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Analysis of Preventive Behavior of Leucorrhea in Hormonal Injection Contraceptive Users at Rappokalling Health Center, Makassar City

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ABSTRACT

Vaginal discharge is a common reproductive health issue that requires prompt and appropriate management to prevent complications such as pruritus, genital edema, dysuria, and lower abdominal or back pain. This study aimed to examine factors associated with vaginal discharge prevention behavior among injectable hormonal contraceptive users. A cross-sectional analytical design was employed in the Rappokalling Community Health Center area, Makassar, from September to December 2023. A total of 63 respondents met the inclusion criteria and participated in the study. Data were collected using a structured questionnaire measuring four key variables: self-motivation, perceived benefits, interpersonal influence, and commitment to action. Statistical analysis was conducted using SPSS software with chi-square tests to identify associations between these variables and preventive behavior. Findings revealed significant associations between prevention behavior and both self-motivation ($p = 0.002$) and perceived benefits ($p = 0.005$). While interpersonal influence ($p = 0.078$) and commitment to action ($p = 0.309$) were not statistically significant, their potential behavioral influence remained evident. Women with higher self-motivation and perceived benefits tended to adopt better preventive practices. Additionally, those influenced by supportive interpersonal environments demonstrated stronger prevention behaviors, whereas respondents with lower commitment to action showed weaker engagement in preventive measures. These findings highlight the importance of strengthening intrinsic motivation and perceived benefit to enhance vaginal discharge prevention among injectable contraceptive users.

INTRODUCTION

Vaginal discharge (fluor albus) is a common gynecological condition experienced by women of reproductive age. According to the World Health Organization (WHO), approximately 75% of women worldwide have experienced vaginal discharge at least once in their lifetime. In Indonesia, this prevalence is even higher, with nearly 90% of women at risk due to the country's tropical climate, which creates a warm and humid environment conducive to the growth of microorganisms, particularly fungi, in the reproductive tract (Permatasari, 2018). Genter (2012) reported that 75% of Indonesian women experience vaginal discharge at least once, and 45% experience it two or more times throughout their lives.

Physiologically, vaginal discharge is a clear, odorless fluid secreted by glands in the cervix and vaginal wall to maintain cleanliness and moisture. However, pathological discharge is often caused by infections or hormonal imbalances, and may be accompanied by symptoms

such as itching, burning sensation, dysuria, genital swelling, or pelvic discomfort (S, 2017). One of the contributing factors to pathological vaginal discharge is the use of hormonal contraceptives, especially injectable types, which can increase the incidence of discharge by up to 50% compared to non-hormonal methods (Hapsari et al., 2012).

The most common pathogen associated with abnormal vaginal discharge is Candida albicans, a fungus that thrives in acidic environments. The use of hormonal contraceptives containing synthetic estrogen and progesterone can alter the vaginal microenvironment by increasing glycogen content, which is metabolized by Lactobacillus into lactic acid, subsequently lowering the vaginal pH. This change disrupts the balance of the normal vaginal flora and promotes the overgrowth of Candida albicans (Saifuddin, n.d.; et al, 2011; Purbowati, 2021).

Several behavioral and environmental factors have also been linked to the occurrence of vaginal discharge, including poor genital hygiene, frequent use of tight-fitting clothing, use of panty liners, and inappropriate use of vaginal cleansing products. The use of vaginal cleansers, for example, can disturb the pH balance and reduce beneficial bacteria, thereby increasing susceptibility to infection (H.F., 2015; A, n.d.). Wearing tight pants can inhibit air circulation, promote moisture retention, and facilitate microbial proliferation. Additionally, poor personal hygiene in the genital area may enable the rapid growth of bacteria, parasites, and viruses. The prolonged use of panty liners can also alter the microbial flora by increasing Eubacterium species and decreasing Lactobacillus species, which play a protective role in the vaginal ecosystem (Kementerian Kesehatan RI, 2018; D, 2022).

Preventive behaviors related to vaginal discharge are essential, particularly among family planning acceptors using hormonal contraceptives, as their risk may be higher due to hormonal influences. Promoting optimal reproductive health among these women requires increased awareness and behavioral modification strategies. Research has shown a significant relationship between the use of hormonal contraceptives and women's knowledge of vaginal hygiene practices. A study by Syahlani et al. (2013) indicated that lack of awareness and inadequate behavior toward vaginal care contributed to the higher incidence of discharge among hormonal contraceptive users. Siregar (2019) further observed that 87 women using hormonal contraceptives reported experiencing abnormal vaginal discharge. Other studies emphasized the role of education level and geographic access to health services as important determinants of women's health behavior and knowledge (Badaryati, 2012; Handayani, 2021). Based on these considerations, this study aims to analyze preventive behavior toward vaginal discharge among acceptors of injectable hormonal contraceptives at the Rappokalling Community Health Center, Makassar City.

METHODS

This study employed an analytical research design with a cross-sectional approach. The objective of this research was to examine the factors associated with vaginal discharge prevention behavior among women who are injectable hormonal contraceptive acceptors at the Rappokalling Community Health Center, Makassar City. The study population comprised all women who received injectable hormonal contraception services at the Rappokalling Community Health Center between The study population comprised all women who received injectable hormonal contraception services at the Rappokalling Community Health Center between September to December 2023, totaling 134 individuals. The sample was determined using a simple random sampling technique, with a total of 50% of the population selected, which was considered adequate to represent the entire population. The inclusion criteria were: (1) women who used either one-month or three-month injectable contraceptives, (2) women

who were able to communicate and complete the questionnaire appropriately, and (3) women who were willing to participate in the study as respondents. The dependent variable in this study was vaginal discharge prevention behavior, while the independent variables were the type of injectable hormonal contraception, specifically one-month and three-month formulations.

RESULTS

Characteristics of Respondents

Table 1. Frequency Distribution of Characteristics of KB Injection Acceptors According to Age and Occupation at Rappokalling Community Health Center, Makassar City

Variable		n	%
Age (years)	<20	4	6,3
	20-35	37	65,1
	>35	22	34,9
Education	No formal education	5	7,9
	Junior high school	10	15,9
	Senior high school	42	66,7
	Bachelor's	6	9,5
Occupational status	Farmers	0	0,0
	Housewives (IRT)	63	100,0
	Self employed	0	0,0
	Civil servants	0	0,0
Duration of contraceptive use	<1 year	29	46,0
	>1 year	34	54,0

Source: Primary Data, 2023

Based on the data, it was found that the characteristics of injectable contraceptive acceptors were based on age, the most were aged 24-35 years, namely 37 people (65.1%) and the least were aged <20 years, namely 4 people (6.3%). Age influences a person's thinking patterns and comprehension ability. As one gets older, one's grasping power and thought patterns will also develop so that the knowledge one obtains will get better. (Wahyuni WNM, no date) Increasing a person's age can have an effect on increasing the knowledge they obtain, At a certain age, age can influence a person's level of knowledge to decrease.

Based on table 1, the majority of mothers receiving contraceptive injections have completed high school education, namely 42 people (66.7%), 10 people have junior high school education (15.9%) and 5 (7.9%) have no education. A person's education greatly influences the learning process, the higher a person's education, the easier it is for that person to receive information. Even though the education level of mothers receiving birth control injections is mostly high school, this is different from the knowledge of mothers accepting family planning injections, all of whom know about vaginal discharge. This is because the majority of mothers receiving birth control injections who have high school education received information from various sources and are supported by personal experience.

Based on occupation, all mothers receiving birth control injections had housewife jobs, namely 63 people (100%). Increasing economic status will have an impact on increasing access of mothers receiving injectable contraceptives to information and health services.

Based on the length of use of 25 people who used hormonal injections 1 month for > 1 year, 25 people (58.1%). Of the 11 people who used 3 month hormonal injections for > 1 year, 11 people (55.0). This is in accordance with what Hartanto (2014) stated that people prefer rational contraceptives for the purpose of spacing pregnancies. Injectable contraceptives can be used for 2-4 years or according to the desired pregnancy interval. This proves that injectable contraception is still the favorite contraceptive for acceptors to prevent pregnancy or regulate the spacing of subsequent pregnancies.

Table 2. Bivariate analysis

Varables		Vaginal Discharge Behaviour				Total		*p-Value (<0,05)*
		Good		Bad				
		n	%	n	%	n	%	
Motivation	Low	11	28,9	27	71,1	38	100	0.002
	Tall	17	68,0	8	32,0	25	100	
Perceifed Benefits	Low	11	29,7	26	70,3	37	100	0.005
	Tall	17	65,4	9	34,6	26	100	
Interpersonal Influence	Low	16	37,2	27	62,8	43	100	0.078
	Tall	12	60,0	8	40,0	20	100	
Commitment to Action	Weak	20	41,7	28	58,3	48	100	0.309
	Strong	8	53,3	7	46,7	15	100	
Total		28	100	35	100	63	100	

Source: Primary Data, 2023

Based on the data presented in Table 2, among the 63 respondents with low motivation, 11 individuals (28.9%) demonstrated good vaginal discharge prevention behavior, while the majority, 27 individuals (71.1%), exhibited poor preventive behavior. In contrast, among those with high motivation, 17 individuals (68%) showed good preventive behavior, whereas 8 individuals (32%) displayed poor behavior. Statistical analysis yielded a p-value of 0.002, which is lower than the significance level of $\alpha = 0.05$. This result indicates a statistically significant relationship between motivation and vaginal discharge prevention behavior among injectable hormonal contraceptive acceptors at the Rappokalling Community Health Center in Makassar City.

Similarly, when examining the perceived benefits variable, it was found that among those with high perceived benefits, 17 respondents (65.4%) engaged in good vaginal discharge prevention behavior. Conversely, among those with low perceived benefits, only 11 respondents (29.7%) exhibited good preventive behavior, while the majority, 26 individuals (70.3%), demonstrated poor behavior. The statistical test showed a p-value of 0.005, which is also below the α threshold of 0.05. These findings suggest a significant association between perceived benefits and vaginal discharge prevention behavior in the study population.

Regarding the interpersonal influence variable, the data showed that among respondents with high interpersonal influence, 12 individuals (60.0%) practiced good preventive behavior, and 8 individuals (40.0%) did not. Among those with low interpersonal influence, only 16 individuals (37.2%) demonstrated good behavior, while 27 individuals (62.8%) showed poor preventive behavior. However, the statistical analysis produced a p-value of 0.078, which exceeds the α level of 0.05. Therefore, there was no statistically significant relationship found between interpersonal influence and vaginal discharge prevention behavior among the contraceptive acceptors.

Lastly, in terms of commitment to action, 20 individuals (41.7%) with a weak commitment exhibited good vaginal discharge prevention behavior, whereas 28 individuals (58.3%) did not. Among those with a strong commitment to action, 8 respondents (53.3%) showed good preventive behavior, while 7 individuals (46.7%) displayed poor behavior. The resulting p-value of 0.309 indicates no statistically significant relationship between commitment to action and vaginal discharge prevention behavior in this population.

DISCUSSION

Characteristics of Respondents

Based on the age characteristics of respondents, the majority were within the age group of 20–35 years, with the youngest being 19 years and the oldest 40 years. This aligns with findings by Sari (2015), which classify this range within the reproductive age group (15–49 years), known as Pasangan Usia Subur (PUS), the primary target for the establishment of a happy and prosperous small family (NKKBS). Sari (2015) also reported a significant association between age and the incidence of candidiasis vaginalis, with individuals aged 16–35 years identified as a high-risk group. Candidiasis vaginalis, commonly known as vaginal discharge, is primarily caused by Candida species, especially C. albicans, and often results from alterations in vaginal microenvironment (Rahayu, n.d.).

In terms of education, the majority of respondents (66.7%) had completed high school. Educational attainment influences contraceptive choice among family planning acceptors. Widyaningsih (2020) demonstrated that lower education levels correlate with reduced contraceptive use, which in turn affects birth rates and spacing. Furthermore, Nurliawati and Komariah (2019) found that individuals with higher education possess greater cognitive capacity to process contraceptive information, while Siregar and Nasriah (2019) confirmed a significant relationship between educational level and success in implementing family planning programs among PUS.

Occupational data indicated that all respondents (100%) were unemployed. Occupational status influences contraceptive selection, particularly regarding income-related affordability. Injectable hormonal contraception is often favored due to its lower cost compared to non-hormonal alternatives. Sari (2015) emphasized that while work provides economic security, it also poses time constraints that may affect family dynamics, especially among employed mothers.

Regarding contraceptive methods, the most preferred option was the one-month injectable contraceptive, chosen by 68.3% of respondents. This preference is likely due to the continued reproductive aspirations of young couples and the compatibility of this method with breastfeeding. According to R (2013), one-month injectables are associated with lower rates of

amenorrhea compared to three-month injectables and allow for continued ovulation and menstruation, making them safer for lactating mothers.

Analysis of health complaints revealed that 70% of respondents experienced vaginal discharge while using injectable hormonal contraceptives. This condition may be attributed to estrogen and progesterone content in hormonal methods such as injectables, oral pills, and implants.

Factors Influencing Preventive Behavior Toward Vaginal Discharge

Self-Motivation and Preventive Behavior

Respondents with high self-motivation demonstrated better preventive behavior against vaginal discharge. Bivariate analysis indicated that among 63 hormonal injectable contraceptive users, 68% of those with high motivation practiced appropriate preventive measures, while 32% did not. A statistically significant relationship was found ($p = 0.002 < \alpha = 0.05$), indicating that motivation is a key determinant in the adoption of preventive behaviors. Many respondents exhibited low motivation, attributing vaginal discharge to the normal physiological side effects of contraceptive use. Health workers, particularly midwives, are instrumental in delivering information, education, and communication (IEC) on hygiene practices and behavioral adjustments to mitigate infection risks (Susiani Endarwati, 2020). Motivational support from healthcare providers can enhance punctuality in follow-up visits, ensuring contraceptive efficacy.

Perceived Benefits and Preventive Behavior

Respondents who perceived greater benefits from practicing preventive measures also reported better vaginal discharge prevention. Of the 63 users, 65.4% of those with high perceived benefits demonstrated good preventive behavior. The understanding that proper hygiene and preventive practices can reduce risks of infections and serious complications, such as pelvic inflammatory disease or malignancies, reinforces adherence. Sifaranjini (2013) identified candidiasis, bacterial vaginosis, and trichomoniasis as common infectious causes of vaginal discharge among women.

Interpersonal Influence and Preventive Behavior

Interpersonal influence played a pivotal role in shaping preventive behavior. Among respondents with strong interpersonal support, defined as support from family, peer groups, or influential individuals, 60% exhibited good preventive practices. These findings underscore the importance of social support systems in influencing health behavior and decision-making in contraceptive acceptors.

Action Commitment and Preventive Behavior

Contrary to other variables, commitment to action did not show a significant association with preventive behavior ($p > 0.05$). Of the 63 respondents, 41.7% with weak action commitment still exhibited good preventive practices, while 58.3% did not. Action commitment is influenced by factors such as attitudes, perceived self-efficacy, and behavioral intentions. Misconceptions regarding the use of feminine hygiene products, which can disrupt vaginal pH and flora, further complicate the relationship between action commitment and appropriate health behavior.

CONCLUSIONS

Acceptors of injectable types of hormonal birth control who have good vaginal discharge behavior have high self-motivation. Acceptors of injectable types of hormonal birth control who have good vaginal discharge because they experience high benefits. Acceptors of injectable hormonal contraceptives who behave in good vaginal discharge have high interpersonal influence. Acceptors of injectable hormonal contraceptives with poor vaginal discharge have weak commitment to action.

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