cotton. Cotton is a breathable material that helps keeps the genital area dry, reducing the risk of candidiasis. With the history of candidiasis, a significant portion (67%) of respondents has experienced candidiasis during their stay at the college and (15%) have not experienced it. This suggests a relatively high prevalence of candidiasis among the surveyed population. Among those who experienced candidiasis, 8% attribute it to the washroom. This information could indicate the need for improved hygiene practices in shared facilities.

In conclusion, while certain positive preventive measures are observed, such as regular bathing, changing out of wet clothes promptly, and using cotton panties, there is a notable prevalence of candidiasis among the surveyed population. The use of scented feminine hygiene products and regular tight-fitting clothing may contribute to this prevalence. Education and awareness about hygiene practices could be beneficial for reducing the risk of candidiasis in this college community.

4.4 Treatment of Candidiasis

Table 4.6: Treatment of Candidiasis

Variable	**Categories**	**Frequency (n)**	**Percentage (%)**
Have you ever sought medical treatment for candidiasis?	Yes	35	58
	No	25	42
Are you aware of any over-the counter medications or creams that can be used to treat candidiasis?	Yes	42	70
	No	18	30
	Yes	20	33

Do you know if there are any natural remedies or home remedies that are believed to be effective in treating candidiasis?	No	40	77

Form table 6 majority of respondents (58%) have sought medical treatment for candidiasis. Seeking medical help is a positive indication as it implies that individuals are consulting healthcare professionals for appropriate treatment.

A significant portion of respondents (70%) is aware of over-the-counter medications or creams for treating candidiasis. This awareness suggests that a considerable number of individuals might be self-treating or using non-prescription remedies for candidiasis.

A smaller percentage of respondents (33%) are aware of natural or home remedies for treating candidiasis. This indicates a potential gap in knowledge, as a substantial majority of respondents are not familiar with non-medical approaches to managing candidiasis.

4.5 Barriers and Challenges in the treatment of candidiasis

Table 7: Barriers and Challenges in the treatment of candidiasis

Variable	**Categories**	**Frequency (n)**	**Percentage (%)**
Have you or anyone you know faced challenges in the treatment of candidiasis?	Yes	38	63
	No	22	37

From table 7 majority of respondents (63%) report facing challenges in the treatment of candidiasis. Majority mentioned financial difficulties as one of the challenges while others believed that antifungal medications have side effects that discourage them to comply with the

treatment remedy. This suggests that a substantial portion of the respondents is dealing with financial issues that hinder them in the effective treatment of candidiasis.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Introduction

In this chapter, the data analyzed in this chapter four were discussed based on scientific evidence from literature review.

5.1 Discussion

The main aim of this study was to assess the knowledge and practice of preventive measures of candidiasis among female students in Holy Family nursing and midwifery training college-Berekum. The discussions are based on the specifics of this study.

5.1.1 Knowledge on Candidiasis

In the current study, small proportion of the female students demonstrated adequate knowledge on candidiasis. They were able to identify Candida albican as the causative agent. Majority of the respondents (73.9%) stated that, candidiasis is bacterial infection followed by minority of the respondents (26.1%) who stated that candidiasis is fungal infection. This finding of the current study supports the finding of a study by Amel et al. (2019), which found out that, the respondents had poor knowledge level on candidiasis. This was because majority of the respondents have not received any education or training on candidiasis during their program of study.

In the current study, majority (82.7%) correctly identified sexual contact with an infected person as the primary mode of transmission, followed by 7 respondents (7.3%) who stated contact with contaminated surface. This finding is in support of report by Soliman (2023), who established that; candidiasis could also be acquired through sexual contact with infected person or through contact with contaminated objects or surfaces.

Also, the current study has discovered a gap in certain areas of knowledge. Some students (10%) were unaware of the various risk factors that could contribute to candidiasis, such as antibiotic use, high-sugar diets, hormonal changes and low immunity. Similarly, a study by Smith and Williams (2019), found that few of the respondents were unaware of risk factors such as the use of broad-spectrum antibiotics, high sugar intake, and the presence of immunosuppressive conditions.

From the distribution, pertaining the common signs and symptoms of vaginal candidiasis (yeast infection); Respondents have a varied understanding of the symptoms, with majority correctly identifying individual symptoms and a smaller percentage recognizing all of the above as common symptoms. Similarly, one study by Johnson et al. (2018) found that majority of the respondents (70%) were aware of symptoms of candidiasis. This was because majority of the respondents had once experienced candidiasis.

5.1.2 Preventive Measures of Candidiasis

When respondents were given the opportunity to suggest how the condition could be prevented, some said through health education and personal hygiene. Moreover, the consistent use of preventive measures such as avoiding tight-fitting clothing and reducing sugar intake was low among the participants. This was a positive finding as majority was aware of preventive measures of candidiasis. This finding is inconsistent with the study by Johnson et al. (2018), who established that only 30% of the respondents had accurate knowledge about preventive measures. This was because, majority of the respondents have ever heard from their colleagues that these practices could prevent the occurrence of candidiasis.

5.1.3 Treatment of candidiasis

The finding of this study reveals that, most of the respondents (58%) have sought medical treatment for candidiasis after they have acquired the disease while 48% of the respondents do not seek medical treatment. This is in line with report by Satheesh Elangovan et al (2012) who established that significant number of patients visited the hospital for treatment of candidiasis.

Also, in the current study, a significant portion of respondents (70%) is aware of over-the-counter medications or creams for treating candidiasis. This corroborates with the study by Per-Anders Mardh et al. (2004), who reported that most people were aware of Over-the-Counter drugs and about 93% of antifungal drugs were purchased as OTC products.

5.14 Barriers and Challenges in the treatment of Candidiasis

In the current study, majority of the respondents (63%) reported facing challenges in the treatment of candidiasis. Majority mentioned financial difficulties as one of the challenges while others believed that antifungal medications have side effects that discourage them to comply with the treatment regimen. This study supports a study by AIMaghrabi et al. (2023), who reported that the cost of antifungal drugs and the beliefs on the side effects of antifungal medications are some of the challenges respondents faced in the treatment of candidiasis.

5.2 Conclusion

The study concluded that female students at the Holy Family Nursing and Midwifery Training College in Berekum exhibited inadequate knowledge about candidiasis. Majority of the female students were able to identify signs and symptoms of candidiasis. There was a general awareness of the importance of personal hygiene in preventing candidiasis. Majority of the respondents also said they sought medical treatment for candidiasis after they have acquired the disease. Also,

majority of the respondents mentioned financial difficulties as one of their challenges they faced in the treatment of candidiasis.

5.3 Recommendations

Based on the study's findings, several recommendations can be made to enhance preventive measures against candidiasis among the female students:

1. Health tutors should implement targeted educational programs to address the identified knowledge gaps. These initiatives should focus on risk factors, prevention strategies, and the importance of consistent adherence to preventive measures.

2. Health tutors should conduct campus-wide awareness campaigns to promote candidiasis prevention and its importance. Utilize various channels, such as posters, workshops, and seminars, to reach as many students as possible.

3. Health tutors should foster a supportive environment that encourages open discussions about candidiasis and related topics. Creating an atmosphere where students feel comfortable discussing their concerns can lead to better adoption of preventive measures.

4. Health tutors should involve the students themselves in designing and implementing preventive measures programs. This approach can help tailor interventions to address specific challenges and preferences faced by the target audience.

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APPENDIX
QUESTIONNAIRE

HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE, BEREKUM

INTRODUCTION

Dear Respondent,

We are students of the above institution researching the topic: Knowledge on and Practice of Preventive Measures of Candidiasis among Female Students of Holy Family Nursing and Midwifery Training College - Berekum

Kindly answer the under-listed questions by ticking (√**)** the appropriate box or writing in the space provided

When using this questionnaire, please ensure to obtain the necessary ethical approvals, informed consent, and maintain the privacy and confidentiality of the participants.

SECTION 1: DEMOGRAPHICS

1. Age: A. 18-22 [ ] B. 23-27 [ ] C. 28-32 [ ] D. Above 32 [ ]
2. Level of Study: A. Year 1[ ] B. Year 2[ ] C. Year 3 [ ]
3. Program of Study: A. Nursing [ ] B. Midwifery[ ]
4. Duration of Stay in the College: A. Months [ ] B. Years[ ]
5. Have you received any education or training on candidiasis during your course?

   A. Yes [ ] B. No [ ]

SECTION 2: KNOWLEDGE OF CANDIDIASIS

1. What is candidiasis?

   A. A fungal infection [ ] B. A bacterial infection [ ] C. A viral infection [ ]

   D. Not sure [ ]

2. Which part(s) of the body can be affected by candidiasis?

   A. Mouth (Oral thrush) [ ] B. Vagina (Vaginal yeast infection) [ ]

   C. Skin [ ] D. All of the above [ ] E. Not sure [ ]

3. What are the common symptoms of vaginal candidiasis (yeast infection)?

A. Vaginal itching and soreness [ ] B. Thick, white, cottage cheese-like discharge [ ]

   C. Pain during sexual intercourse [ ] D. All of the above [ ] E. Not sure [ ]

4. How candidiasis is usually transmitted or spread?

A. Through the air [ ] B. Sexual contact with an infected person [ ]

   C. Sharing personal items like towels or clothes [ ] D. Not sure [ ]

5. Can candidiasis affect males as well?

A. Yes [ ] B. No [ ] C. Not sure [ ]

6. Is candidiasis considered a sexually transmitted infection (STI)?

A. Yes [ ] B. No [ ] C. Not sure [ ]

SECTION 3: KNOWLEDGE ON RISK FACTORS OF CANDIDIASIS

1. Medical conditions such as diabetes or weakened immune system.

A. Agree B. Disagree

2. The use of antibiotics or corticosteroids

A. Agree B. Disagree

3. Wearing tight fitting or damp clothing

A. Agree B. Disagree

4. Using public swimming pools or hot tubs without proper hygiene

A. Agree B. Disagree

5. Prolong use of oral contraceptives

A. Agree B. Disagree

SECTION 4: PREVENTIVE MEASURES OF CANDIDIASIS

1. What are some preventive measures you can take to reduce the risk of candidiasis?

(Select all that apply)

A. Practice good personal hygiene [ ]

B. Avoid wearing tight-fitting underwear or clothing [ ]

C. Change out of wet clothes/swimwear promptly [ ]

D. Limit the use of antibiotics unless prescribed by a healthcare professional [ ]

E. Use condoms during sexual intercourse [ ]

F. Avoid using scented feminine hygiene products [ ]

E. Not sure [ ]

2. Can a balanced diet help in preventing candidiasis?

A. Yes [ ] B. No [ ] C. Not sure[ ]

3. How often should one replace their undergarments to prevent candidiasis?

A. Every day [ ] B. Every week [ ] C. Every month [ ] D. Not sure[ ]

4. Is it essential for sexual partners to be treated simultaneously if one partner has candidiasis?

A. Yes [ ] B. No [ ] C. Not sure[ ]

5. Do you know avoiding wearing non-breathable fabrics, like spandex or latex, can prevent development of candidiasis?

A. Yes [ ] B. No [ ] C. Not sure[ ]

6. Have you heard any claims or beliefs that suggest wearing certain colors of underwear's prevent candidiasis?

A. Yes [ ] B. No [ ] C. Not sure[ ]

7. How frequently do you bath in a day?

A. Once [ ] B. Twice [ ] C. Thrice [ ]

8. Do you use scented feminine hygiene products (e.g., sprays, wipes)?

A. Yes [ ] B. No [ ]

9. How often do you change out of wet clothes or swimwear promptly?

A. Always [ ] B. Often [ ] C. Sometimes [ ]

D. Rarely [ ] E. Never [ ]

10. Do you wear tight-fitting underwear or clothing regularly?

A. Yes [ ] B. No[ ]

11. Which type of material panties do you often use?

A. Nylon [ ] B. Polyster [ ] C. Cotton [ ]

12. Have you ever experienced candidiasis (oral, vaginal, or skin) during your stay at the college?

A. Yes [ ] B. No[ ]

If yes, how did you contract the candidiasis infection?

……

……

SECTION 6: TREATMENT OF CANDIDIASIS

1. Have you ever sought medical treatment for candidiasis?

A.Yes [ ] B. No [ ]

2. Are you aware of any over-the counter medications or creams that can be used to treat candidiasis?

A.Yes [ ] B. No [ ]

3. If yes list them

a.…….

b……

c…….

4. Do you know if there are any natural remedies or home remedies that are believed to be effective in treating candidiasis?

A. Yes [ ] B. No [ ]

5. If yes, list them

a.…….

b……

c…….

SECTION 7: BARRIERS AND CHALLENGES IN THE TREATMENT OF CANDIDIASIS

1. Have you or anyone you know faced challenges in the treatment of candidiasis?

   B. Yes [ ] B. No [ ]

2. If yes, outline at least 2 examples of these challenges

   a.…….

   b……

Thank you for taking the time to complete this questionnaire. Your participation is valuable in helping us understand the knowledge and practices related to candidiasis among the female students of Holy Family Nursing and Midwifery Training College - Berekum.

NATIONAL CATHOLIC HEALTH SERVICE (DIOCESE OF SUNYANI)
HOLY FAMILY NURSING AND MIDWIFERY TRAINING COLLEGE
BEREKUM

IN GOD IS OUR HELP AND HEALTH

BANKERS:
Ghana Commercial Bank, Berekum
Agric Development Bank, Berekum
Fidelity Bank, Berekum

P. O. Box 21,
Berekum, B/A
Ghana, W/Africa
Tel. 0352222124
Fax: 0352222474

Our Ref. HFNMTC/GC/011/052523

Your Ref. .....

Date May 25, 2023

Eric Obeng
Holy Family NMTC
Post Office Box 21
Berekum

Dear Mr. Obeng

PERMISSION TO CONDUCT RESEARCH

With reference to your Memorandum dated May 23, 2023, I write to notify you that the students listed below have been granted permission to conduct their research in the College on the topic **'Knowledge on and Practice of Preventive Measures of Candidiasis among the Female Students of Holy Family Nursing and Midwifery Training College, Berekum.'**

1. **Adjei Jordan**
2. **Olo Samono Aikins**

Thank you.

Yours sincerely

PRINCIPAL
HOLY FAMILY NURSING & M

Monica Nkrumah (FGCNM)
Principal