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Cross-Infection Patterns and Urogenital Health Outcomes in Men Partnered with Women Experiencing Infectious Vaginal Discharge: Leucorrhoea Influences Male & Female Sexual Desire

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Abstract:

Infectious leucorrhoea is one of the most prevalent diseases of gynecologic nature involving infection of the reproductive system by fungi, bacteria, and parasites. Recurrent vaginal infections may lead to microbial cross-infections between male sex partners, adversely affecting sexual relations and intimate connections in the couple. This paper attempted to examine the problem of cross-infection, the state of urogenital health of men involved in the research, and the effect of infectious leucorrhoea on sexual arousal in both parties. A cross-sectional observational clinical study was carried out among 80 couples undergoing gynecology and urology clinics visits due to complaints of infectious vaginal discharge. Clinical evaluation, microbial investigation, laboratory tests, and questionnaire were used in the process of information collection. The results have shown that C. albicans was the most common pathogen among women in the sample group. Dysuria, balanitis, and penile irritation were found among men involved in the research, suggesting possible cross-infection from women. Sexual desire loss and avoidance behavior were noticed as well. Analysis of statistics indicates that there were highly significant relationships between infections with leucorrhoea, urogenital problems among men, and compromised sexual wellbeing ($p < 0.05$). The current study concludes that infections associated with leucorrhoea have serious reproductive and psychosocial implications on both members of a couple.

Keywords: Infectious Leucorrhoea, Vaginal Discharge, Cross-Infection, Male Urogenital Health, Sexual Desire, Reproductive Health, Candida albicans, Sexual Wellbeing

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1. INTRODUCTION

Abnormalities in the reproductive and sexual health sector continue to present themselves as significant health problems, especially among females of reproductive age. Among all other conditions, sexually related issues such as abnormal vaginal discharge continue to be the most reported gynecological problems[1]. This particular issue is known to affect people not only

physically but also psychologically, as it presents difficulties that can interfere with personal relationships and quality of life[2]. Although there has been considerable progress in terms of diagnostics and treatment procedures, the prevalence of recurrent genitourinary problems continues to be high due to various reasons[3].

In this context, more and more attention has recently been paid to the involvement of sex partners in the development of recurrent genitourinary diseases. Infections affecting the reproductive system of women might be one of the causes leading to the transmission of microbes from one partner to another, which, in turn, leads to urogenital problems experienced by their sexual counterparts[4]. Persistent symptoms and the fear of transmitting an infection might negatively affect couples' intimate relationships.

1.1 Background Information

Excessive vaginal discharge can either be physiological or pathological. The infectious type of leucorrhoea is often characterized by infection of the female reproductive organs with fungi, bacteria, and protists[5]. In reproductive age women, leucorrhoea continues to represent one of the most common gynecological disorders in the world[6]. Some of the causes of infectious vaginal discharge include poor genital hygiene, risky sexual practices, repetitive intake of antibiotics, hormonal imbalance, and immune system abnormalities[7].

Physiologically, the symptoms of pathological vaginal discharge are accompanied by such signs as itching, malodor, pain in the pelvic region, irritation, dyspareunia, and psychological issues[8]. Although the disease is mainly diagnosed among women, it can also affect male partners due to cross-infection with microorganisms. Men exposed to vaginal discharge may experience balanitis, dysuria, irritation in the penis, urethra pain, or asymptomatic colonization[9].

Other than physical symptoms, the occurrence of genital infections among sexually active couples can also have considerable effects on their sex life, including their sexual desire, intimacy, bonding, and level of satisfaction. Sexual dysfunction, including psychological distress, fear of infection, shame, or painful sexual intercourse, can be attributed to the problem.

1.2 Statement of the Problem

Despite the high prevalence of infectious leucorrhea, very few empirical studies have studied the link between the condition among women, male genitourinary outcomes, and sexual desire[10]. Many studies have considered symptoms of infection in females but have not studied cross-infections and psychological effects of the condition among males.

1.3 Objectives of the Study

1. To examine cross-infection between women suffering from leucorrhoea and their male partners.
2. To assess urogenital health status among male sexual partners.
3. To find out how infectious leucorrhoea affects the sexual drive-in women.
4. To see the impact of infection among partners on sexual drive in men.
5. To determine common microorganisms responsible for recurring genital infections.

1.4 Hypotheses

Null Hypothesis (H0): No correlation was found between infectious leucorrhoea and urogenital health outcomes of males or their sexual desires.

Alternative Hypothesis (H1): There exists a strong correlation between infectious leucorrhoea and the reproductive health status and sexual drive in couples.

2. METHODOLOGY

The methodology section outlines the systematic methods employed in examining cross-infections, urogenital conditions, and sexual well-being among patients experiencing infectious vaginal discharge. Scientific approaches in clinical diagnosis, laboratory analysis, and statistics were appropriately applied in determining the microbial status, partner's conditions, and psychological outcomes linked with infectious leucorrhoea.

2.1 Description of Research Design

Cross-sectional observational clinical research methodology has been utilized in the current study to explore cross infection and urogenital outcomes of men who have sexual contact with infected women. Recurrent genito-infections in women also have an impact on their sexual and intimate lives as part of their relationship with their partner. Clinical observation methodology has been adopted as it provides researchers with a means of observing laboratory data, symptoms, and psychological consequences in a non-experimental setting.

2.2 Participants / Sample Details

There were 80 heterosexual couples that had sex in the study, totalling 160 participants who visited gynecology and urology clinics in select healthcare institutions.

Inclusion Criteria

- Infectiously discharged women.
- Male sexual partners who wish to participate.
- Participators between the ages of 21-45 years.
- Sexual partners who have been in a relationship for more than six months.

Exclusion Criteria

- Pregnant women who have normal vaginal discharge.
- Persons on prolonged immunosuppressive treatment.
- Subjects with severe chronic systemic diseases.
- Couples who refuse to give informed consent.

Purposeful sampling method was used to select eligible participants who satisfied the study requirements.

2.3 Instruments and Materials Used

The following instruments and materials were used during data collection:

- Structured Clinical Assessment Form
- Sexual Desire Assessment Scale
- Laboratory Diagnostic Materials
    - Vaginal swab collection kits
    - Wet mount microscopy slides
    - pH indicator strips
    - Culture media for microbial identification
    - Urine analysis kits for male participants
- Clinical Examination Equipment

2.4 Procedure and Data Collection Methods

Prior to conducting the study, ethical clearance was sought from the research committee of the institution. Written consent forms were signed by all subjects before conducting clinical assessments.

Female patients with signs of infectious vaginal discharge were assessed gynecologically and underwent microbiological tests to detect infections. Male patients were evaluated for dysuria, irritation of the genitals, balanitis, urethral inflammation, and other urogenital infections.

Information on sexual desire, intimacy, relationship satisfaction, and psychosocial stress was collected through interviews and questionnaires. Laboratory tests were conducted on vaginal discharge and urine specimens to detect microorganisms and inflammatory responses.

All results were systematically recorded for statistical analysis.

2.5 Data Analysis Techniques

Data collected were analyzed via computerized programs such as SPSS version 26.0 for statistical analysis. The descriptive statistics involved frequency distribution, percentage analysis, mean, and standard deviation to present findings regarding microbiological results, clinical symptoms, laboratory findings, and sexual health issues among the respondents. The inferential statistics were employed to establish whether there existed any relationships between infectious leucorrhoea and male urogenital problems and sexual health issues.

The chi-square was used to examine the relationships between infectious leucorrhoea and male urogenital problems. The relationship between infection level and change in sexual desire among the couples was measured via Pearson correlation analysis. Logistic regression was further done to investigate predictors related to recurrent infections and partner's urogenital problems. All analyses were considered significant at p-value <0.05.

3. RESULTS

Results from this study are derived from microbiological testing, clinical examination outcomes, laboratory analysis, and evaluation of sexual health in the couple. These results offer key information concerning the occurrence of pathogens, clinical symptoms, involvement of the

male partner, and the impact of recurring genital infections on sexual drive and sexual intimacy between partners.

Table 1: Microbiological Profile of Infectious Vaginal Discharge Among Female Participants

Identified Organism	Number of Cases (n=80)	Percentage
Candida albicans	31	38.7%
Gardnerella vaginalis	22	27.5%
Trichomonas vaginalis	11	13.8%
Mixed bacterial flora	10	12.5%
No significant growth	6	7.5%

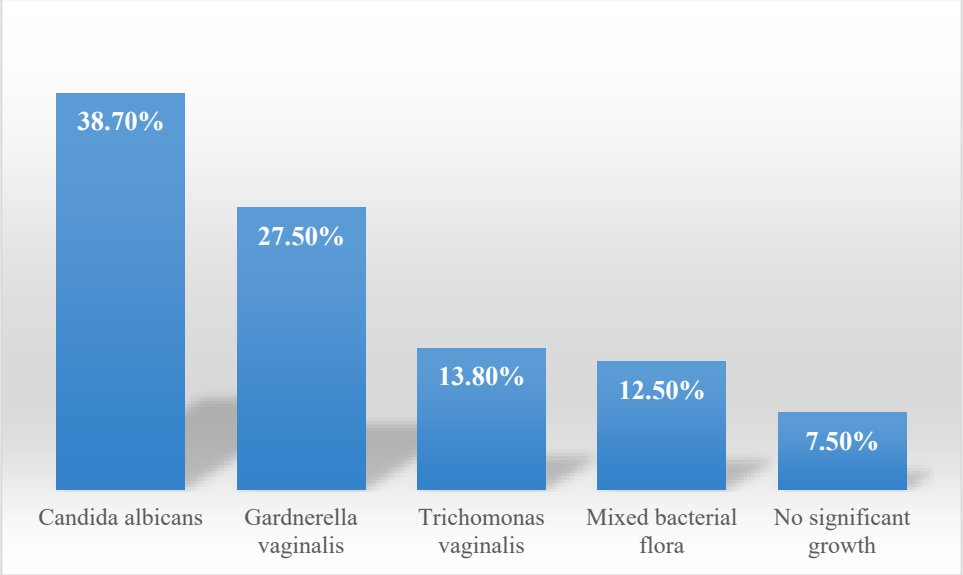

Figure 1: Graphical Representation of Microbiological Profile of Infectious Vaginal Discharge Among Female Participants

Among the total number of females in the sample (80), 31 females (38.7%) were found to be infected with Candida albicans, which is the most common infectious microorganism among those isolated from the patients. Gardnerella vaginalis infection was observed in 22 individuals (27.5%), and Trichomonas vaginalis infection was observed in 11 individuals (13.8%). The mixed bacterial flora was present in 10 individuals (12.5%), meaning there was the existence of more than one infectious agent in a single individual. A negative result was shown by only 6 females (7.5%).

Table 2: Clinical Manifestations of Infectious Leucorrhoea in Women

Clinical Symptom	Frequency	Percentage
Thick white vaginal discharge	34	42.5%
Vaginal itching	41	51.2%
Foul-smelling discharge	26	32.5%
Dyspareunia	29	36.2%
Lower abdominal discomfort	21	26.2%

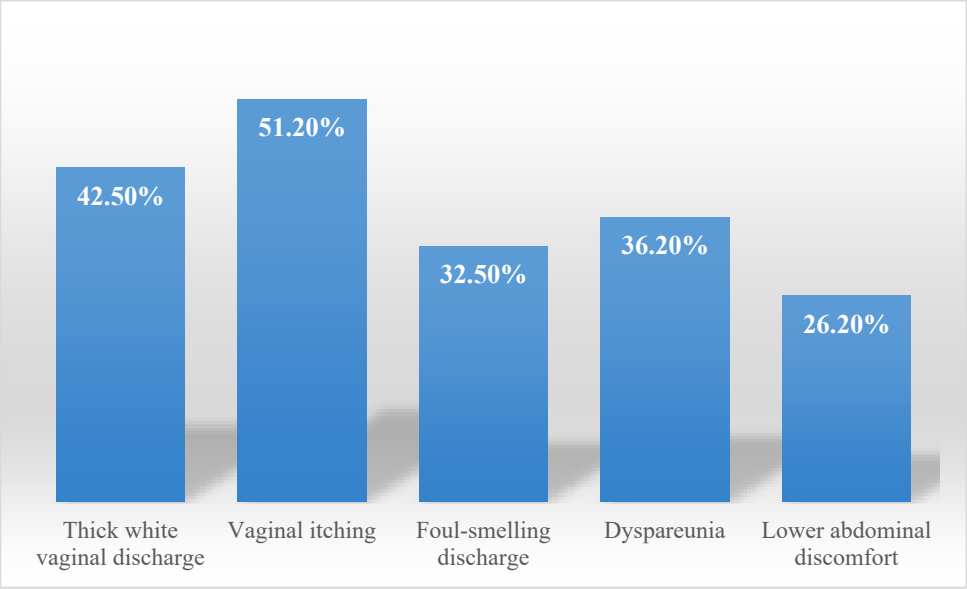

Figure 2: Graphical Representation of Clinical Manifestations of Infectious Leucorrhoea in Women

Vaginal itching was mentioned by 41 patients (51.2%), making it the most prevalent clinical sign among the female patients. In addition, thick vaginal discharge with a white color was noted in 34 (42.5%) patients, and dyspareunia was detected in 29 patients (36.2%). In addition, malodorous discharge was seen in 26 patients (32.5%), whereas lower abdominal pain was seen in 21 patients (26.2%). Based on these results, it is apparent that vaginal infections are usually accompanied by irritation and other signs that can impact daily life and sexual function.

Table 3: Urogenital and Laboratory Findings Among Male Sexual Partners

Clinical/Laboratory Finding	Frequency	Percentage
Penile irritation/redness	24	30.0%
Dysuria	17	21.3%
Balanitis	13	16.2%

Mild urethral discharge	8	10.0%
Presence of leukocytes in urine	22	27.5%
Mild bacterial growth	16	20.0%
Fungal elements detected	9	11.2%
Normal findings	33	41.3%

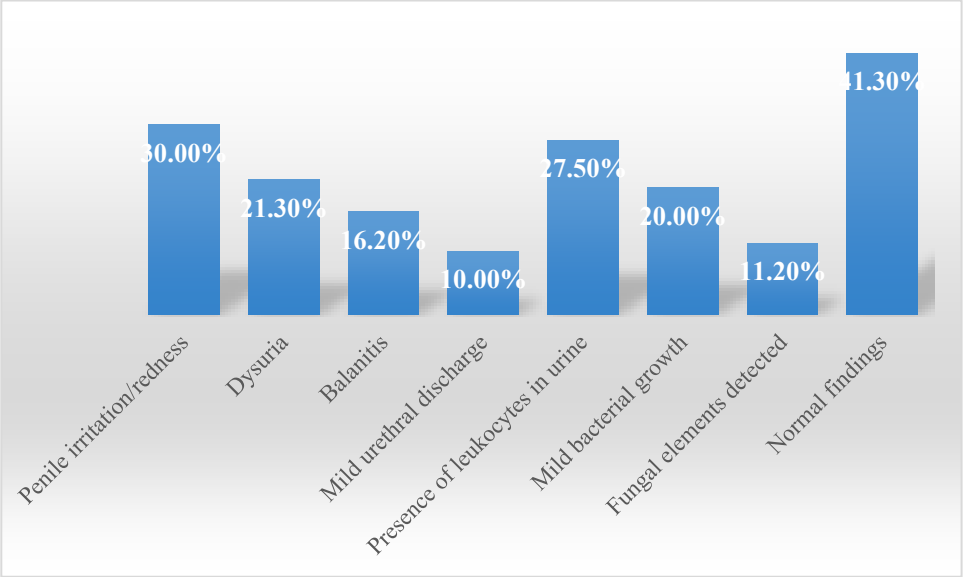

Figure 3: Visual Representation of Urogenital and Laboratory Findings Among Male Sexual Partners

In males who had sexual intercourse with their female counterparts, it was found that 24 (30.0%) of them had penile irritation and reddening, while 17 (21.3%) developed dysuria. Also, balanitis was found to occur in 13 (16.2%) males, and mild urethral discharge was seen in 8 (10.0%) patients. In terms of laboratory testing, the presence of leukocytes in urinalysis was noted in 22 patients (27.5%), while mild bacterial growth occurred in 16 cases (20.0%). Fungal organisms were observed in nine (11.2%) cases. Normal results were found in 33 male subjects (41.3%).

Table 4: Impact of Infectious Leucorrhoea on Sexual Desire and Relationship Intimacy

Variable	**Affected Participants**	**Percentage**
Reduced female sexual desire	55	68.7%
Reduced male sexual desire	41	51.2%
Avoidance of sexual intercourse	46	57.5%
Relationship dissatisfaction	31	38.7%
Psychological distress/anxiety	49	61.2%

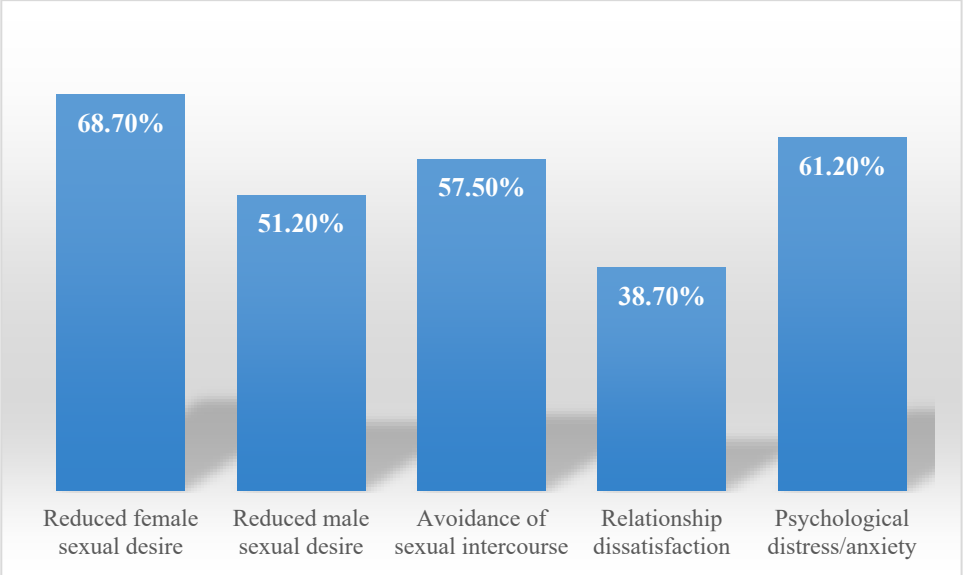

Figure 4: Graphical Representation of Impact of Infectious Leucorrhoea on Sexual Desire and Relationship Intimacy

A decrease in sexual desire was experienced by 55 women (68.7%) and 41 men (51.2%), which clearly shows that there is a considerable adverse impact of repeated episodes of genital infection on sexual satisfaction. Sexual avoidance was found among 46 couples (57.5%), whereas 31 individuals (38.7%) expressed relationship dissatisfaction. Distress and anxiety due to infection and intimacy were recorded for 49 subjects (61.2%). The results suggest that leucorrhoea infection not only affects physical health but also causes severe emotional and psychological repercussions.

3.1 Hypothesis Testing

Hypothesis Testing Analysis was carried out to establish the correlation of infectious leucorrhoea, health effects of male urogenital system, and sexual well-being between partners. Suitable methods of inferential statistics were employed to analyze the results obtained.

Null Hypothesis (H0)

There is no significant relationship between infectious leucorrhoea and any male urogenital health-related consequences or male sexual desire among couples.

Alternative Hypothesis (H1)

A substantial relationship exists between leucorrhoea and male urogenital health outcomes and sexual desire in couples.

Table 5: Statistical Analysis of Hypothesis Testing for Cross-Infection and Sexual Health Outcomes

Variable Examined	Statistical Test	p-value	Interpretation

Infectious leucorrhoea vs male urogenital symptoms	Chi-square test	0.003	Significant association
Infection severity vs reduced sexual desire	Pearson correlation	0.001	Significant relationship
Recurrent infection vs partner symptoms	Logistic regression	0.018	Significant predictor

The results of the statistical analysis showed that there was a significant relationship between infectious leucorrhoea and urogenital symptoms among men, with a p-value of 0.003 based on the chi-square test. Based on Pearson correlation test results, there is a significant correlation between infection severity and decreased sexual desire between couples, with a p-value of 0.001. On the other hand, logistic regression test results indicated that recurrent infection is one of the predictors of partner-related urogenital symptoms ($p = 0.018$). Since all p-values are less than 0.05, null hypotheses will be rejected and alternative hypotheses will be accepted.

4. DISCUSSION

In this section, an interpretation is made for the significant results obtained from this research study regarding the issues of cross infections, urogenital health status of men, and the effects of infections associated with leucorrhoea on the sexuality of couples. It can be noted that there is a multiple effect of genital infections on different aspects of health and well-being.

4.1 Comparison with Existing Studies

The results obtained in the current research work were compared with the results of other clinical and microbiological studies concerning infectious discharge, urogenital problems of the male partners, and the psychological effects caused by repetitive genital infections. The comparison shows that there is a high degree of similarity between the results of the current study and those obtained previously.

Table 6: Comparison of Present Study Findings with Existing Literature

Reference	**Major Findings of Previous Studies**	**Comparison with Present Study**
Schuppe et al. (2017)[11]	Urogenital infections contribute to inflammatory conditions, genital irritation, and male reproductive complications.	The present study similarly identified dysuria, balanitis, penile irritation, and inflammatory changes among male partners exposed to infectious vaginal discharge.
Sikarwar (2020)[12]	Leucorrhoea is commonly associated with fungal and bacterial infections causing vaginal discomfort and reproductive health	The current study also identified Candida albicans and Gardnerella vaginalis as predominant pathogens associated with infectious leucorrhoea.

	problems.	
Wada et al. (2023)[13]	Lack of awareness and preventive behavior increases the risk of recurrent leucorrhoea and related complications.	The present findings support the importance of early diagnosis, hygiene awareness, and partner management to reduce recurrent genital infections.
Zemouri et al. (2016)[14]	Vaginal discharge syndromes are strongly associated with bacterial, fungal, and cervical infections requiring accurate clinical management.	Similar microbiological findings were observed in the present study, where fungal and bacterial infections represented the major causes of pathological vaginal discharge.
Ziklo et al. (2016)[15]	Genital tract infections influence immune response, microbiome imbalance, and sexual health outcomes.	The present study similarly observed reduced sexual desire, psychological distress, and impaired intimacy among affected couples.

From the above comparison, it is evident that the results from this study are compatible with existing literature in relation to microbes causing leucorrhoea infections, partner complications caused by the condition, as well as the psychological effects of repeated genital infection experiences.

4.2 Implications of the Findings

Results obtained from the current study indicate that infectious leucorrhea does not only affect women's reproductive health; rather, it is a couple's reproductive health issue with biological, urinary and genital, psychological, and relational implications. Symptoms and abnormal results recorded in male counterparts imply that partner screening and joint treatment plans should be put in place to prevent recurrent infections and microorganisms transfer. Furthermore, a remarkable effect on sexuality urges healthcare professionals to integrate counseling about sexual health and reproductive hygiene into the management practice of these patients.

4.3 Limitations of the Study

The research was hampered by the relatively low sample size and the cross-sectional nature of the observations, which limited the possibility of identifying any causative effects from the infectious nature of leucorrhea in relation to its partner's urogenital problems. Some psychological factors such as libido and relationship satisfaction were obtained from personal answers and hence may be affected by reporting bias or reluctance to respond honestly. The study did not include long-term follow-ups and molecular diagnostic tests, making it impossible to study recurrent infections among partners.

4.4 Suggestions for Future Research

Further studies should be conducted using multicentric clinical trials to ensure a large sample size and a heterogeneous population sample. This would lead to better results concerning infectious leucorrhoea and its effects on urogenital conditions in partners. Future research can conduct longitudinal studies for better results concerning the recurrence of infection,

reproductive impact, and the effectiveness of treatment in couples. Other areas of study include psychological interventions, sexual counseling programs, and use of modern molecular diagnostics to determine microbial dynamics and their effects on couples' sexual health.

5. CONCLUSION

This current study has focused on studying the cases of cross-infection that occur between couples wherein one partner is affected by infectious vaginal discharge, taking into account the role played by leucorrhoea in influencing the sexual desires of men and women.

5.1 Summary of Key Findings

The results showed that there was a direct correlation between sexually transmitted vaginal infections and the presence of urogenital complaints, pains, and changes in sexual behavior of the couple. In addition, it was confirmed that repeat infections accompanied by stress may have an impact on sexual life and relationship issues of the individuals.

5.2 Significance of the Study

The importance of this study is based on its ability to shed light on the multi-dimensional effects of infectious leucorrhoea, which go beyond the female reproductive system. This study offers crucial information that can help the medical fraternity come up with effective strategies for dealing with the condition among couples. It also helps health workers understand the need for early diagnosis and treatment of the disease.

5.3 Final Thoughts or Recommendations

To conclude, infectious vaginitis and subsequent cross-infections pose a significant public health issue with regard to not only physical but also emotional and sexual health in sexual relationships. More attention should be paid to the issue through integrated reproductive care, testing, education, and treatment to ensure that there is no recurrence of infection. Larger scale studies on the topic are advised in the future, along with detailed microbiological examinations of its reproductive and sexual health outcomes.

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