J Prima Med Sains (2024) 6(2):131-135
doi.org/10.34012/jpms.v6i2.5848

ORIGINAL ARTICLE

Using "make a match" methods for improving knowledge and preventive attitudes toward flour albus among adolescent

Nur Arfah Nasution[1]*, Nur Hamima Harahap[2], Rini Fitriani Dongoran[3]

Abstract

Reproductive health issues remain prevalent among adolescents due to limited access to information. Fluor albus is a common concern among women. Global surveys indicate that approximately 75% of women experience at least one episode of abnormal vaginal discharge during their lifetime. Promotive and preventive interventions, including targeted health education, are crucial to improve adolescents' knowledge and attitudes regarding reproductive health and hygiene. This study investigated the effectiveness of the "Make a Match" educational method in enhancing knowledge and attitudes about leukorrhea prevention among adolescent girls. This quasi-experimental pre-posttest control group study examined the impact of the "Make a Match" method. The study population comprised female adolescents in Sitinjak Sub-district, South Tapanuli Regency. A total sample of 30 participants was recruited using total sampling. Data were collected using questionnaires, posters, and leaflets. Data analysis involved paired t-tests and Wilcoxon signed-rank tests. The results of the Wilcoxon tests revealed statistically significant differences in knowledge and attitude scores before and after the intervention ($p < 0.001$ for both variables). These findings demonstrate a significant improvement in both knowledge and attitudes related to leukorrhea prevention following the "Make a Match" health education intervention ($p < 0.05$). In conclusion, this study provides evidence that the "Make a Match" health education method effectively enhances knowledge and attitudes regarding leukorrhea prevention among adolescent girls. These findings underscore the need for enhanced community-based health education programs, particularly for adolescents, focusing on reproductive health.

Keywords: adolescent, make a match method, flour albus, knowledge, attitude

Introduction

Adolescents frequently experience issues with their reproductive systems due to insufficient knowledge about reproductive health. Teenagers often ignore problems related to their reproductive organs.[1] Preventive and promotive efforts are needed for teenagers to have good behavior in keeping their reproductive organs healthy. Preventive and promotive efforts can be carried out to provide appropriate health education because health education has been proven to be more beneficial if carried out in a community. Health promotion and education are also the top priorities for all health services.[2]

According to surveys, approximately 75% of women worldwide experience fluor albus once in their lifetime.[3] The most common pathology caused by bacterial vaginosis is 40-50%.[4] Efforts to prevent reproductive organ problems involve paying attention to personal hygiene. If a person does not pay attention to personal hygiene, bacteria multiply in the body and can cause diseases. Fluorine albus can disturb the discomfort of the patient because it is accompanied by an unpleasant aroma or itching. When fluorine albus is not treated soon, it can result in irritation, infection, and more severe disease.[5,6]

Affiliation
[1]Nursing Study Program, Universitas Aufa Royhan, Padangsidimpuan, Indonesia
[2]Midwife Professional Education Study Program, Universitas Aufa Royhan, Padangsidimpuan, Indonesia
[3]Pharmacy Study Program, Universitas Aufa Royhan, Padangsidimpuan, Indonesia

Correspondence
arfahn526@gmail.com

Based on a preliminary study conducted on 18 female teenagers in Sitinjak Village through open interviews regarding their opinions about fluorine albus, seven of the 18 (39%) teenage girls only knew about the definition of fluor albus. Fifteen of the 18 (83.3%) female teenagers who underwent open interviews thought that preventive measures for fluorine albus need to be implemented, but teenage girls do not yet understand the signs and symptoms of its occurrence in flour albus and the type of action to prevent its occurrence. The characteristics of teenagers today, such as rarely changing clothes during the day, using the same bathroom, and wearing underwear that is too tight, make disease transmission easy. Teenagers also pay less attention to hygiene during menstruation.[7] This can cause the genital area to damp and become a place for bacteria to grow, resulting in fluorine albus.

Fluorine albus occurs due to pH imbalance in the vagina. Vaginal pH is influenced by two factors: internal factors (estrogen and progesterone hormones) and external factors (lack of personal hygiene) that can cause the growth of bacteria and fungi that cause fluorine albus. If abnormal vaginal discharge is not treated immediately, it can disrupt the function of the reproductive organs, resulting in pelvic inflammatory disease, infertility, ectopic pregnancy, and chronic pelvic pain.[8] In addition to fluorine albus, poor personal hygiene can also cause vulvovaginitis. One reason for the high incidence of fluor albus in teenage girls is the lack of knowledge about teenage girls' fluorine albus and how to prevent it. Precautions must be taken to prevent the occurrence of repeated fluorine albus.[9]

According to the Precede-Proceed Model theory proposed by Lawrence W. Green, a person's health behavior, is influenced by three factors: predisposing factors, supporting factors, and driving factors. These three factors can be influenced by health education. A structured teaching program needs to be conducted to increase knowledge about fluorine albus. Innovation and creativity in health education methods are needed so that the material provided can be well-received by students to increase the preventive behavior of fluorine albus.[10] Make a Match is a cooperative learning model that aims to enable students to play an active role in a fun learning process and discuss problems with other individuals.[11] In this discussion process, a persuasive communication process occurs that aims to change a person's beliefs, attitudes, and behavior. This research aimed to explain health education using methods that match the increasing knowledge and attitudes towards preventing flour albus in teenage girls.

Method

The type of research was an experiment with a research design quasi-experiment pre-post with a control design. This type of research involved a control group and intervention group. This study was conducted to increase knowledge and attitudes towards the prevention of flour albus in teenage girls. This study was conducted in Sitinjak Village, South Tapanuli Regency. The respondents who met the inclusion criteria included 90 people who were referred to as the affordable population. The researchers conducted experimental research and determined a minimum sample size of 30 people. The sample in this study comprised 30 respondents who met the inclusion criteria for teenagers aged 15-18 years and who lived in the Sitinjak sub-district. This research used total sampling techniques, which were divided into two groups so that each group had a sample of 15 respondents.

The instruments used in this research were knowledge and attitude questionnaires and observation sheets. In the control group, a pretest will be carried out at the beginning by administering a knowledge questionnaire about flour albus and teenagers' attitudes regarding the prevention of flour albus, and a post-test will be carried out using a questionnaire. Reproductive health education was provided for two weeks in the treatment and intervention groups using leaflets and posters. At the beginning and end of reproductive health education, a pre-test and post-test were conducted using a questionnaire. After the data were collected and cleaned, a data analysis was performed. The first stage in the data analysis was testing the level of spread or distribution of the data using the Shapiro-Wilk test. If the data were normally distributed, the data were tested using parametric tests, namely the independent t-test to determine differences in educational knowledge in the case and control groups, while the paired t-test was used to determine differences in reproductive health knowledge before and after the health education intervention using a method approach. Make A Match. If the data are not normally distributed, they will be tested using non-parametric tests, namely the Mann-Whitney and Wilcoxon signed-rank tests.

Results

Based on Table 1, it was found that the research results on the knowledge variable had an average increase before the intervention (pre-test) of 5.60, and after the intervention (post-test) of 7.87. Furthermore, the research results on the attitude variable had an average increase before the intervention (pre-test) of 1.609 and after the intervention (post-test) of 2.547.

This study used the Shapiro-Wilk test to assess normality due to the small sample size (n=30, including pre- and post-tests). A significance level (alpha) of 0.05 was used; a p-value less than 0.05 indicates non-normal distribution. The knowledge variable yielded a normality test result of 0.000 ($p < 0.05$), indicating a non-normal distribution. Similarly, the attitude variable also showed non-normal distributions for both the pre-test ($p = 0.00$) and post-test ($p = 0.00$). The pre-test and post-test values combined also resulted in a p-value of 0.000 ($p < 0.05$), confirming non-normality. In all cases, the results indicate that the data is not normally distributed. Consequently, the Wilcoxon signed-rank test, a non-parametric test, was employed for further analysis.

Table 1. Descriptive statistic of knowledge and attitude

Variable	Group	n	Min	Max	Mean	SD
Knowledge	*Pre-test*	30	3	9	5.60	2.524
	Post-test	30	5	10	7.87	3.085
Attitude	*Pre-test*	30	3	9	6.33	1.609
	Post-test	30	8	13	10.27	2.547

Table 2. Wilcoxon test results

Variable	n	p-value
Knowledge	30	0.000
Attitude	30	0.000

The Wilcoxon test results showed a statistically significant difference between pre- and post-intervention scores for knowledge and attitudes ($p = 0.000$ for all variables). This indicates that the "Make A Match" method had a significant impact on improving the girls' knowledge and attitudes to vaginal discharge.

Discussion

These results demonstrate a statistically significant difference in both knowledge and attitudes before and after the educational intervention using the Make a Match method. This intervention, focusing on reproductive health, specifically fluor albus, among adolescents, yielded a statistically significant improvement ($p < 0.05$). This outcome is likely attributable to the cooperative learning approach of the Make a Match method, which promotes active participation and peer interaction within an engaging learning environment. This approach allows adolescents to explore and internalize values crucial for informed decision-making regarding their reproductive health and future.[12]

Knowledge, defined as the cognitive result of perceiving an object, is often categorized into a hierarchy of six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation. The significant increase in adolescents' knowledge following the intervention suggests that the information presented was effectively received and assimilated, thereby enhancing their understanding of fluor albus prevention. This increase in knowledge is often correlated with positive changes in attitude. Cognitive change typically precedes attitudinal shifts.[13]

Providing reproductive health education from an early age is crucial for fostering a healthy and productive future generation. Adolescents often face challenges in accessing accurate information regarding reproductive health, particularly concerning fluor albus, leading to misconceptions. Knowledge of reproductive health empowers adolescents to navigate the physical, social, and psychological changes they experience. Furthermore, it enables them to maintain reproductive health, specifically concerning fluor albus, and mitigate potential problems arising from neglecting reproductive health.[14]

Adolescents are particularly vulnerable to reproductive health issues, underscoring the importance of access to information and education. Reproductive organ problems are prevalent among adolescents due to information deficits. Fluor albus is a common health concern among women.[15] Surveys indicate that approximately 75% of women worldwide experience abnormal vaginal discharge at least once in their lifetime. Fluor albus results from a vaginal pH imbalance influenced by both internal (hormonal: estrogen and progesterone) and external factors (e.g., inadequate personal hygiene, tight-fitting underwear), which can promote bacterial and fungal growth. Bacterial vaginosis accounts for the majority (40-50%) of

pathological abnormal vaginal discharge, commonly affecting adolescents aged 15-24 who engage in unhealthy behaviors.[16]

The use of the Make a Match method in health education regarding fluor albus prevention among adolescent girls is crucial for enhancing their knowledge and attitudes towards reproductive health. This necessitates preventive and promotive efforts. The Make a Match method facilitates knowledge absorption and positive changes in health-related behaviors, contributing to improved physical and mental well-being. This educational approach aims to cultivate healthy lifestyle practices among adolescent girls, particularly concerning reproductive health.[17] Therefore, providing appropriate services, accurate information, and fostering a shared understanding of the importance of adolescent reproductive health are essential for empowering them to make informed choices regarding fluor albus prevention. The Make a Match method represents an innovative learning approach that optimizes learning outcomes, creating an engaging learning environment and fostering greater respondent participation, ultimately enhancing knowledge and attitudes regarding fluor albus prevention among adolescent girls.

Conclusion

Health education using the make-a-match method is effective in improving preventive behaviors related to fluor albus among adolescent girls. This effectiveness stems from the small group discussions inherent in the method. Statistically significant differences were observed in the knowledge and attitudes before and after the intervention. Specifically, the p-values for both knowledge and attitude change were <0.001. This indicates a substantial improvement in both areas following the Make a Match educational intervention on reproductive health concerning fluor albus. To further enhance the impact of health education using the Make a Match method, particularly regarding knowledge and attitudes about fluor albus and reproductive health, support from health care professionals should be prioritized in various learning activities and community health education initiatives targeting adolescent girls. Furthermore, health agencies and educational institutions should consider integrating Make a Match as a standard learning methodology to promote fluor albus prevention behaviors among adolescent girls within their respective settings. Future research could leverage these findings to develop nursing interventions, particularly health promotion strategies aimed at improving preventive behaviors related to a wider range of health conditions.

References

1. Deshmukh DD, Chaniana SS. Knowledge About Sexual and Reproductive Health in Adolescent School-Going Children of 8th, 9th, and 10th Standards. J Psychosexual Heal. 2020 Jan 24;2(1):56–62.
2. WHO. WHO Recommendations on Adolescent Health. Geneva: WHO; 2017.
3. Suryantini NP, Ma'rifah A, Yanti AD. The effect of ratus-v on fluor albus on women working in PT. Sai Ngoro Mojokerto District. Int J Nurs Midwifery Sci. 2020;4(1):15–22.
4. Pety M. Hubungan Antara Pengetahuan dan Sikap Remaja dengan Kejadian Fluor Albus Remaja Putri SMKF X Kediri. J Wiyata. 2016;3(1).
5. Umami A, Sudalhar S, Lufianti A, Paulik E, Molnár R. Factors Associated with Genital Hygiene Behaviors in Cervical Cancer Patients in Surakarta, Indonesia. Nurse Media J Nurs. 2021 Apr 21;11(1):94–103.
6. Goldenhart AL, Nagy H. Assisting Patients With Personal Hygiene. Treasure Island (FL): StatPearls Publishing; 2022.
7. Murdiatama D. Faktor-faktor yang berhubungan dengan perilaku personal hygiene saat menstruasi pada siswi kelas XI MAN Manyak Payed Aceh Tamiang. Institut Kesehatan Helvetia; 2018.
8. Nengsih N, Suib. Efektifitas peningkatan pengetahuan remaja putri tentang pencegahan keputihan dengan media leaflet dan e-book. J Delima Harapan. 2024;11(2).
9. Rangkuti S, Finaliya E. Pengaruh Pendidikan Kesehatan Terhadap Pengetahuan WUS Tentang Flour Albus di BPM Dewi Suyanti Tahun 2020. J Midwifery Sr. 2021 May 16;4(2).
10. Rachmawati WC. Promosi Kesehatan dan Ilmu Perilaku. Malang: Wineka Media; 2019.
11. Sari RDK, Arifin MBUB. Penerapan Model Pembelajaran Make a Match untuk Meningkatkan Motivasi Belajar Siswa Kelas IV MI Miftahul Ulum Kraton pada Tema 6. Model J Progr Stud PGMI. 2022 Jul 13;9(1).
12. Yulianah F. Analisis faktor yang berhubungan dengan kejadian keputihan pada siswi SMA Negeri 3 Babelan Tahun 2023. STIKes Medistra Indonesia; 2023.
13. Sandewi NMIA. Pengaruh pendidikan kesehatan reproduksi terhadap pengetahuan pencegahan keputihan pada remaja SMP PGRI 5 Denpasar Tahun 2019. Institut Teknologi & Kesehatan Bali; 2019.
14. Agustina RE, Surmiasih, Sari N, Sholekha K, Zahra PA, Ramadhani D, et al. Kesehatan Reproduksi bagi Remaja. Pekalongan: Penerbit NEM; 2024.

15. Wirenviona R, Riris AAIDC, Hariastuti I. Edukasi Kesehatan Reproduksi Remaja. Surabaya: Airlangga University Press; 2023.
16. Putri LB, Yunitasari E, Rachmawati PD. Pendidikan Kesehatan Jigsaw dan Make a Match dalam Mencegah Fluor Albus pada Remaja Pondok Pesantren. Pediomaternal Nurs J. 2019 Mar 1;5(1):109–18.
17. Afriani D. Edukasi Tentang Keputihan (Flour Albus). Pekalongan: Penerbit NEM; 2023.