

## The Influence of Counseling and Media Leaflets on Increasing Dysmenorrhea Knowledge

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### ABSTRACT

Dysmenorrhea is a symptom that arises due to abnormalities in the pelvic cavity and interferes with daily activities, especially in school-age adolescents. It was reported that between 30% and 60% of young women who had dysmenorrhea did not go to school. Treatment of dysmenorrhea can be carried out pharmacologically or non-pharmacologically, depending on the aspect of knowledge. Counselling is known to be effective in increasing knowledge, and leaflets and printed media also facilitate the teaching and learning process. This study aims to determine the effect of counselling and leaflet media on increasing knowledge. The study used a non-equivalent control group design. The research sample was taken by simple random sampling using a questionnaire to assess knowledge about dysmenorrhea. The analysis used a paired t-test to determine the effect of counselling and leaflet media and an independent t-test to determine the most influential media. The results showed that there was an effect of increasing knowledge by providing material through counselling and leaflets ( $p < 0.05$ ). Leaflets are concluded to increase knowledge, compared to counselling.

*Dismenore merupakan gejala yang timbul akibat adanya kelainan dalam rongga panggul dan mengganggu aktivitas sehari-hari terutama pada remaja usia sekolah. Dilaporkan dari 30% - 60% remaja wanita yang mengalami dismenore, didapatkan 7% - 15% tidak pergi ke sekolah. Penanganan dismenore dapat dilakukan secara farmakologis dan non farmakologis yang bergantung pada aspek pengetahuan. Penyuluhan diketahui efektif dalam meningkatkan pengetahuan dan leaflet sebagai media cetak juga mempermudah dalam proses belajar mengajar. Penelitian ini bertujuan mengetahui pengaruh penyuluhan dan media leaflet dalam meningkatkan pengetahuan. Penelitian menggunakan rancangan non-equivalent control group design. Sampel penelitian diambil secara simple random sampling menggunakan kuesioner untuk menilai pengetahuan tentang dismenore. Analisis menggunakan uji paired t-test untuk mengetahui pengaruh penyuluhan dan media leaflet, dan independen t-test untuk mengetahui media yang paling berpengaruh. Hasil penelitian menunjukkan ada pengaruh peningkatan pengetahuan dengan pemberian materi melalui penyuluhan dan leaflet ( $p < 0,05$ ). Leaflet disimpulkan lebih meningkatkan pengetahuan dibandingkan penyuluhan.*

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## Introduction

Adolescence is a time of transition from child to adult. At this point, a teenager is going through a developmental phase marked by the maturity of the reproductive organs (Setiawan & Allizamar, 2019). The youth population of the world's total population is around 1.2 billion or around 18% (Bulu et al., 2019). The Central Statistics Agency reports that the number of teenagers or the so-called Generation Z in Indonesia in 2020 is 46.8 million people (27.94%), while the number of teenagers in

DKI Jakarta in 2020 is 16.10%, of which 48.59% are teenage girls. The prevalence of dysmenorrhea in adolescents in Central Jakarta reached 87.5%, where 20% of respondents experienced mild pain, 64.76% moderate pain, and 14.76% severe pain (BPS, 2021; BPS DKI Jakarta, 2021; Wahyuni & Zulfahmi, 2021).

The WHO defines youth as citizens aged 10-19, while the Indonesian Minister of Health states that youth are residents aged 10-18. In addition, the BKKBN regulates the age of young people between 10-24 years and unmarried people (Kementerian Kesehatan Indonesia, 2018; WHO, 2020).

Changes that adolescents experience lead to adolescents reaching puberty. Maturity of the reproductive organs is a sign that occurs in adolescents. Especially in adolescent girls, this period is marked by the onset of menstruation. Menstruation is bleeding that occurs regularly due to the detachment of the uterine lining in the uterine wall. Menarche, or menstruation, first occurs between the ages of 12 and 16. One of the discomforts that appear during the menstrual process is the feeling of cramps in the lower abdomen, causing pain; this is called dysmenorrhea. Dysmenorrhea depends on the individual's description of pain, perception, and experience (Hamang, 2020; Solihati & Sa'idah, 2020).

According to the World Health Organization (WHO), the incidence of dysmenorrhea is quite high worldwide, according to Indrayanis Research (2021), with the average incidence of dysmenorrhea in young women ranging from 16.8% to 81%. It was reported that out of 1,769,425 (90%) women with dysmenorrhea, 10-15% had severe dysmenorrhea. In Indonesia, an estimated 55% are of childbearing age. In Indonesia, there is 64.25 per cent of cases of dysmenorrhea, of which 54.89% are primary. In adolescent girls, primary dysmenorrhea affects 60%–75% of cases. Dysmenorrhea was estimated to affect 30% to 60% of female teenagers, and it was shown that 7% to 15% of them skipped school. (Cia & Ghia, 2020; Daniel Martinus Sihombing et al., 2022; Indrayani & Antiza, 2021).

Dysmenorrhea is a symptom that occurs due to abnormalities in the pelvic cavity and affects women's activities, but it is not a disease. Dysmenorrhea commonly disrupts daily activities in school-age adolescents. A student suffering from dysmenorrhea has less motivation to study because she cannot concentrate. Therefore, dysmenorrhea in adolescents must be treated with appropriate measures to avoid adverse effects (Efriyanti 2015 dalam (Indrayani & Antiza, 2021).

Health education is a community learning effort so that people are ready to take action to overcome their problems and improve their health. Health promotion in schools is an effective step in communicating information to groups or individuals because schools are institutions for promoting and improving the quality of human resources, including physical, mental, moral, and intellectual (Emilda, 2017).

Treatment to alleviate or even eliminate pain in dysmenorrhea can be pharmacological and non-pharmacological but depends on cognitive or knowledge aspects. In their research, Septiana (2020) concluded that there is a link between knowledge about dysmenorrhea and attitudes towards overcoming it (Septiana & Putra, 2020). When expanding knowledge, print media such as e-brochures are needed to meet all needs in the teaching and learning process (Hanifah Salsabila et al., 2020).

Adolescent dysmenorrhea needs to be treated properly to prevent side effects. Controlling dysmenorrhea requires certain types of expertise. One can broaden their knowledge via a variety of mediums. There has been no research that demonstrates which of the two media is more effective at raising students' awareness of dysmenorrhea, despite numerous studies showing that counselling is effective in raising knowledge and that leaflets as a print medium also make the teaching and learning process easier, particularly in increasing knowledge related to dysmenorrhea.

Researchers are interested in studying "The Influence of Counseling and Leaflet Media in Increasing Knowledge of Dysmenorrhea Among Female Students of SMKN 38 Jakarta" because SMKN 38 is located in Central Jakarta.

## **Method**

This study uses a two-group pretest-posttest design with different treatments for each of the two groups in a quasi-experimental setting. With number 063/KEPPKSTIKSC/V/2022, the STIK Sint Carolus Health Research and Development Ethics Commission has also approved this study as ethical. The sample for each group was obtained by dividing into two groups from all students present in class at the time of sampling. The total population was 120 students, the leaflet group respondents were 61 students, and the counselling group was 59 students. The researchers divided the first two groups, which received treatment in the form of counselling for dysmenorrhea. The second group received treatment in the form of the distribution of dysmenorrhea leaflets. This research was initiated by conducting a pre-test before the consultation and leaflet distribution. The researchers and team then conducted a counselling session for Group 1 and gave Group 2 informational brochures about dysmenorrhea to read for two hours. The material presented in the leaflets and counselling is the same, related to the meaning, classification, risk factors, causes, clinical symptoms, and treatment of dysmenorrhea. They then conducted a post-test on both groups of respondents.

The population of this study consisted of 120 students from SMKN 38 Jakarta who attended the 1st grade. The sample used is a sampling technique with specific considerations and criteria. The inclusion criteria in this study were female gender and willingness to be part of the sample. Respondents can be included in the dropout category if they do not take part in all activities (pretest, treatment, and posttest) or receive two treatments simultaneously. The questionnaires used before and after the test were used in previous studies (Wardani et al., 2021). The results obtained were then analyzed with SPSS. Bivariate analysis using the paired t-test compared the mean knowledge of the two groups. An independent t-test analysis was then used to find the difference in mean scores between one group and another.

## **Results**

The bivariate analysis takes into account the data normality test using the Mann-Whitney test. The results of the analysis showed that only variable menstrual length had an impact on the incidence of dysmenorrhea in the two treatment groups  $<0.05$  (p-value = 0.007). This means that  $H_0$  was rejected,

and it could be interpreted as a significant relationship between the length of menstruation and the occurrence of dysmenorrhea. The variables of age, menarche, and the number of pads changed per day did not affect the incidence of dysmenorrhea in either the group receiving the package insert or the group receiving counselling.

**Table 1.** Relationship of Respondent's Age, Age of Menarche, Length of Menstruation, and Number of Pads/Day with The Incidence of Dysmenorrhea in The Two Treatment Groups

Variable	Treatment with leaflets		Treatment with counselling		p- Value
	Dysmenorrhea (n = 51)	No dysmenorrhea (n = 10)	Dysmenorrhea (n = 48)	No dysmenorrhea (n = 11)	
<b>Age (year)</b>					
Average	16.47	16.5	16.48	16.36	0.993
Median	16	16.5	16.5	16	
SD	0.731	0.527	0.595	0.505	
Min-Max	15-18	16-17	13-18	16-17	
<b>Age of Menarche (year)</b>					
Average	12.51	12.4	12.65	12.36	0.817
Median	12	12	12	12	
SD	0.809	1.265	1.194	1.206	
Min-Maks	11-15	11-15	11-17	11-14	
<b>Menstrual length (days)</b>					
Average	6.49	5.5	6.88	5.64	0.0073
Median	7	5	7	5	
SD	1.206	0.850	0.703	0.924	
Min-Max	3-10	5-7	5-9	5-7	
<b>Number of pads/day</b>					
Average	4.01	4.1	4	3.27	0.969
Median	4	4	4	4	
SD	1.392	1.197	1.255	0.944	
Min-Max	2-8	3-7	2-7	3-6	

**Table 2.** Correlation of Subject Characteristics with Increased Knowledge of Dysmenorrhea in Both Treatment Groups

Correlation of increased knowledge of dysmenorrhea with:	Leaflets		Counseling	
	R	p-value	R	p-value
Age	0.236	0.067	-0.248	0.059
Menarche age	-0.077	0.558	0.017	0.917
Menstrual length	-0.137	0.291	-0.066	0.621
Number of pads	-0.039	0.763	-0.088	0.515

The results of the analysis presented in Table 2 show that not all characteristics show a significant connection with knowledge about dysmenorrhea. Age, age at menarche, length of menses and number of bladders can generally be concluded to have almost no relation to knowledge of dysmenorrhea.

**Table 3.** Effect of Knowledge of Dysmenorrhea in Both Treatment Groups

	Treatment with leaflets			Treatment with counselling		
	N	Average rating	Number of ratings	N	Average rating	Number of ratings
Difference negative	1 <sup>a</sup>	4.00	4.00	21 <sup>a</sup>	17.07	358.50
Positive difference	55 <sup>b</sup>	28.95	1592.00	25 <sup>b</sup>	28.90	722.50
Similarity	5 <sup>c</sup>			13 <sup>c</sup>		
	61			59		

- a. Post-test score < pre-test score
- b. Post-test score > pre-test score
- c. Post-test score = pre-test score

Based on Table 3, it is known that in students who were given treatment in the form of leaflets, there was one person (1.6%) who had a post-test score lower than the pre-test score, there were five

people (8.2%) who had the same score between post and pre-test, and as many as 55 people (90.2%) experienced an increase in post-test scores. In the counselling group, 25 people (42.4%) experienced an increase in post-test scores, 21 people (35.6%) had a decrease in scores from pre- to post-test, and 13 people (22%) had the same score between post and pre-test.

**Table 4.** Comparison of Increase in Dysmenorrhea Knowledge Score in Both Treatment Groups

Dysmenorrhea Knowledge Score	Group		P value*
	Leaflet (n = 61)	Counseling (n = 59)	
<b>Pre</b>			
Median	16	16	0.793
Range	10-21	7-22	
<b>Post</b>			
Median	20	17	<0.001
Range	14-24	4-21	
Comparison of pre vs post	p < 0.001	p < 0.001	
Increase (%)	4 (25%)	1 (6,25%)	<0.001

Based on Table 4, it is known that providing information through information leaflets and counselling leads to better knowledge about dysmenorrhea. This is evidenced by the fact that the p-value in the two treatment groups is <0.05. The results of the analysis of the mean percentage between the values before and after the test between information booklets and counselling show that the treatment by distributing information booklets brings about a more significant percentage increase in knowledge compared to counselling. The percentage increase in knowledge rating in the booklet group was 25%, and the percentage increase in knowledge rating in the group given advice was 6.2%.

## Discussion

Counselling is a service that is provided to individuals, social organizations, and society to improve the knowledge that affects behavior. By affecting attitudes and behaviors, counselling can also serve as a tool for self-regulation (Mahadewi, 2021). This study demonstrates that test results improved compared to pre-test results after teaching the counselling group about dysmenorrhea, demonstrating an increase in knowledge in 25 (42.4%) female students at SMKN 38 Jakarta. Research conducted in 2021 by the Limaupit Community Health Center in the Lebong Regency suggested that counselling media might improve comprehension (Anderiani, 2021). The goal of counselling is to assist individuals, groups, and communities in learning skills that will modify their behavior. Counselling can influence attitudes and behavior and act as a type of self-control (Mahadewi, 2021).

Similar studies have found a substantial difference between young women's attitudes before and after attending health education at SMK Negeri 5 Surabaya. This demonstrates that the counselling approach to knowledge expansion is successful (Yulinda & Fitriyah, 2020). Research on youths at the Bintang Terampil Orphanage in Bengkulu City shows that counselling has an impact on knowledge because the average level of knowledge rose between before and after counselling. This is because health education takes the form of counselling, allowing youngsters to learn new facts that will broaden their knowledge and help them receive better grades (Sartika et al., 2021). This claim is corroborated by the study's findings, which have a p-value of 0.001 (0.005) and indicate that most respondents'

understanding has improved. Knowledge is a crucial area for influencing one's behavior. Research and experiences with behavior based on knowledge will last longer (PH et al., 2018).

The technologies and media employed in health education affect a person's capacity for memory. When information is received through both the senses of sight and hearing, the message is recalled up to 50% better and can even increase the responders' knowledge (Luxiarti, 2018). Using text and graphics in brochures, you can learn more about a subject. The media flyer condenses and simplifies information to make it shorter and easier to read. Prospectus media are, moreover, reprintable, discussion-capable, enduring, extensive, and distinctive print media (Ramadhanti et al., 2019).

The study's conclusions show that there was a 55-person increase in the pretest score compared to the posttest score, showing that female students at SMKN 38 Jakarta knew more about dysmenorrhea after getting information about it in the leaflet group. With an average difference of 5.43, the leaflet group had more knowledge prior to the intervention, in line with earlier studies (Anderiani, 2021). Studies on Posyandu cadres' MR booster immunization show the booklet method's impact on knowledge expansion. The outcomes of statistical analyses using the paired-sample t-test demonstrate the impact of health education using the leaflet technique on the subject of knowledge, improved knowledge demonstrating that the material is well memorized can be learned (Sari & Hanifah, 2018).

The results of the above research are also supported by other studies, which show that there is a difference in knowledge before and after being given health education through leaflet media. It was found that the average value increases from 1.65 to 1.98; this concludes that leaflet media is effective in increasing knowledge (Andan Firmansyah et al., 2019). The Ralla Community Health Center region underwent the same investigation regarding the efficacy of using leaflets to boost knowledge, and the findings indicated an improvement in knowledge for 48 respondents. This further demonstrates the value of leaflet media in terms of enhancing one's knowledge (Sirvana et al., 2021).

Because brochures are visual aids built on the idea that the five senses contribute to knowledge acquisition, they are successful at spreading knowledge. Additionally, the brochure's wording is maintained straightforwardly for ease of comprehension. Additionally, the intriguing title piques the reader's curiosity about the brochure's content. The combination of text and images in the brochure media also piques the reader's interest and helps them comprehend the content's purpose (Alini & Indrawati, 2018).

According to the study, the percentage gain in knowledge score was 6.2% for the counselling group and 25% for the brochure group. This leads to the conclusion that brochures improve knowledge more than they increase advice. Research has shown that postpartum mothers who get pamphlets or flyers have a greater comprehension of exclusive breastfeeding than mothers who receive lecture-style counselling, and this study supports that finding. This is due to the fact that the lecture technique needs to be revised, making it impossible for the research method to accurately describe how information is delivered. Additionally, each person's level of comprehension can have an impact on the understanding they acquire (Aminuddin & Bong, 2018).

Other consistent research also found that leafleting and counselling had the same impact on behavior change. Still, leafleting media was shown to increase knowledge about health protocols to prevent COVID-19 in the work area of Limaupit Lebong Health Center more than counselling. Leaflets as written media are used as an advertising or marketing tool to convey health messages on a sheet of paper with two or more folds. The content of the message or the information it contains can be in the form of sentences, images, or both, so leaflets have better knowledge-enhancing effectiveness (Anderiani, 2021). Research to improve respondents' knowledge of baby massages performed in Telaga Sari Village also found that the difference in mean scores in improving attitudes was up to 90% better with the leaflet method than with the lecture method, which reached only 77% (Susanti, 2020).

Another study also found that health education through pamphlets given to pregnant women during prenatal care has been shown to improve pregnant women's knowledge of their pregnancy. Leaflets are great for conveying short and media-rich messages, and their compact size makes them easy to carry and distribute. The advantages of leaflets are that they can help officials to teach, they have high visual acuity, they are a connecting tool that can deliver messages and statements in large numbers to the public, there are more opportunities for retraining, and they are easy to carry and disseminate, the process of creating short messages relatively quickly and inexpensively can be simplified. Leaflets allow for 30% mastery of the material, 10% reading and 20% listening. However, if the mode is set to active learning, 90 per cent mastery of the material can be achieved (Admin & Yuli Suryanti, 2021).

## Conclusion

Various mediums can be used to expand knowledge. According to the study's findings, teaching female students about dysmenorrhea through educational media and pamphlets can both boost their understanding of the condition. It may be inferred that leaflets increased knowledge more than extensions because the percentage increase in the knowledge score in the leaflet group was 25%, and in the extension group, it was 6.2%. The findings of this study demonstrate that counselling and pamphlets are viable alternatives for educating people. To determine how much the two approaches together will improve things in the future.

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