

PREVALENCE AND HEALTH FACILITY FACTORS ASSOCIATED WITH ABNORMAL VAGINAL DISCHARGE AMONG PREGNANT WOMEN ATTENDING ANTENATAL CARE AT WAKISO HEALTH CENTER IV, WAKISO DISTRICT – A CROSS-SECTIONAL STUDY.

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ABSTRACT

Introduction

Abnormal vaginal discharge (AVD) increases the risk of sexually transmitted infections (STIs) and adverse pregnancy outcomes. This study purposed to determine the prevalence and health facility factors associated with abnormal vaginal discharge among pregnant women attending antennal care at Wakiso Health Center IV, Wakiso District in Central Uganda.

Methods

A cross-sectional study was conducted on 100 participants, selected by systematic random sampling. A structured questionnaire with closed-ended questions and a data extraction form were used for data collection. The data was analyzed in SPSS v.21 using mean, frequencies, percentages, chi-square, and binary logistic regression. Participants provided written informed consent for participation. Ethical approval was sought from the College Research and Scientific Committee and administrative clearance was obtained from the District Health Office and the Health Facility In-Charge.

Results

Data was collected from 100 participants with a mean age of 31.9 (S = 7.63) years. The prevalence of abnormal vaginal discharge was 40% and significant health facility factors were perceived quality of antenatal care services (aOR=8.001; 95% CI: 1.31 – 33.157; p-value = 0.004), distance to the health facility (aOR=12.956; 95% CI: 1.902 – 88.272; p-value = 0.009), and provision of a friendly care environment (aOR=5.889; 95% CI: 1.335 – 25.976; p-value = 0.019).

Conclusion

The prevalence of abnormal vaginal discharge among pregnant women attending antenatal care at Wakiso Health Center IV is high and is associated with the perceived quality of antenatal care, distance to health facilities, and provision of a friendly care environment.

Recommendations

There is a need for health workers to motivate pregnant women to seek timely care and provide during pregnancy and provide a friendly environment for prompt and effective treatment of abnormal vaginal discharge in pregnancy.

Keywords: Prevalence, Abnormal Vaginal Discharge, Associated Factors, Pregnancy, Antenatal Care

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INTRODUCTION

An abnormal vaginal discharge (AVD) is a change in the amount, color, and/ or odor of vaginal fluid with or without lower abdominal pain. It is a common cause of clinic visits among women of reproductive age (Khalid Khadawardi, 2020). Abnormal vaginal discharge increases the risk of sexually transmitted infections (STIs) and adverse pregnancy outcomes like; premature rupture of membranes, pre-term labor, and post-partum

endometritis (Meharunnissa Khaskheli, 2021). The burden of abnormal vaginal discharge among pregnant women in Wakiso District is unknown and yet associated adverse pregnancy outcomes like preterm labor continue to occur (UNIPH, 2021). This study aimed to determine the prevalence of abnormal vaginal discharge and associated health facility factors among pregnant women attending Antenatal Care at Wakiso Health Center IV, Wakiso District.

METHODS

Study design

This was a cross-sectional study that employed quantitative methods.

Study setting

The study was conducted at Wakiso Health Center IV, Wakiso District, in Central Uganda. The facility is located on the outskirts of Wakiso Town within Busiro County about 3 Km from the Wakiso District Headquarters.

Study population

This study included pregnant women who attended antenatal care (ANC) at the facility from 1st to 21st February 2023.

Inclusion criteria

All pregnant women attending routine ANC at the facility voluntarily consented to participate in the study.

Exclusion criteria

Pregnant women diagnosed with other morbidities or complications that required urgent referral or admission.

Sample size

The sample size of 100 participants was determined using the Morgan and Krucic table based on the average daily attendance of 135 pregnant women at the ANC clinic of the facility.

Bias

Probability sampling was done to minimize selection bias and the study was conducted at a community facility to minimize bias due to referral. National syndromic management of STI algorithms was used to evaluate the patient's presentation and clinician's diagnosis of participants to ensure the accuracy of the information and minimize information bias. Participants were asked about their current presentation and problem which minimized information due to recall and missing data in records.

Sampling technique

A systematic random sampling technique was used with a sampling interval of two (2) and a sampling frame of 135. The first participant was identified by simple random

sampling from the two and subsequent participants were determined using the sampling interval until the required sample was reached. For participants who were selected but found not to be fit for the study, they were left out and the subsequent determined participant was considered.

Data collection

A researcher-administered, structured questionnaire and data-extraction form were used for data collection. The questionnaire was anonymous and it was pre-tested to establish its validity and reliability. Two independent experts validated the tool for data collection and its reliability was determined using Cronbach's alpha coefficient which was found to be 0.79; which lies within the acceptable range of 7.0 – 9.5.

The questionnaire contained items on the participants' socio-demographic characteristics, nature of vaginal discharge, and health facility factors associated with abnormal vaginal discharge. The items in the tool were closed-ended. Data-extraction form was used to collect data about the diagnosis from the client's files and charts.

Study variables

This study focused on the patient's complaint of abnormal vaginal discharge, the nature of the vaginal discharge and clinician's diagnosis, the patient's socio-demographic characteristics, and health facility factors like; distance from residence to the facility, perceived quality of ANC, and friendliness of care environment.

Statistical analysis

Collected data was entered into Microsoft Excel, cleaned, and then imported into the Statistical Package Social Science (SPSS) version 21 for analysis. Descriptive analysis was done using mean and standard deviation for continuous variables and frequencies and proportions for the categorical variables. Chi-square (χ^2) and binary logistic regression were used to establish the relationship between abnormal vaginal discharge and health facility factors with a 95% confidence interval. The significance level was thus set at a p-value < 0.05 .

Ethical considerations

Ethical clearance was obtained from the College Research and Scientific Committee and administrative approvals were obtained from the District Health Office and Health Facility In-Charge. Study participants provided written informed consent.

RESULTS

This study involved 100 pregnant women attending antenatal care services at Wakiso Health Center IV, Wakiso District. The average age of the participants was 31.9 years (S = 7.63 years) and 62% were married, 51% had attained primary or no education as their highest level, 32% were grand-multiparous and 20% were primigravidae, while 57% had no formal employment.

Prevalence of abnormal vaginal Discharge (AVD)

The prevalence of abnormal vaginal discharge (AVD) among participants was 40%, among whom, some had been diagnosed with; 18 (45%) vaginal candidiasis, 5 (12.5%) Bacterial vaginosis, 3 (7.5%) Trichomoniasis, and 14 (35%) others.

Health Factors Associated with Abnormal Vaginal Discharge (AVD)

Table 1: Bivariate Analysis of Health Facility Factors Associated with Abnormal Vaginal Discharge (AVD)

Variable	Response	Number (AVD)			X ²	P- value
		Yes	No	Total		
Quality ANC Services	Yes	25	55	80	12.760	0.000
	No	15	5	20		
Health Facility Distance	< 5km	3	33	36	23.804	0.000
	5 – 10km	32	22	54		
	> 10km	5	5	10		
Friendly care Environment	Yes	28	54	82	6.504	0.011
	No	12	6	18		
Long waiting time	Yes	34	45	79	1.447	0.229
	No	6	15	21		

The majority of the respondents reported that; (80%) antenatal care services were of high quality, (82%) health workers provided a friendly care environment, (79%) the waiting time to receive service was too long, and (54%) were living between 5 – 10 km away from the health facility. Comparing the risk of abnormal vaginal discharge with each of the factors, the perceived quality of antenatal

care (X² = 12.76; P- value = 0.000), distance to health facility (X² = 23.804; P- value = 0.000), and provision of a friendly care environment (X² = 6.504; P- value = 0.011) were significantly associated with. However, there was no significant relationship established between the risk of abnormal vaginal discharge and long waiting time (X² = 1.447; P- value = 0.229) at bivariate analysis.

Table 2: Multivariate Analysis of Health Facility Factors Associated with Abnormal Vaginal Discharge (AVD)

Variable	Response	OR (95% CI)	p-value	AOR (95% CI)	p-value
Quality ANC Services	Yes	6.600 (2.160 – 20.169)	0.001	8.001 (1.931 – 33.157)	0.004
	No				
Health Facility Distance	< 5km	11.000 (1.984 – 60.985) 0.687 (0.178 – 2.661)	0.006	12.957 (1.902 – 88.272) 2.36 (0.66 – 8.39)	0.009
	5 – 10km		0.587		0.705
	> 10km				
Friendly care Environment	Yes	3.857 (1.308 – 11.370)	0.014	5.889 (1.335 – 25.976)	0.019
	No				
Long waiting time	Yes	0.529 (0.186 – 1.507)	0.234	1.123 (0.305 – 4.139)	0.861
	No				

After adjusting for other factors in the multivariate analysis, perceived quality of antenatal care (aOR=8.001; 95% CI: 1.31 – 33.157; p-value = 0.004), distance to the health facility (aOR=12.956; 95% CI: 1.902 – 88.272; p-value = 0.009), and provision of friendly care environment (aOR=5.889; 95% CI: 1.335 – 25.976; p-value = 0.019)

were significantly associated with the risk of abnormal vaginal discharge among participants. However, there was no demonstrable relationship between the risk of abnormal vaginal discharge and long waiting time (aOR=1.123; 95% CI: 0.305 – 4.139; p-value = 0.861).

Summary

Results from this study show that the prevalence of abnormal vaginal discharge among pregnant women attending antenatal care at Wakiso Health Center IV is 40% and the health facility factors associated with the risk of abnormal vaginal discharge are perceived quality of antenatal care services provided, distance to the health facility and the provision of friendly care environment.

DISCUSSION

This study aimed at determining the prevalence and health facility factors associated with abnormal vaginal discharge among pregnant women attending antenatal care at Wakiso Health Center IV, Wakiso District in Central Uganda. The prevalence of abnormal vaginal discharge was found to be 40% among the study participants. This is close to a prevalence of 45.2% reported among pregnant women in the third trimester attending Kampala International University Teaching Hospital (Bwaga Ibrahim, 2017) and the 48.05% reported among pregnant women seen in a Tertiary Hospital in Bihar (Dipali Prasad, 2021) but it is much lower than a prevalence of 73.9% reported among pregnant women attending King Abdouaziz Hospital, Jeddah in Saudi Arabia (Khalid Khadawardi, 2020). It is generally observable that the reported prevalences are higher than the observed and this could be attributed to the difference in the levels of health care delivery of the facilities. It can be noted that much as this study was conducted at community-level health facility, the other statistics were reported from tertiary-level health facilities that receive referred cases from lower facilities.

Study results show that participants' perceived quality of antenatal care is associated with risk of abnormal vaginal discharge (p -value = 0.004). Much as most participants expressed satisfaction with the quality of antenatal care services provided, those who expressed dissatisfaction had an odd of 8 times that of those who were satisfied with the quality of care for having an abnormal vaginal discharge. This could be explained by the hesitancy of those who were dissatisfied with the care, from seeking medical attention and only doing so when the condition became severe. This is in line with a study on the role of perceived quality of care on patients' facility visits that showed that perceived quality of care is strongly associated with the number of facility visits (Hussien, 2024)

Study results also show a significant relationship between distance to the health facility and risk of abnormal vaginal discharge (p -value = 0.009). Participants who lived between 5 – 10 km away from the health facility were 12 folds more likely to have an abnormal vaginal discharge as compared to those who lived within 5 km of the health

facility. These results are in agreement with the findings of a study on the impact of distance on healthcare care access in rural areas that showed that distance and travel time are key considerations for accessing healthcare (E.P. Mseke, 2024). Likely, participants in this study who lived far away from the facility are compelled to come for antenatal care in anticipation of receiving attention for other morbidities. This is also in agreement with another earlier study that showed that reducing the distance between residence and health facility increases the utilization of care services (Catherine E. Oldenburg, 2021), which could help in the prevention and control of infectious diseases in a population.

This study further revealed a significant association between the provision of a friendly care environment and the risk of abnormal vaginal discharge among participants (p -value = 0.019). Participants who perceived the health care service environment as unfriendly were almost 6 folds more likely to have an abnormal vaginal discharge than those who perceived the environment as friendly. Earlier findings show that the approachability of health workers facilitates the utilization of healthcare services for prompt treatment and control of diseases (National Academies of Sciences, Division, Services, & Disabilities., 2018). It can therefore be argued that a non-friendly environment in health care service delivery like health workers not being easily approachable, can prevent patients with mild infections not to opening up during care which could further facilitate transmission or even severity of disease.

Results in this study demonstrated no relationship between long waiting time and risk of abnormal vaginal discharge among participants (p -value = 0.861). This result is inconsistent with findings of a study on waiting time and patients' presentation at an Outpatient Department of a hospital in Ethiopia that showed that adversely affected a patient's willingness to return to the clinic and lowered the utilization of health care services (Mensur Biya, 2022). The non-utilization of healthcare services by pregnant women beyond routine antenatal care can facilitate the transmission of disease and the presentation of patients at the clinic with severe disease (Daniel McIntyre, 2020). Findings from this study are generalizable to pregnant women attending ANC at community-level health facilities in a peri-urban setting.

CONCLUSION

The prevalence of abnormal vaginal discharge among pregnant women attending antenatal care at Wakiso Health Center IV is 40% and is associated with the perceived quality of antenatal care services, distance to the health facility, and provision of a friendly care environment as the significant health facility factors. These factors could

explain barriers to the timely utilization of healthcare services that promote transmission and severity of diseases. There is a need to motivate pregnant women to seek timely care and receive prompt and effective treatment.

STUDY LIMITATIONS

There could be selection bias as the study was conducted at a health facility among clients who had turned up for care. There is a likelihood of missing out on the participants in the community who might not have turned in for services at the facility.

The clinician's diagnosis was mainly done without laboratory confirmation which could lead to either under-reporting or exaggerated reporting of cases.

RECOMMENDATIONS

Health workers should routinely screen pregnant women for other morbidities during routine antenatal care and there is a need to inspire confidence among clients about the quality and safety of healthcare services provided. Whenever possible, community outreach services should be provided to promote access and utilization of health care services and health workers should be equipped with customer care and counseling skills to enable clients to open up about their health problems for prompt management.

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ABBREVIATIONS

ANC: Antenatal Care

aOR: Adjusted Odds Ratio

AVD: Abnormal Vaginal Discharge

CI: Confidence Interval

S: Standard deviation

SPSS: Statistical Package for Social Science

STIs: Sexually Transmitted Infections

CONFLICT OF INTEREST

The authors declare that there was no conflict of interest in conducting the study.

SOURCE OF FUNDING

The authors declare that there was no funding.

AUTHOR CONTRIBUTIONS

Martin Muyomba: Designed and collected data

Aeron Namaasa Mukirya: Designed and analyzed data

DATA AVAILABILITY

The data supporting the findings of this study can be provided by the authors on reasonable request.

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