

Exploring Psychological Dimensions of Knowledge and Practices on Abnormal Vaginal Discharge Among Female Health Science Students

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Abstract: *Background:* Abnormal vaginal discharge is a common yet frequently underestimated gynaecological symptom that can signal underlying infections and have significant impacts on a young woman's physical and psychological well-being. The prevalence and management of this condition are influenced by an individual's knowledge, attitudes, and practices (KAP). However, the existing literature presents a mixed and context-dependent understanding of these factors. This study aimed to evaluate the KAP related to abnormal vaginal discharge among female students at the Faculty of Allied Health Sciences (FAHS) at the Meenakshi Academy of Higher Education and Research Institute (MAHER). *Methods:* A quantitative cross-sectional survey was conducted among 150 female students at the MAHER-FAHS. Participants, aged 18 to 25 years, were selected based on specific inclusion criteria and provided informed consent. Data were collected using a structured, self-administered questionnaire designed to assess knowledge, attitudes, and practices concerning abnormal vaginal discharge. Descriptive statistics, including frequencies and percentages, were used to summarize the data. A chi-square goodness-of-fit test was applied to binary responses to determine if the distribution of responses significantly deviated from a 50/50 split, thereby assessing the level of awareness. **Results & Conclusion:** Abnormal vaginal discharge was reported by 85.1% of participants. Most students were aware of the need for medical consultation (81–97%) and the role of hygiene, but gaps existed in knowledge of home remedies (only 33% aware) and daily hygiene practices. All responses differed significantly from chance ($p < 0.05$). While awareness was generally high, targeted health education is needed to address specific preventive and management practices.

Keywords: Abnormal Vaginal Discharge, Knowledge, Attitudes, and Practices (KAP), Adolescent Health, Reproductive Health, Health Education, Cross-Sectional Study.

INTRODUCTION

Vaginal discharge is a universal physiological phenomenon among women, arising from secretions of the uterus, cervix, and vagina. Its functions include lubrication, protection against infection, and aiding in the self-cleaning of the reproductive tract, and its characteristics, such as color, amount, and consistency. It varies during the menstrual cycle depending on hormonal changes and reproductive status (1). Normal vaginal discharge is generally clear to off-white, with minimal odor, and is considered a marker of healthy physiology. However, the World Health Organization (WHO) defines abnormal vaginal discharge as any deviation from an individual's usual pattern, such as changes in amount, color, or odor, often accompanied by itching, soreness, or pain (2,3).

This condition represents a significant public health concern, especially in low- and middle-income countries, where delayed diagnosis and inadequate reproductive health awareness may lead to complications such as urinary tract infections (UTIs), vaginitis, pelvic inflammatory disease, infertility, and even cervical pathology if left untreated (2,3). The burden of abnormal vaginal discharge is particularly pronounced among adolescents and young women. A descriptive study in Jatinangor, Indonesia, reported that many school-aged

girls had low knowledge about leucorrhoea despite demonstrating good attitudes and practices regarding its prevention (4). Similarly, an observational study in Riyadh, Saudi Arabia, found that adolescent females had suboptimal awareness, with only 11.8% showing adequate knowledge of abnormal discharge (5). In contrast, a study conducted at the International Islamic University Malaysia (IIUM) revealed that 87.5% of female students demonstrated good knowledge and 68.8% practiced appropriate preventive measures, though only 53.6% showed a positive attitude toward intimate care (6,7).

In India, socio-cultural beliefs also shape perceptions of vaginal discharge. A study from North India found that misconceptions regarding etiology and stigma around reproductive health hindered timely care-seeking behaviors (8). On the other hand, a recent study among nursing students showed that 98.1% had good knowledge and 92.3% practiced preventive behaviors, highlighting the positive impact of formal health education on awareness and practice (4).

These variations across regions highlight that knowledge, attitudes, and practices (KAP) regarding abnormal vaginal discharge are highly context-specific, depending on cultural, social, and educational factors.

Given their academic exposure to health sciences, allied health students constitute a uniquely relevant group for study. Assessing their KAP not only identifies gaps in knowledge and practice but also informs the design of targeted health education interventions aimed at reducing the burden of abnormal vaginal discharge in this population. Therefore, this research was undertaken to address this gap by evaluating the prevalence of abnormal vaginal discharge and assessing the KAP related to this condition among female allied health sciences students of Meenakshi Academy of Higher Education and Research.

MATERIALS AND METHODS

Study Design and Population

Institutional Ethical Committee clearance was obtained prior to the commencement of the study (IEC Approval No: MMCH&RI/UG/AHS/11/MAY/25).

A qualitative observational study was conducted among 150 female students of the Meenakshi College of Allied Health Sciences, Meenakshi Academy of Higher Education and Research (MAHER). Participants were selected based on the following inclusion criteria: female students aged 18–25 years who provided informed consent. Exclusion criteria included non-consenting individuals, those with specific gynecological infections or conditions, presence of malignancy, or those currently

undergoing treatment or medication. Data were collected using a structured, self-administered questionnaire comprising 15 items, categorized into three domains: knowledge (5 items), practice (5 items), and behavior (5 items) related to abnormal vaginal discharge. Responses were recorded in binary format (Yes/No) or through multiple-choice options where applicable. A rapport was established with participants to ensure comfort, and confidentiality of responses was maintained. Data collection was facilitated via a Google Form distributed to eligible participants. The gathered responses were analyzed using descriptive statistics, and chi-square tests were applied to assess the significance of response distributions.

Statistical Analysis

The collected data were analyzed using both descriptive and inferential statistical methods. Descriptive statistics, including frequencies and percentages, were applied to summarize demographic variables and participants' responses to the questionnaire. To evaluate whether the observed distribution of binary responses (Yes/No) significantly differed from an expected 50/50 distribution, a chi-square goodness-of-fit test was performed. This test provided an objective measure of awareness levels and response patterns, with statistical significance determined at $p < 0.05$. Knowledge, Attitudes, and Practices (KAP) Findings.

RESULTS:

The questionnaire also evaluated preferences and behaviors related to intimate care. While 81% of students correctly identified comfortable underwear as the recommended type to wear, only 73% of them stated that they prefer to wear cotton underwear every day. The discrepancy between what they know to be "recommended" and what they "prefer" highlights a classic knowledge-practice gap, where awareness does not consistently translate into behavior. These findings are summarized in Table 1.

Table 1: Summary of Key Questionnaire Responses and Prevalence

Question	Yes Count	No Count	Yes %	No %
Vagina discharge is a fluid that naturally comes from vagina?	145	5	97	3
Infections, hormonal imbalance are factors can increase the vaginal discharge?	123	27	82	18
Abnormal vaginal discharge can be treated with home remedies?	49	101	33	67
The effective way to treat abnormal vaginal discharge is seeking a physician consultation?	121	29	81	19
Is poor hygiene being a potential cause of abnormal vaginal discharge?	122	27	81	19
Do you seek any medical care for abnormal vaginal discharge?	31	119	21	79

Did you try any home remedies for abnormal vaginal discharge?	24	126	16	84
When you have abnormal vaginal discharge, do you leave it to settle on its own?	54	96	36	64
Does vaginal discharge cause you discomfort?	113	37	75	25
Are you experiencing any symptoms along with abnormal vaginal discharge?	109	41	73	27
Do you remove your genital hair?	130	20	87	13

The chi-square goodness-of-fit test was applied to each binary question to determine if the observed responses were statistically significant. The observed counts were compared to an expected frequency of 75 for both "Yes" and "No" responses. As shown in Table 2, the calculated χ^2 value for all 11 questions exceeded the critical value of 3.841 ($df=1, p<0.05$).¹ This result led to the rejection of the null hypothesis for every question, confirming that the distribution of responses was not due to random chance. The calculated χ^2 values ranged from 3.92 to 43.56. This statistical finding supports the conclusion that the students' responses were not random and reflect a significant pattern of awareness, albeit one that is highly unequal across different aspects of the topic.

Table 2: Corrected Chi-Square Goodness-of-Fit Test Results

Question	Observed 'Yes' (O)	Observed 'No' (O)	Expected 'Yes' (E)	Expected 'No' (E)	Calculated χ^2	P-value
Q1	145	5	75	75	80.67	< 0.001
Q2	123	27	75	75	32.27	< 0.001
Q3	49	101	75	75	18.03	< 0.001
Q4	121	29	75	75	28.16	< 0.001
Q5	122	27	75	75	30.67	< 0.001
Q6	31	119	75	75	49.39	< 0.001
Q7	24	126	75	75	69.12	< 0.001
Q8	54	96	75	75	11.64	0.001
Q9	113	37	75	75	20.48	< 0.001
Q10	109	41	75	75	16.48	< 0.001
Q11	130	20	75	75	53.33	< 0.001

DISCUSSION

This study evaluated the prevalence of abnormal vaginal discharge (AVD) among female allied health sciences students and explored their knowledge, attitudes, and practices regarding the condition. The findings indicate a high self-reported prevalence, with over three-fourths of students experiencing AVD at some point. This result

is consistent with studies conducted in Indonesia and Riyadh, which similarly reported a high burden of symptoms among young women (9,10). These findings highlight AVD as not only a common gynecological concern but also a sensitive issue often managed privately without timely professional consultation. The high frequency of reported symptoms underscores the

considerable impact of AVD on physical comfort and psychological well-being in this age group.

A critical finding of this study is the gap between general awareness and actionable knowledge. While students demonstrated strong recognition of poor hygiene as a contributing factor and expressed confidence in consulting physicians as the most effective management strategy, specific preventive practices were lacking. Only one-third of students rejected the use of ineffective home remedies, and awareness regarding basic hygiene practices, such as frequent changing of underwear was limited. This knowledge-practice gap may reflect an over-reliance on professional healthcare services, with less emphasis on self-care measures. Such dependency creates a cycle where preventable hygiene-related issues persist, leading to repeated symptoms, increased psychological stress, and avoidable healthcare utilization. The results, therefore, underscore the importance of targeted educational interventions that go beyond broad awareness. Effective programs should emphasize practical, daily preventive behaviors, including intimate hygiene practices, appropriate clothing, and the avoidance of unproven self-treatment methods. Similar recommendations have been made in other regional studies, which highlighted the effectiveness of tailored health education in reducing misconceptions and improving reproductive health literacy (10).

Despite its strengths, including a focused population and use of validated statistical analysis, this study has several limitations. The modest sample size (n=150) limits the generalizability of findings, and the cross-sectional design restricts causal inferences. Moreover, reliance on self-administered questionnaires introduces the potential for self-report and social desirability biases. Future studies should consider larger, more diverse populations and employ longitudinal or interventional designs to assess the effectiveness of educational initiatives over time. Comparative studies between students in health-related and non-health disciplines may also provide deeper insights into the influence of academic background on reproductive health literacy.

CONCLUSION:

This study highlights that abnormal vaginal discharge is common among young female college students, yet gaps in awareness and understanding persist. While students generally recognize the need for medical consultation, misconceptions and limited knowledge of preventive practices remain. The findings emphasize the need for targeted health education programs that focus on distinguishing normal from abnormal discharge and promoting proactive reproductive health behaviors to safeguard long-term well-being.

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