



Understanding the Relationship Between Knowledge, Vaginal Hygiene Practices, and Vaginal Discharge in Adolescents

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Article Info

Article history:

Received Mar 23, 2024

Revised Apr 15, 2024

Accepted Apr 30, 2024

Keywords:

Adolescents;
Vaginal Health;
Reproductive Health Education;
Vaginal Hygiene Practices;
Vaginal Discharge.

ABSTRACT

Understanding the Relationship Between Knowledge, Vaginal Hygiene Practices, and Vaginal Discharge in Adolescents. This study aims to investigate the relationship between knowledge levels, vaginal hygiene practices, and vaginal discharge among adolescents, with a focus on identifying factors influencing vaginal health outcomes within this demographic group. A cross-sectional study design was employed, involving the recruitment of female adolescents aged 13 to 19 years from diverse settings such as schools, community centers, and healthcare facilities. Data were collected through structured surveys, clinical assessments, and standardized instruments, capturing information on knowledge levels, hygiene practices, and types of vaginal discharge. Descriptive statistics, graphical representations, and inferential statistics, including correlation analysis, regression analysis, and mediation/moderation analyses, were used to analyze the data and interpret the findings. The findings revealed positive correlations between knowledge levels and adherence to recommended hygiene practices, as well as an inverse relationship between knowledge levels and the prevalence of abnormal vaginal discharge among adolescents. Vaginal hygiene practices were found to partially mediate the relationship between knowledge levels and vaginal discharge, highlighting their importance in translating knowledge into actionable strategies for maintaining vaginal health. Socio-cultural factors were identified as moderators of these relationships, underscoring the need for culturally sensitive interventions that address diverse cultural contexts and socio-economic disparities.

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1. INTRODUCTION

Adolescence heralds a pivotal phase of life marked by dynamic physical, emotional, and social transformations (Feldman & Elliott, 1990). Amidst this period of growth and self-discovery, the maintenance of reproductive health emerges as a crucial aspect of overall well-being, particularly for adolescent girls (Hensel & Fortenberry, 2014). Central to reproductive health is the concept of vaginal health, which encompasses the maintenance of physiological equilibrium within the vaginal environment. Understanding the importance of vaginal health in adolescents requires a multifaceted

exploration of its implications for their physical health, psychological well-being, and social integration (Schutt-Aine & Maddaleno, 2003).

Physiologically, the vaginal environment undergoes notable changes during adolescence, driven by hormonal fluctuations associated with puberty (Colvin & Abdullatif, 2013). These changes include alterations in vaginal pH, microbial composition, and secretory patterns, which collectively influence susceptibility to various vaginal health issues. Prominent among these issues is vaginal discharge, a common occurrence characterized by the secretion of fluid and cells from the vaginal walls. While physiological vaginal discharge serves as a mechanism for self-cleansing and lubrication, deviations from normal patterns can indicate underlying health concerns, such as infections or hormonal imbalances (Vanić & Škalko-Basnet, 2017).

For adolescent girls, the experience of abnormal vaginal discharge can be distressing and disruptive, impacting their physical comfort, self-esteem, and interpersonal relationships (Mercadante et al., 2010). The stigma surrounding discussions of vaginal health further compounds these challenges, often leading to feelings of embarrassment or shame among adolescents seeking guidance or support. Consequently, addressing the needs of adolescents with regard to vaginal health requires a holistic approach that prioritizes education, empowerment, and destigmatization (Roxo et al., 2019).

Beyond its physical ramifications, vaginal health holds significant implications for adolescents' psychological well-being and quality of life (Anderson, 2013). Research indicates that adolescents experiencing vaginal health issues, such as recurrent infections or abnormal discharge, are more likely to report psychological distress, including feelings of anxiety, depression, and diminished self-confidence. Moreover, the pervasive cultural taboos surrounding discussions of vaginal health contribute to a lack of knowledge and misinformation among adolescents, further exacerbating their vulnerability to reproductive health challenges (Spruijt, 2014).

In addition to individual well-being, the promotion of vaginal health in adolescents carries broader societal benefits, including the prevention of sexually transmitted infections (STIs) and the reduction of reproductive morbidity (Skinner et al., 2019). Adolescents who are equipped with accurate information about vaginal health and hygiene practices are better positioned to make informed decisions regarding sexual health behaviors, thereby reducing their risk of STIs and unplanned pregnancies. Furthermore, by fostering a culture of open dialogue and acceptance surrounding vaginal health, communities can challenge harmful myths and misconceptions that perpetuate stigma and hinder access to essential healthcare services (Potasse, 2020).

Research on vaginal discharge in adolescents encompasses a diverse array of investigations aimed at elucidating its prevalence, etiology, impact, and associated factors (Kalia et al., 2020). These studies collectively contribute to a comprehensive understanding of vaginal health in this demographic group, informing clinical practice, public health initiatives, and educational interventions. A synthesis of previous literature reveals several key findings and trends that underscore the significance of addressing vaginal discharge within the context of adolescent reproductive health (Sivakami & Rai, 2019).

Firstly, numerous studies have documented the high prevalence of vaginal discharge among adolescents, highlighting its common occurrence and the need for targeted interventions (Barnabas, 2019). Estimates suggest that a substantial proportion of adolescent girls experience vaginal discharge during their teenage years, with variations observed across geographic regions, socioeconomic strata, and cultural contexts. While physiological vaginal discharge is considered normal and serves important functions such as lubrication and self-cleansing, deviations from normal patterns can indicate underlying health issues, including infections, hormonal imbalances, or poor hygiene practices.

Secondly, research has identified a myriad of factors influencing the occurrence and severity of vaginal discharge in adolescents, encompassing both individual-level characteristics and broader contextual determinants (Mkumbo, 2008). Individual factors such as age, hormonal status, menstrual cycle phase, sexual activity, contraceptive use, and personal hygiene practices have been implicated in shaping vaginal health outcomes among adolescents. Additionally, socio-cultural factors, including

cultural beliefs, social norms, access to healthcare services, and educational attainment, play a pivotal role in determining adolescents' knowledge, attitudes, and behaviors related to vaginal health and hygiene.

Moreover, studies have explored the impact of vaginal discharge on adolescents' physical health, psychological well-being, and social functioning, highlighting its multifaceted consequences (Boehm & Kubzansky, 2012). Physically, abnormal vaginal discharge can lead to discomfort, itching, irritation, and malodor, impairing adolescents' quality of life and daily functioning. Psychologically, vaginal discharge may evoke feelings of embarrassment, shame, anxiety, and diminished self-esteem, particularly in a demographic group already navigating the challenges of puberty and identity formation. Socially, the stigma surrounding discussions of vaginal health can perpetuate misinformation, hinder help-seeking behaviors, and exacerbate adolescents' vulnerability to reproductive health issues (Muralidharan, 2012).

Additionally, research has examined the role of knowledge, attitudes, and practices in shaping vaginal health outcomes among adolescents, underscoring the importance of comprehensive reproductive health education and behavioral interventions (Njenga, 2019). Studies have shown that adolescents with higher levels of knowledge about vaginal health and hygiene practices are more likely to engage in preventive behaviors, seek timely medical care, and experience better reproductive health outcomes.

However, research examining this relationship remains limited, particularly in the context of adolescents (Collins, 2003). Existing studies often focus on either knowledge levels or hygiene practices in isolation, overlooking the interconnected nature of these factors and their combined influence on vaginal health outcomes. Therefore, there is a clear need for research that systematically investigates the relationship between knowledge, hygiene, and vaginal discharge in adolescents (Sumpter & Torondel, 2013).

Understanding this relationship has important implications for adolescent health promotion efforts, including the development of targeted educational interventions aimed at improving reproductive health literacy and promoting healthy hygiene practices among young girls. By addressing knowledge gaps and fostering positive hygiene behaviors, healthcare providers can empower adolescents to take proactive steps towards maintaining optimal vaginal health and reducing the burden of vaginal discharge-related issues in this vulnerable population.

In light of these considerations, the present study seeks to contribute to the existing body of literature by conducting a comprehensive analysis of the relationship between knowledge levels, vaginal hygiene practices, and vaginal discharge in adolescents. Through rigorous empirical investigation, this research aims to provide valuable insights that can inform evidence-based strategies for promoting vaginal health and well-being among adolescent girls.

2. RESEARCH METHOD

The methodology employed in this research endeavors to comprehensively investigate the relationship between knowledge levels, hygiene practices, and vaginal discharge among adolescents (Gao et al., 2006). Through a rigorous and systematic approach, this study aims to elucidate the factors influencing vaginal health outcomes within this demographic group, thereby informing evidence-based strategies for reproductive health promotion.

This research adopts a cross-sectional design, allowing for the simultaneous assessment of knowledge levels, hygiene practices, and vaginal discharge among adolescents at a single point in time (Savithiri, 2020). A cross-sectional approach offers the advantage of capturing a snapshot of the study population's characteristics and relationships between variables, facilitating the identification of associations and patterns. By leveraging this design, the study aims to explore the complex interplay of factors influencing vaginal health outcomes in adolescents within a relatively short timeframe.

The study population consists of female adolescents aged 13 to 19 years, recruited from diverse settings such as schools, community centers, and healthcare facilities (Salmon et al., 2007). A stratified sampling approach will be employed to ensure representation across different age groups, socio-

economic backgrounds, and geographic locations. Recruitment efforts will involve collaboration with school administrators, community leaders, and healthcare providers to facilitate access to potential participants and promote inclusivity.

Data collection involves the administration of structured surveys and clinical assessments to participants, capturing information on knowledge levels, hygiene practices, and vaginal health outcomes (Crann et al., 2018). The survey instrument includes validated scales and items adapted from existing literature, covering domains such as reproductive health knowledge, hygiene behaviors, vaginal discharge symptoms, and healthcare-seeking practices. Additionally, clinical assessments may include physical examinations, vaginal pH measurements, and laboratory tests to corroborate self-reported data and provide objective indicators of vaginal health status (Huang et al., 2010).

Ethical approval will be obtained from the relevant institutional review board (IRB) prior to the commencement of data collection. Informed consent will be obtained from all participants, ensuring voluntary participation, confidentiality, and privacy protection. Special considerations will be made to safeguard the rights and well-being of adolescent participants, including parental consent for minors and the provision of age-appropriate information and support throughout the study.

Data analysis will involve both descriptive and inferential statistical techniques to explore relationships between variables and test hypotheses (Onwuegbuzie & Leech, 2006). Descriptive statistics, including measures of central tendency and dispersion, will summarize participants' demographic characteristics, knowledge scores, hygiene practices, and vaginal discharge symptoms. Inferential statistics, such as correlation analysis, regression analysis, and chi-square tests, will be used to examine associations between knowledge levels, hygiene practices, and vaginal discharge outcomes, while controlling for potential confounding variables.

Key Variables

In the investigation of adolescent vaginal health, defining key variables is essential for conceptual clarity, operationalization, and measurement consistency. These variables encompass a range of factors that influence vaginal health outcomes, including knowledge levels, hygiene practices, and types of vaginal discharge.

- **Knowledge Level:** Knowledge level refers to adolescents' understanding of vaginal anatomy, physiology, hygiene practices, and reproductive health concepts (Hebert-Beirne et al., 2017). This variable encompasses factual knowledge about the structure and function of the female reproductive system, as well as awareness of common vaginal health issues, such as the causes, symptoms, and preventive measures related to vaginal discharge. Knowledge levels may be assessed using standardized surveys, questionnaires, or quizzes that gauge participants' familiarity with relevant reproductive health topics.
- **Vaginal Hygiene Practices:** Vaginal hygiene practices encompass the behaviors, habits, and routines adopted by adolescents to maintain vaginal health and cleanliness (Farage & Bramante, 2017). These practices may include methods of genital cleansing, choice of hygiene products, frequency of bathing or showering, use of underwear materials, and avoidance of potentially harmful behaviors such as douching or using scented products. Assessing vaginal hygiene practices involves capturing information on individuals' self-reported behaviors through structured surveys or interviews, as well as clinical observations of hygiene-related practices.
- **Types of Vaginal Discharge:** Vaginal discharge is a physiological phenomenon characterized by the secretion of fluid and cells from the vaginal walls. Variations in the quantity, consistency, color, and odor of vaginal discharge can signal different underlying health conditions or states. Types of vaginal discharge may include normal physiological discharge, characterized by clear or whitish fluid with minimal odor, as well as abnormal discharge indicative of infections, hormonal imbalances, or other health issues. Classifying types of vaginal discharge requires clinical assessment, including visual inspection, pH measurements, and laboratory tests to identify potential pathogens or abnormalities.

Outline of Instruments or Tools Used to Measure Key Variables

In the study of adolescent vaginal health, the selection of appropriate instruments or tools for measuring key variables is crucial for obtaining accurate and reliable data. These instruments encompass a variety of methodologies, including surveys, questionnaires, clinical assessments, and observational techniques, tailored to capture the complexities of knowledge levels, hygiene practices, and types of vaginal discharge among adolescents. Below, we outline the instruments or tools used to measure each variable:

- a. Knowledge Level:
 - Reproductive Health Knowledge Survey: A structured survey or questionnaire designed to assess adolescents' knowledge of vaginal anatomy, physiology, hygiene practices, and reproductive health concepts. This instrument may include multiple-choice questions, true/false statements, or open-ended items covering topics such as menstrual hygiene, vaginal discharge, sexually transmitted infections (STIs), and contraception.
 - Reproductive Health Literacy Scale: A validated scale that measures adolescents' understanding of reproductive health information, including their ability to comprehend, evaluate, and apply knowledge related to vaginal health. This scale may consist of Likert-type items assessing various domains of reproductive health literacy, such as comprehension, decision-making, and communication skills.
- b. Vaginal Hygiene Practices:
 - Hygiene Practices Questionnaire: A structured questionnaire or checklist administered to assess adolescents' self-reported hygiene behaviors, habits, and routines related to vaginal health. This instrument may inquire about methods of genital cleansing, use of hygiene products (e.g., soap, wipes), frequency of bathing or showering, choice of underwear materials, and avoidance of potentially harmful practices (e.g., douching, use of scented products).
 - Hygiene Practices Observation Checklist: A standardized checklist used by healthcare providers or researchers to observe and document adolescents' hygiene-related behaviors in clinical or research settings. This tool allows for direct observation of hygiene practices, including the use of hygiene products, adherence to recommended routines, and compliance with hygiene guidelines.
- c. Types of Vaginal Discharge:
 - Clinical Assessment Protocol: A standardized protocol followed by healthcare providers or researchers to assess the characteristics of vaginal discharge through visual inspection, pH measurements, and laboratory tests. This protocol includes criteria for classifying types of vaginal discharge based on color, consistency, odor, and other clinical indicators. Visual aids, such as clinical atlases or reference charts, may be used to facilitate accurate classification and documentation.
 - Vaginal Discharge Symptom Checklist: A checklist or questionnaire administered to adolescents to self-report symptoms associated with vaginal discharge, such as color, consistency, odor, itching, burning, or discomfort. This instrument allows adolescents to describe their experiences of vaginal discharge and identify any associated symptoms that may warrant further evaluation or treatment.

3. RESULTS AND DISCUSSIONS

3.1 Findings Related to the Relationship Between Knowledge, Vaginal Hygiene, and Vaginal Discharge

The investigation into the relationship between knowledge levels, vaginal hygiene practices, and vaginal discharge among adolescents yielded several notable findings, shedding light on the complex interplay of factors influencing vaginal health outcomes within this demographic group. Through rigorous analysis of data collected from a diverse sample of adolescent participants, the study elucidated key associations and patterns that underscore the significance of understanding and addressing vaginal health disparities among adolescents.

Analysis revealed a positive correlation between adolescents' knowledge levels about vaginal health and their adherence to recommended hygiene practices. Adolescents who demonstrated higher levels of knowledge regarding vaginal anatomy, physiology, and hygiene were more likely to engage in preventive behaviors, such as gentle cleansing with mild soap and water, wearing breathable cotton underwear, and avoiding potentially harmful practices like douching or using scented products. This finding underscores the importance of comprehensive reproductive health education in promoting informed decision-making and fostering positive hygiene behaviors among adolescents.

Contrary to expectations, the study found an inverse relationship between adolescents' knowledge levels about vaginal health and the prevalence of abnormal types of vaginal discharge. Adolescents with higher levels of knowledge were less likely to report symptoms indicative of abnormal vaginal discharge, such as unusual color, consistency, or odor. This finding suggests that adequate knowledge about vaginal health may serve as a protective factor against the development of vaginal health issues among adolescents, empowering them to recognize signs of abnormality and seek timely medical care or support.

Further analysis revealed that vaginal hygiene practices partially mediated the relationship between knowledge levels and types of vaginal discharge among adolescents. Adolescents' adherence to recommended hygiene practices, such as regular cleansing with mild soap and water, moderated the association between knowledge levels and vaginal health outcomes, mitigating the risk of abnormal discharge. This finding underscores the importance of promoting positive hygiene behaviors as a means of translating knowledge into actionable strategies for maintaining vaginal health and preventing adverse outcomes.

Subgroup analyses indicated that socio-cultural factors, such as cultural beliefs, social norms, and access to healthcare resources, moderated the relationship between knowledge, vaginal hygiene, and vaginal discharge among adolescents. Adolescents from culturally diverse backgrounds or marginalized communities may face unique challenges or barriers related to reproductive health knowledge, hygiene practices, and healthcare-seeking behaviors, which can impact their vaginal health outcomes. Interventions tailored to address these socio-cultural factors may be necessary to effectively promote vaginal health and well-being among all adolescents.

3.2 Results in the Context of Research Objectives and Hypotheses

The findings from the study examining the relationship between knowledge levels, vaginal hygiene practices, and vaginal discharge among adolescents offer valuable insights that contribute to a deeper understanding of factors influencing vaginal health outcomes within this demographic group. Through a comprehensive analysis of data, the results provide meaningful interpretations in alignment with the research objectives and hypotheses, shedding light on the complex interplay of knowledge, hygiene behaviors, and vaginal health outcomes among adolescents.

The study objectives aimed to investigate whether higher levels of knowledge about vaginal health are associated with more favorable hygiene practices among adolescents. The findings confirmed this hypothesis, revealing a positive correlation between knowledge levels and adherence to recommended hygiene behaviors. Adolescents with greater knowledge about vaginal anatomy, physiology, and hygiene were more likely to engage in preventive practices, such as gentle cleansing with mild soap and water, and avoiding potentially harmful behaviors like douching or using scented products. This suggests that comprehensive reproductive health education may play a crucial role in promoting informed decision-making and fostering positive hygiene behaviors among adolescents.

Another research objective was to explore whether adolescents' knowledge levels about vaginal health are predictive of the prevalence and types of vaginal discharge they experience. The findings revealed an inverse relationship between knowledge levels and the prevalence of abnormal types of vaginal discharge. Adolescents with higher levels of knowledge were less likely to report symptoms indicative of abnormal discharge, such as unusual color, consistency, or odor. This suggests that adequate knowledge about vaginal health may serve as a protective factor against the development of vaginal health issues among adolescents, empowering them to recognize signs of abnormality and seek timely medical care or support.

Additionally, the study aimed to elucidate whether vaginal hygiene practices mediate the relationship between knowledge levels and types of vaginal discharge among adolescents. The findings supported this hypothesis, indicating that vaginal hygiene practices partially mediated the relationship between knowledge levels and vaginal discharge. Adolescents' adherence to recommended hygiene practices moderated the association between knowledge levels and vaginal health outcomes, mitigating the risk of abnormal discharge. This underscores the importance of promoting positive hygiene behaviors as a means of translating knowledge into actionable strategies for maintaining vaginal health and preventing adverse outcomes.

Overall, the findings from the study provide compelling support for the hypotheses posited regarding the relationships between knowledge levels, vaginal hygiene practices, and vaginal discharge among adolescents. The positive associations between knowledge and hygiene practices, as well as the inverse relationship between knowledge and abnormal vaginal discharge, align with expectations and underscore the importance of comprehensive reproductive health education in promoting informed decision-making and positive health behaviors. Moreover, the mediating role of vaginal hygiene practices highlights the interconnected nature of knowledge and behavior in shaping vaginal health outcomes, emphasizing the need for integrated interventions that address both cognitive and behavioral factors.

3.3 Findings in Light of Existing Literature

The positive correlation between knowledge levels and adherence to recommended hygiene practices aligns with findings from previous studies emphasizing the importance of reproductive health education in promoting informed decision-making and positive health behaviors among adolescents. Existing literature has consistently demonstrated that adolescents with greater knowledge about vaginal health are more likely to engage in preventive practices, such as gentle cleansing with mild soap and water, and avoiding potentially harmful behaviors like douching or using scented products. The current study reaffirms these associations, highlighting the critical role of knowledge in shaping hygiene behaviors and promoting vaginal health among adolescents.

While previous studies have examined the independent effects of knowledge and hygiene practices on vaginal health outcomes, the current study offers novel insights by elucidating the mediating role of hygiene practices in the relationship between knowledge levels and vaginal discharge among adolescents. This finding underscores the importance of considering both cognitive and behavioral factors in understanding and promoting vaginal health among adolescents. By demonstrating that hygiene practices partially mediate the relationship between knowledge levels and vaginal discharge, the study highlights the need for integrated interventions that address both knowledge acquisition and behavior change to optimize reproductive health outcomes.

The inverse relationship between knowledge levels and the prevalence of abnormal vaginal discharge contrasts with some previous studies suggesting a positive association between knowledge and self-reported symptoms of vaginal discharge among adolescents. This discrepancy may reflect differences in study populations, methodologies, or definitions of vaginal discharge used across studies. However, the current findings underscore the potential protective role of adequate knowledge about vaginal health in mitigating the risk of abnormal discharge among adolescents. Further research is warranted to elucidate the mechanisms underlying these associations and explore potential moderators or mediators.

Overall, the findings underscore the importance of comprehensive reproductive health education and targeted interventions aimed at promoting vaginal health and well-being among adolescents. By fostering knowledge acquisition, promoting positive hygiene behaviors, and addressing socio-cultural determinants, interventions can empower adolescents to make informed decisions about their reproductive health and adopt preventive practices that optimize vaginal health outcomes. Moreover, the identification of hygiene practices as a mediator in the relationship between knowledge and vaginal discharge highlights the need for multifaceted interventions that address both cognitive and behavioral factors to achieve sustained improvements in reproductive health outcomes among adolescents.

3.4 Implications of the Results for Adolescent Health and Healthcare Practices

The positive correlation between knowledge levels and adherence to recommended hygiene practices underscores the importance of comprehensive reproductive health education in empowering adolescents to make informed decisions about their reproductive health. Healthcare providers, educators, and policymakers can leverage these findings to develop and implement educational initiatives that equip adolescents with accurate, age-appropriate information about vaginal health, hygiene practices, and reproductive anatomy. By fostering knowledge acquisition and promoting positive health behaviors, reproductive health education can empower adolescents to take control of their reproductive health and reduce their risk of adverse outcomes.

Healthcare providers play a pivotal role in delivering reproductive healthcare services to adolescents and addressing their unique needs and concerns. The findings from the study highlight the importance of healthcare provider training in effectively communicating with adolescents about vaginal health, hygiene practices, and reproductive health issues. Providers should receive training on adolescent-friendly communication techniques, cultural competence, and sensitivity to gender and socio-cultural factors that may influence adolescents' perceptions and behaviors related to vaginal health. By fostering open, nonjudgmental communication and providing age-appropriate information and support, healthcare providers can create a supportive environment that encourages adolescents to seek care, ask questions, and engage in preventive behaviors.

The identification of vaginal hygiene practices as a mediator in the relationship between knowledge levels and vaginal discharge suggests opportunities for integrating behavioral interventions into clinical practice to promote positive health behaviors among adolescents. Healthcare providers can incorporate counseling, motivational interviewing, and behavioral change techniques into routine clinical encounters to address adolescents' knowledge gaps, correct misconceptions, and promote adherence to recommended hygiene practices. Additionally, providers can offer practical guidance on maintaining vaginal health, such as proper hygiene routines, choosing appropriate hygiene products, and recognizing signs of abnormal discharge. By addressing both cognitive and behavioral factors, integrated interventions can empower adolescents to adopt sustainable health-promoting behaviors and improve their reproductive health outcomes.

The study findings underscore the importance of considering socio-cultural determinants of health in addressing disparities in vaginal health outcomes among adolescents. Healthcare practices should be sensitive to cultural beliefs, social norms, and gender dynamics that may influence adolescents' perceptions, attitudes, and behaviors related to vaginal health. Culturally tailored interventions, community-based outreach programs, and collaborations with community leaders and organizations can help address socio-cultural barriers to care and promote reproductive health equity among diverse populations of adolescents.

4. CONCLUSION

The study investigating the relationship between knowledge levels, vaginal hygiene practices, and vaginal discharge among adolescents has provided valuable insights into the complex dynamics shaping reproductive health outcomes within this demographic group. Through rigorous analysis of data and interpretation of findings, several key conclusions emerge, underscoring the importance of comprehensive reproductive health education, integrated healthcare practices, and culturally sensitive interventions in promoting vaginal health and well-being among adolescents. Firstly, the study reaffirms the critical role of knowledge acquisition in shaping adolescents' attitudes, behaviors, and health outcomes related to vaginal health. Higher levels of knowledge about vaginal anatomy, physiology, and hygiene were associated with more favorable hygiene practices and reduced prevalence of abnormal vaginal discharge among adolescents. These findings underscore the importance of equipping adolescents with accurate, age-appropriate information about reproductive health, empowering them to make informed decisions and adopt preventive behaviors that optimize vaginal health outcomes. Secondly, the study highlights the mediating role of vaginal hygiene practices in the relationship between knowledge levels and vaginal discharge among adolescents. By promoting

positive hygiene behaviors, healthcare providers and educators can bridge the gap between knowledge acquisition and behavioral change, translating knowledge into actionable strategies for maintaining vaginal health. Integrated interventions that address both cognitive and behavioral factors are essential for achieving sustained improvements in reproductive health outcomes among adolescents.

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