EAS Journal of Parasitology and Infectious Diseases
Abbreviated Key Title: EAS J Parasitol Infect Dis
ISSN: 2663-0982 (Print) & ISSN: 2663-6727 (Online)
Published By East African Scholars Publisher, Kenya

OPEN ACCESS

Volume-8 | Issue-4 | Oct-Dec- 2026 | DOI: https://doi.org/10.36349/easjpid.2026.v08i04.003

Original Research Article

Prevalence of Bacterial Reproductive Tract and Sexually Transmitted Infections among Women of Reproductive Age Attending Homa Bay County Teaching and Referral Hospital, Homa Bay County Kenya

Alice K. M[1], Menza N. C[2]*, Muturi M. W[3]

[1]Department of Medical Laboratory Sciences, School of Healthy Sciences, Kenyatta University, P.O BOX 43844-00100 Nairobi, Kenya
[2]Senior Lecturer, Medical laboratory Science, Kenyatta University P.O Box 43844-00100 Nairobi
[3]Professor, Medical laboratory Science, Kenyatta University P.O Box 43844-00100 Nairobi

Article History
Received: 10.09.2026
Accepted: 04.11.2026
Published: 07.11.2026

Journal homepage:
https://www.easpublisher.com

Quick Response Code

Abstract: ***Background*:** Reproductive tract bacterial infections are a leading cause of morbidity among sexually active women worldwide. Female reproductive tract infections can affect either the upper reproductive tract, which includes the fallopian tubes, ovaries and uterus, or the lower reproductive tract, comprising the vagina, cervix and vulva. ***Objectives*:** The study aimed to determine reproductive tract bacterial infections and sexually transmitted infections among women of reproductive age attending Homabay County teaching and referral hospital in Kenya as well as the socio-demographic factors associated with these infections. ***Materials and Methods*:** A cross- sectional study design was adopted, employing a systematic sampling technique. The participants were interviewed using a structured questionnaire to obtain data on the socio-demographic factors. Blood and high vaginal swab samples were obtained from each participant for the analysis of bacterial infections. Sample analysis was done at the Homabay County Teaching and referral hospital laboratory, Kenya. Data analysis employed Statistical Package for Social Sciences version 28, with a significance level set at $P \leq 0.05$. High vaginal swabs were examined for bacterial vaginosis and grading performed using Nugent's criteria while blood samples were examined for *Treponema pallidum*. ***Results*:** Findings on reproductive tract bacterial infections among 360 women showed; 20.2% prevalence, with Bacterial vaginosis (BV) infections having 5.8% while for sexually transmitted infections: *Treponema pallidum* (10.8%) and *Neisseria gonorrhoea* (3.6%) were established. ***Conclusions and Recommendations*:** The study concluded that reproductive tract infections, as well as sexually transmitted infections driven by, *T. pallidum and N. gonorrhoea*, pose a public health challenge and recommended routine screening among women of reproductive age.

Keywords: Reproductive Tract, Bacterial Infection, Bacterial Vaginosis.

Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Infections in the female reproductive system, known as reproductive tract bacterial infections (RTBIs), can affect either the upper region, encompassing the fallopian tubes, ovaries and uterus, or the lower part, consisting of the vagina, cervix and vulva. Lower reproductive tract infections are frequently encountered, often stemming from the inherent diversity of bacteria and yeast in the vaginal environment. Factors such as antibiotic usage, pregnancy, sexual activity and a weakened immune response can disturb and shift these microorganisms. The prevalence of bacterial infections in the female reproductive tract is closely linked to the anatomical structure of the reproductive system. Women, due to their shorter urethra, are more prone to reproductive tract infections than men Reproductive tract bacterial infections (RTBIs) fall into three main categories: endogenous, iatrogenic and sexually transmitted infections (STIs). Endogenous infections, which originate from an overgrowth of organisms commonly present in the vagina, include conditions like bacterial vaginosis and candidiasis. While iatrogenic infections arise as a result of medical procedures, sexually transmitted infections (STIs) can be caused by

***Corresponding Author:** Menza N. C
Senior Lecturer, Medical laboratory Science, Kenyatta University P.O Box 43844-00100 Nairobi

bacteria, viruses, or parasitic microorganisms. Overall, bacteria are a major factor in causing reproductive tract infections, which are particularly widespread among women of reproductive age, especially those with limited economic resources. Symptoms often differ, but common signs include discomfort such as itching, burning sensations, pain, abnormal discharge, or unusual odors.

Although studies have been conducted on the prevalence, bacterial causative agents and antibiotic susceptibility patterns of RTBIs in Kenya and other developing countries, gaps remain in comprehensive and up-to-date data. These gaps limit the effectiveness of diagnosis, treatment and prevention strategies, posing an ongoing challenge to improving women's reproductive health. It is for this reason that this study aimed to determine bacterial causative agents of reproductive tract bacterial infections and sexually transmitted infections among women of reproductive age attending Homabay County teaching and referral hospital in Kenya as well as the socio-demographic factors associated with these infections.

MATERIALS AND METHODS

Study Area

The study was conducted at Homa Bay County Teaching and Referral Hospital in Homa Bay County, Kenya. The study area's suitability was propelled by the special health and demographic characteristics of the region. This is because the high load of sexually transmitted infections and poor healthcare accessibility in the area constantly lead to potentially higher rates of reproductive tract bacterial infections among women in this age group in the area. The proximity to Lake Victoria and rural status of this area worsens conditions through poverty and poor hygiene practices that increase the risks of infections, mainly among fishing communities.

Study Design

A cross-sectional study design was used to study women of child bearing age seeking care at Homabay County teaching and referral hospital from January 2022 to August 2022.

Study Population

The study included women aged 18 years to 49 years attending the hospital. The study Participants were stratified into age groups (in years): 18–23, 24–29, 30–35, 36–41, 42–47, and >47.

Inclusion and Exclusion Criteria

The study included consenting women of reproductive age, ranging from 18-49 years old who sought care at the gynecological, outpatient and antenatal clinics in Homabay County teaching and referral hospital. The study excluded non-consenting women and those that did not fall within the age bracket of 18-49 years old.

Sample Size Determination

The minimum sample size was calculated using the Nugent's formula. The study considered a reproductive tract bacterial infection prevalence of 37.4% [10].

$$n = \left(\frac{z}{m}\right)^2 p(1-p)$$

Where;

N= Desired minimum sample size

Z = Standard normal deviation = 1.96 (from tailed normal table) P = Prevalence of reproductive tract bacterial infection

M= Desired degree of accuracy at 95% confidence level =0.05 N = $(1.96/0.05)^2$ x 0.37(0.63)

N = 1536.64 x 0.2341=359 samples. Rounded off to 360. Therefore, a total of 360 participants were recruited for the study.

Sampling Technique

A systematic sampling method was adopted where the average total population of women attending the referral hospital annually (which was 1800) was divided by the minimum sample size of 360 hence the sampling interval was determined by k = 5, ensuring that each participant had an equal chance of being included. The data collection involved using a structured questionnaire.

Data Collection

A structured questionnaire served in this study to obtain demographic, socio-economic and health-related data from women aged 18–49years. The questionnaire existed in two segments and used a multiple-choice approach with standardization features to deal with low literacy levels of participants in rural Kenya.

The first section contained seven demographic inquiries which consisted of participant profiles. Age assisted in identification of age-specific RTBI patterns and area of residence as well as phone number that enabled follow-up activities and study of religion and marital status distributions. The evaluation measured socio-cultural elements which affect sexual behaviors and healthcare accessibility. The combination of nationality identified population groups but education and occupation revealed social status to connect poverty and unsanitary conditions with infection risks.

The health and behavioral information section in part II had eight questions that focused on RTBI risk exposures and treatment history.

High Vaginal Swab Samples Collection

High vaginal swabs were collected using the Nugent *et al*., method. In a private clinical consultation room, a sterile speculum was inserted into the participant's vaginal opening and a sterile HVS swab was swirled three times to obtain the sample. Three vaginal swabs were collected simultaneously and promptly placed in a cooler box. The samples were then transported to the hospital's laboratory and those not analyzed immediately were kept in a freezer at -20 to -80 °C. The first swab was inoculated on Thayer Martin modified (TMM) agar, the second was used for Amsel testing and the third was stained for Nugent scoring. This analysis assessed pathogenic bacteria such as *Gardnerella* spp, *Mobiluncus* spp, *Bacteroides*. Any remaining samples were incinerated following standard biohazard handling procedures at the hospital.

Blood Samples

Blood sample collection followed the procedure outlined by Rowley *et al*., [12]. A visible, large median cubital vein was selected and the puncture site was thoroughly cleaned with 70% alcohol. Using a vacutainer needle and pressurized tube system, blood flowed automatically into the collection tube. A 4 ml tube containing ethylenediamine tetraacetic acid (EDTA) anticoagulant was used for venereal disease research laboratory (VDRL) testing and subsequent *Treponema pallidum* hemagglutination assay (TPHA) on positive VDRL samples. Any remaining blood samples were incinerated according to standard biohazard handling procedures at Homanay County teaching and referral hospital in Homabay County.

Blood Analysis

This was conducted for the analysis of *Treponema pallidum.* All samples that turned positive for VDRL were analyzed by TPHA to confirm positivity [13].

High Vaginal Swab Analysis

Bacterial Culture

The culture procedure for *Neisseria gonorrhoea* followed the method outlined by King and Martin[11]. *Neisseria gonorrhoea* was cultured on Thayer Martin Modified (TMM) agar, which contained nutrients and antibiotics like vancomycin, colistin, nystatin and trimethoprim. These antibiotics facilitated the growth of *N. gonorrhoea* while preventing the growth of contaminating bacteria and fungi, as per the Clinical and Laboratory Standards Institute (CLSI) guidelines. The inoculated TMM agar plates were placed in an improvised candle extinction jar, where a lit candle was used to deplete atmospheric oxygen by sealing the jar and the plates were further incubated overnight at 36-38°C in a 3-7% CO2 incubator.

The following day, the plates were inspected for any signs of growth. Plates with no growth or minimal growth were re-incubated for an additional 24 hours. Colonies exhibiting typical characteristics of *N. gonorrhoea* smooth, round, moist and grayish white colonies and gram-negative diplococcus were subjected to further biochemical tests. Identification of *N. gonorrhoea* was based on a catalase positive and oxidase-positive. To verify the reagent's effectiveness, quality control involved using *Pseudomonas aeruginosa* ATCC 27853 as the positive control and *Escherichia coli* ATCC 25922 as the negative control.

Bacterial Vaginosis Identification Using Nugent's Test

Bacterial vaginosis scoring using Nugent's criteria involved fixing vaginal smear slides with methanol, followed by Gram staining and examination under oil immersion at 100x magnification [11]. Nugent's grading process, which evaluated various bacterial morphotypes was observed keenly. Small Gram-negative or variable rods (stained pink or with Neutral Red, indicative of *Gardnerella* or *Bacteroides*) and curved Gram-variable rods (suggestive of *Mobiluncus* spp). Scores ranging from 0 to 3 denoted "normal vaginal flora," scores from 4 to 6 indicated" intermediate vaginal flora," and scores from 7 to 10 were considered diagnostic for Bacterial vaginosis.

Data Analysis

The study utilized the Statistical Package for Social Sciences version 28 (SPSS 28) for analysis. Data was visually presented through tables and figures. The prevalence of reproductive tract bacterial infections was determined as follows:

Prevalence = (Number of positive cases / Total population) × 100

The study calculated 95% confidence intervals (CI) for prevalence using a proportion test. Associations between reproductive tract bacterial agents and socio-demographics and behavioral characteristics in women of reproductive age attending HCTRH were analyzed using Pearson's $\chi 2$ test and Fisher's exact test for non-normally distributed variables.

Associations of bacterial vaginosis agents with antibiotic susceptibility tests were assessed using Fisher's exact test conducted with two-sided P values and significance was established at $P \leq 0.05$.

Ethical Consideration

For this study, ethical approval was obtained from the Kenyatta University ethics review committee (PKU6361718) and a research permit obtained from the national commission for science, technology and innovation (NACOSTI/P/25/4172801). Prior to

enrollment, informed consent was sought from all participants. Confidentiality was strictly maintained and any information obtained from participants was used exclusively for study purposes. Numeric codes were assigned to ensure confidentiality. Participants were informed of potential risks during sample collection and reassured. Screening results were communicated following established clinical guidelines and treatment recommendations were provided for positive samples, benefiting the entire community and county.

RESULTS

A total of 360 women of reproductive age attending Homa Bay County Teaching and Referral Hospital were included in this study. The overall prevalence of laboratory-confirmed reproductive tract infections was 20.3% (73/360; 95% CI: 15.9–24.7%).

The distribution of infections is summarized in Table 1. Syphilis (TPHA positive) was the most common infection, with 39 cases (10.8%; 95% CI: 7.9–13.7%), followed by gonorrhoea (culture confirmed) at 13 cases (3.6%; 95% CI: 1.7–5.5%), and bacterial vaginosis (BV) at 21 cases (5.8%; 95% CI: 3.5–8.1%).

BV cases were initially screened using Amsel criteria and subsequently confirmed by Nugent staining, which is considered the gold standard for diagnosis. Since there were no co-infections, all participants had only one infection each, and the total any infection prevalence represents the sum of all participants with a laboratory-confirmed infection.

Table 1: Distribution of Laboratory-Confirmed Reproductive Tract Infections (N = 360)

Infection Category	Lab-confirmed positives (n)	%	95% CI
BV (Nugent ≥7)	21	5.8%	3.5% – 8.1%
Syphilis (TPHA+)	39	10.8%	7.9% – 13.7%
Gonorrhoea (culture confirmed)	13	3.6%	1.7% – 5.5%
Total with any infection	73	20.2%	15.9% – 24.7%

Table 2: Socio-demographic features and their association with prevalence of reproductive tract bacterial infections in women of reproductive age

Sociodemographic Characteristic	Total Participants (N=360)	*Treponema pallidum* (n, %)	*Neisseria gonorrhoea* (n, %)	BV Organisms (n, %)	p- value
Age Group (Years)					
18-23	95	10 (10.5%)	3 (3.2%)	6 (6.3%)	0.3411
24-29	56	3 (5.4%)	0 (0.0%)	0 (0.0%)	
30-35	100	19 (19.0%)	5 (5.0%)	7 (7.0%)	
36-41	40	3 (7.5%)	3 (7.5%)	3 (7.5%)	
42-47	38	3 (7.9%)	2 (5.3%)	2 (5.2%)	
Over 47	31	1 (3.2%)	0 (0.0%)	3 (9.6%)	
Education Level					
Primary/None	200	20 (10.0%)	7 (3.5%)	12 (6.0%)	0.7916
Secondary	120	15 (12.5%)	5 (4.2%)	6 (5.0%)	
Tertiary/Higher	40	4 (10.0%)	1 (2.5%)	3 (7.5%)	
Marital Status					
Divorced/Single	37	18 (48.6%)	4 (10.8%)	12 (32.4%)	0.1172
Married	323	21 (6.5%)	9 (2.8%)	9 (2.8%)	
Employment Status					
None	108	18 (16.7%)	8 (8.3%)	11 (10.2%)	0.5032
Employed	235	10 (4.3%)	4 (1.6%)	5 (2.1%)	
Declined	17	11 (64.7%)	1 (5.9%)	5 (29.4%)	

Reproductive Tract Bacterial Infections Causing Agents

Prevalence of reproductive tract bacterial infections consisting *Mobiluncus, Gardnerella* and *Bacteroides* species, *Treponema pallidum* and *Neisseria gonorrhoea* were found to be 20.2% conducted as follows using the various tests; A total of 10 infective *Bacteroides sp, mobilluncus and Gardnerella sp* were determined out of the 360 samples using Amsel testing and this was confirmed using Nugent's method hence were not repeated in the Nugent's positive results. When the prevalence was computed for percentage prevalence, results showed that 2.7% of the women were positive for BV.

Prevalence = Number of Positive cases x 100% Total cases tested

Therefore; Prevalence of RTBIs determined by Amsel testing = 10 x 100% = 2.7%
360

Using Amsel testing across age groups, the positive cases within the age group of 18-23 years were 2, between 24-29 years was 1 case, between 30-35 were 2 between 36-41 was 1, 42- 47 and above 47 years were 2 cases each, respectively. The study computed a chi-square test and Cramer's V test and found that there was a no significant association between the age distribution of women of reproductive age and BV infections (P = 0.577).

When bacterial vaginosis scoring by Nugent's was used, the findings showed a total of 11 positive cases among the population of 360 women. Computation for percentage prevalence of bacteria in the samples therefore was:
Prevalence = Positives x 100%
Total tested

Therefore; Prevalence of RTBIs determined by Nugent scoring = 11 x 100=3.1% 360

Using Nugent's scoring across age groups, the positive cases in age group of 18-23 years were 4, between 24-29 years was 1 case, between 30-35 were 4, between 36-41 was 1 case, between 42-47 had no caseand above 47 years had 1 case. The study computed a Chi-square test and Cramer's V test and found that there was no significant association between age distribution of women of reproductive age and RTBI (P = 0.810).

VDRL and TPHA Testing for Prevalence of *Treponema Pallidum*

Blood samples from the participants used to identify *Treponema pallidum* using VDRLas as screening test and TPHA as confirmatory showed that 39 out of 360 blood samples were found to be positive. This indicated prevalence of 10.8% infection rate. A total of 89.2% of patients were negative for *T. pallidum* and 10.8% positive for syphilis diagnosis. Further, the distribution per age group was as shown in table 3 below.

Table 3: Prevalence of *Treponema pallidum* among women of reproductive age attending Homabay County teaching and referral hospital per age group

Age group (Years)	Infection rates (%)
18-23	25.6
24-29	7.7
30-35	48.7
36-41	7.7
42-47	7.7
Above 47	2.6

Prevalence of *Neisseria Gonorrhoea*

HVS samples that were cultured to identify *Neisseria gonorrhoea* showed that 13 out of 360 samples were found to be positive, indicating an prevalence of 3.6% infection rate. A total of 96.4% of patients were negative for *N. gonorrhoea* and 3.6% positive for gonorrhoea. The distribution per age group was as shown in table 4 below.

Table 4: Prevalence of *Neisseria gonorrhoea* among women of reproductive age attending Homabay County teaching and referral hospital

Age group (Years)	Infection rates (%)
18-23	18.8
24-29	6.3
30-35	31.3
36-41	18.8
42-47	18.8
Above 47	6.3

DISCUSSION

Statistical analysis demonstrated that age showed no connection to RTBIs even though their frequency changes with age, mostly reaching the highest point between 30 to 35 years but diminishing at either end. The observed variability in RTBIs indicated that agents apart from age-specific time intervals might play a role since similar studies relate developing region infection patterns to behavioral activity over demographic factors. The rates of infection remain comparable between different marital status categories as well as education levels and statistical evaluation results in no significant pattern. The findings agree with a

previous similar study because structural barriers such as healthcare limitations overmatch personal features in determining exposure to risk.

Employment status along with sexual behaviors presents a clearer status pattern regarding infection rates. The unemployed workers together with individuals who practice transactional sex or have multiple sexual partners demonstrate elevated infection rates. This could be attributable to their combined socio-economic status and behavioral risks. Other prior studies also confirm the essential link between risky sexual behaviors as causes of RTBI positivity. A study conducted by the WHO in 2020 validates this evidence showing that poverty and sexual networking contribute to RTBIs while at the same time suggest that proper education and economic support and STI screening can stop this dissemination cycle.

The frequency of reproductive tract bacterial infections exhibits significant variations based on diagnostic methods since they are normally caused by *Lactobacillus sp., Mobiluncus sp., Gardnerella sp.and Bacteroides sp*. The assessment through Amsel testing shows a prevalence rate of 2.7% for bacterial vaginosis, but Nugent's scoring as a microbiological method applies Gram staining and produces a 3.1% prevalence rate. The difference in RTBIS burden assessment depends on which diagnostic method researchers choose because Amsel testing looks at wider symptoms while Nugent scoring provides exact microbial measurement. A previous study supports the observation that the vaginal microbiome structure affects results obtained through different diagnostic techniques. The low RTBI frequency observed in this study population suggests that a beneficial dominant presence of *Lactobacillus* organisms exists to maintain acidic vaginal conditions which prevent microbial growth and is consistent with findings presented by a similar study.

Statistical evaluations showed no significant relationship between individual age and RTBI risk although age-related patterns show irregular RTBI distributions across various demographic periods. The statistical evidence ($p = 0.577$ for Amsel; $p = 0.810$ for Nugent's) shows the low connection between RTBI occurrence and age, which supports the idea that behavioral or environmental influences, including sexual practices and hygiene habits, have stronger impact than age factors. Prior findings support the notion that vaginal flora disruption causes susceptibility to RTBI more often than physical age does [17].

The study identifies *Treponema pallidum* as the most prevalent pathogen since its prevalence rate reaches 10.8%, making it the leading pathogen in this research. Results from plasma- driven tests (VDRL and TPHA) show an increased sexual infection burden among the 30-35years patient group. A peak of infection prevalence occurs within the 30–35years age group according to the data while statistical significance exists although it holds only a weak strength ($p = 0.046$), which indicates potential associations with maximum sex engagement or prolonged exposure duration. A similar syphilis prevalence distribution observed in developing countries due to minimal access to disease prevention services and diagnostic resources [13]. Public health records show *T. pallidum* prevalence remains high because of asymptomatic prevalence which enables silent transmission in accordance with earlier research.

Studies show that *Neisseria gonorrhoea* exists in patients at a rate of 3.6% as determined through culture analysis, thus adding complexity to this microbial assessment. This gonorrhoea prevalence stands below syphilis but remains important enough to affect the population since the disease appears across all age groups without age-related statistical significance ($p = 0.634$). The use of culture methods for diagnosis possibly understates *Neisseria gonorrhoea* prevalence levels because these methods depend highly on specimen quality and laboratory conditions, as noted in resource-limited environments[11]. The research conducted in Sub-Saharan Africa confirms this prevalence in the region through sexual transmission links and delayed medical care practices that operate in Homabay. This medium-level prevalence rate signifies gonorrhoea as an essential part of the STI infection rate despite its lower frequency compared to syphilis since it affects reproductive health results such as pelvic inflammatory disease.

These pathogenic agents demonstrate parallel links in Kenya since syphilis accounts for 10.8% of prevalence while other RTBI organisms is observed at 2.7% or 3.1% through different testing methods and gonorrhoea occurs in 3.6% of women. Syphilis takes precedence over RTBI and gonorrhoea prevalence in Nigerian women because STIs thrive in areas without proper healthcare access according to prior studies. However, it has since been noted that diagnosis practice variations influence vaginal microbiome assessment results [15].

Reproductive tract bacterial infectious agents at HBCTRH display mixed patterns containing sexually transmitted diseases alongside endogenous infections while syphilis stands out as the top diagnosed condition followed by RBTIS and gonorrhoea. This distribution demonstrates the biological risk factors together with contextual characteristics which affect this demographics of women. The collected data enables better comprehension of reproductive tract bacterial infections while showcasing the need for specialized evidence-based approaches that reduce their effects on women's health status.

Study Limitations

Limited study duration as well as dishonesty by some participants may affect the generalization of the study results to the general population.

CONCLUSIONS AND RECOMMENDATIONS

This study concluded that most women in the age group of 30-35 years attending HBCTRH were more infected with reproductive tract bacterial infections. It also concluded that the most common causative agent causing sexually transmitted infections among women of reproductive age attending HBCTRH was *Treponema pallidum,* followed by *Neisseria gonorrhea.* The causative agents for bacterial reproductive tract infections were identified to be *Mobilluncus sp*, *Bacteroides sp, Gardnerella sp.* The study recommends regular screening of at-risk groups and the general population for earlier detection and treatment of asymptomatic RTBI cases that would help reduce the high prevalence of reproductive tract bacterial infections among women of reproductive age attending Homabay County teaching and referral hospital.

Author Contribution

Mwendwa A, wrote the original draft, secured funding and managed the project. Menza N, critically reviewed and edited the manuscript. Muturi M, contributed to the conceptualization of the study.

Conflict of Interest: The authors wish to declare that there are no conflicted parties with regard to this paper whatsoever.

REFERENCES

- Sobel JD. Vulvovaginal candidiasis: epidemiologic, diagnostic and therapeutic considerations. *Am J Obstet Gynecol.* 2016;214(4):438–446. doi:10.1016/j.ajog.2015.06.067
- Workowski KA, Bolan GA. Sexually transmitted diseases treatment guidelines, 2015. *MMWR Recomm Rep.* 2015;64(RR-03):1–137. Available from: https://www.cdc.gov/mmwr/rr/rr6403a1.htm
- Hooton TM. Uncomplicated urinary tract infection. *N Engl J Med.* 2012;366(11):1028–1037. doi:10.1056/NEJMcp1104429
- World Health Organization. *Guidelines for the management of symptomatic sexually transmitted infections.* Geneva: World Health Organization; 2021. Available from: https://www.who.int/publications/i/item/9789240024168
- Unemo M, Bradshaw CS, Hocking JS, de Vries HJC, Francis SC, Mabey D, et al. Sexually transmitted infections: challenges ahead. *Lancet Infect Dis.* 2017;17(8):e235–e279. doi:10.1016/S1473-3099(17)30310-9
- Odongo F, Ochieng R. Access to healthcare and reproductive health in rural Kenya. *Int J Healthc.* 2021;18(4):250–260.
- Muthoni G, Ochieng M, Mbuthia J. Prevalence of RTIs in Kenyan women: a study of Homabay County. *Kenyan J Public Health.* 2020;22(3):134–145.
- Balamurugan S, Bendigeri ND. Community-based study of reproductive tract infections among women of reproductive age group in the field practice area of Urban Health Training Centre (UHTC), Hubli, Karnataka. *Indian J Med Res.* 2012;135(4):602–609. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3401684/
- Radolf JD, Bavoil PM, Johnson RC. Reproductive tract infections and their impact on human health. *Lancet Infect Dis.* 2020;20(4):521–529. doi:10.1016/S1473-3099(19)30641-4
- Nugent RP, Krohn MA, Hillier SL. Reliability of diagnosing bacterial vaginosis is improved by a standardized method of Gram stain interpretation. *J Clin Microbiol.* 1991;29(2):297–301. doi:10.1128/jcm.29.2.297-301.1991
- King CC, Martin DH. The pathogenesis and clinical manifestations of *Neisseria gonorrhoeae* infections. *Clin Microbiol Rev.* 2020;33(2):e00165-19. doi:10.1128/CMR.00165-19
- Kenyon C, Osbak K, Crucitti T. The epidemiology of syphilis reinfections: a review. *Sex Transm Infect.* 2018;94(6):372–378. doi:10.1136/sextrans-2017-053329
- Johnson RE, Newhall WJ, Papp JR, et al. Screening and prevalence estimates for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* infections in the United States. *Sex Transm Dis.* 2014;41(8):420–426. doi:10.1097/OLQ.0000000000000140
- World Health Organization. *Reproductive tract infections: global epidemiology and challenges.* Geneva: World Health Organization; 2020.
- David A, Michael P. The role of *Lactobacillus* in maintaining vaginal health: a microbiological perspective. *Microb Ecol Health Dis.* 2015;26:25809. doi:10.3402/mehd.v26.25809
- Okonofua FE, Ako-Nai AK, Daini ST. Serological and clinical correlates of gonorrhoea and syphilis in fertile and infertile Nigerian women. *Genitourin Med.* 1995;71(1):13–17. doi:10.1136/sti.71.1.13
- Lin X, Wang Y, Li H. The role of *Lactobacillus* in vaginal health and its relationship with bacterial vaginosis. *Front Microbiol.* 2018;9:1942. doi:10.3389/fmicb.2018.01942
- Castro J, Machado D, Cerca N. Unveiling the role of *Gardnerella vaginalis* in bacterial vaginosis: a comprehensive review. *Front Microbiol.* 2019;10:11. doi:10.3389/fmicb.2019.00011

Cite This Article: Alice, K. M., Menza, N. C., & Muturi, M. W. (2026). Prevalence of Bacterial Reproductive Tract and Sexually Transmitted Infections among Women of Reproductive Age Attending Homa Bay County Teaching and Referral Hospital, Homa Bay County Kenya. *EAS J Parasitol Infect Dis, 8*(4), 126-132. https://doi.org/10.36349/easjpid.2026.v08i04.003