



Effectiveness of Abdominal Effleurage Massage Training in Improving Adolescent Girls' Knowledge and Skills to Manage Dysmenorrhoea

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ABSTRACT

Dysmenorrhea is menstrual pain that interferes with adolescent activity in the learning process. Providing health education about dysmenorrhea is very important to reduce the impact of discomfort caused by dysmenorrhea. Dysmenorrhea also has a psychological impact in the form of emotional conflict, tension, and anxiety. The purpose of this study was to determine the differences in knowledge and skills of adolescent girls before and after abdominal effleurage massage training to overcome dysmenorrhea in Banjar Laing, Pandak Village. Research method Pre-Experimental Pre-Post Test One Group Design. The implementation of the research in April 2024 with total sampling technique. The sample number was 45 young women in Banjar Laing, Pandak Village. Data collection by conducting pretest and posttest. Data analysis using the Wilcoxon test with a meaning level of $p < 0.05$. The results there is a significant difference in the level of knowledge and skills before and after abdominal effleurage massage training to overcome dysmenorrhea with p values of $0.000 < \alpha 0.05$. This study can be concluded that abdominal effleurage massage training improves knowledge and skills of young women in Banjar Laing, Pandak Village, Bandung, Tabanan. Abdominal effleurage massage training is conducted to increase the independence of young women in overcoming dysmenorrhea.

Keywords : *abdominal effleurage massage, dysmenorrhea, knowledge, skills*

1. INTRODUCTION

Dysmenorrhea is menstrual pain that arises due to excessive formation of prostaglandins so that the uterus contracts excessively and causes circulatory vasodilation, arterial and venous vessels expand so that menstrual blood is more easily removed and causes cramps in the abdomen (Sumiaty, 2022). Dysmenorrhea disrupts the activities of adolescents who are in the learning process at school. Adolescent girls find it difficult to concentrate because of the discomfort felt when experiencing dysmenorrhea. Adolescents who experience dysmenorrhea must be treated so that no worse impact occurs. Dysmenorrhea also has a

psychological impact in the form of emotional conflict, tension, and anxiety (Swandari, 2022). According to the World Health Organization (WHO) in (Farming, 2023) women who suffer from dysmenorrhea are 1,769,425 people (90%). While 10% do not experience dysmenorrhea. In 2021, the number of adolescent girls in Indonesia is 22,080,000 (United Nations Children's Fund, 2021). The prevalence of dysmenorrhea is 90% (19,872,000 people) 72.89% (16,094,112 people) experience primary dysmenorrhea, 21.11% (4,661,088 people) experience secondary dysmenorrhea, and 10% (2,208,000 people) of the entire adolescent population does not experience dysmenorrhea (Farming, 2023).

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The prevalence in Bali is around 29,505 people (Widyanthi, Resiyanthi, 2021).

Dysmenorrhea can be treated with pharmacological and non-pharmacological therapies. Pharmacological therapy includes the administration of non-steroidal antiinflammatory drugs. Non-pharmacological therapies include warm compresses, acupressure, Mozart music, relaxation. One of the relaxation techniques can be done with effleurage massage. Massage effleurage is an application of Gate Control theory that can "close the gate" to inhibit the passage of pain stimuli to higher centers in the central nervous system (Haryanti, 2021).

Effleurage is a massage technique in the form of soft, slow and long or non-breaking strokes. Effleurage is the act of rubbing the abdomen slowly in rhythm with breathing during pain, which is used to divert the mind from being centered on dysmenorrhea pain (Andari, 2018). The work of the effleurage technique mechanically helps warm the body, it can increase relaxation both physically and psychologically (Sumiaty, 2022).

Based on previous research that has been conducted related to counseling and training in handling dysmenorrhea by (Triyani, 2020) which concluded that there was an increase in respondents' knowledge after counseling and practicum in overcoming dysmenorrhea with acupressure. Another study by (Gandi, 2018) which concluded that there were differences in knowledge of handling dysmenorrhea before and after counseling for students of Santo Yoseph Junior High School Denpasar in 2018.

Efforts to overcome dysmenorrhea must of course be supported by sufficient knowledge (Gandi, 2018). Knowledge of the ability of adolescent girls to overcome dysmenorrhea independently using effective non-pharmacological therapies such as abdominal effleurage massage is important. Because it allows adolescents to overcome dysmenorrhea that is periodically experienced. Preliminary studies conducted in Banjar Laing, Pandak Bandung Village, Tabanan, there were 45 adolescent girls. Of the 45 adolescents, 32 people (80%) experienced dysmenorrhea. Pain management that is usually done is taking medicine and resting, the teenager does not know how to handle it. Therefore, researchers

are interested in providing health education about dysmenorrhea management to reduce the impact of discomfort that arises due to dysmenorrhea. Based on the above background, researchers are interested in conducting research on "Differences in Knowledge and Skills of Adolescent Girls Before and After Abdominal Effleurage Massage Training to Overcome Dysmenorrhea in Banjar Laing, Pandak Village".

2. RESEARCH METHODS

The research method used in this study was Pre- Experiment Pre-Post Test One Group Design. In this study the population was all teenage girls in Banjar Laing Desa Pandak Bandung Tabanan which amounted to 45 people. The sample in this study were all young women selected by total sampling technique with a sample size of 45 people. This research was conducted in Banjar Laing Desa Pandak Bandung Tabanan on 21 April 2024.

The research instruments used in this study were abdominal effleurage massage knowledge questionnaire, and abdominal effleurage massage observation sheet. The data analysis used in this study was the Wilcoxon test.

3. RESULTS AND DISCUSSION

Results

Characteristics of respondents according to age

Table 1. Characteristics of respondents according to age

Statistics	Value (Year)
Mean	15,6
Maximum	18,0
Minimum	14,0
Standard deviation	0,7

Based on the table above, it can be seen that the average age of adolescents in Banjar Laing Desa Pandak Bandung is 15.6 years, the lowest age is 14 years and the highest age is 18 years.

Knowledge of Adolescent Girls About Abdominal Effleurage Massage Before and After Training

Table 2: Knowledge of adolescent girls about abdominal effleurage massage before and after training

Statistics	Value	
	<i>Pre</i>	<i>Post</i>
<i>Mean</i>	62,66	78,66
<i>Maximum</i>	90,00	100,00
<i>Minimum</i>	20,00	50,00
<i>Standard deviation</i>	14,52	11,59

Based on the table above, the average knowledge of adolescents about abdominal effleurage massage before being given training was 62.66 with the lowest score of 20 and the highest score achieved by respondents was 90. The average knowledge of adolescents about abdominal effleurage massage after being given training was 78.66 with the lowest score of 50 and the highest score achieved by respondents was 100. Respondents' answers to the questionnaire with the most wrong scores were on question points 2 and 3 by 75%. The most mistakes in the respondents' answers after the training were about the abdominal effleurage massage technique.

Adolescents' Skills on Abdominal Effleurage Massage Before and After Training

Table 3. Adolescents' Skills on Abdominal Effleurage Massage Before and After Training

Statistics	Value	
	<i>Pre</i>	<i>Post</i>
<i>Mean</i>	33,33	93,33
<i>Maximum</i>	50,00	100,00
<i>Minimum</i>	20,00	70,00
<i>Standard deviation</i>	8,79	7,68

Based on the table above, the average skills of adolescent girls before being given training were 33.33 with the lowest score of 20 and the highest score achieved by respondents was 50. The average skills of adolescents after being given training were 93.33 with the lowest score of 70 and the highest score achieved by respondents was 100.

Results of Analysis of Differences in Knowledge of Adolescent Girls Before and After Given Abdominal Effleurage Massage Training

Table 4. Results of Analysis of Differences in Knowledge of Adolescent Girls Before and After Abdominal Effleurage Massage Training

Variable	n	Min	Max	Mean±Std	P-Value
Pre	45	20,00	90,00	62,66 ±14,52	0,000
Post	45	50,00	100,00	78,66±11,59	
Negative rank	0°				
Positive rank	35°				
Ties	10°				

Based on the table above, it is known that the mean value of the post test knowledge level is 78.66 and the meanvalue of the pre-testknowledge level is 62.66. The p value is 0.000 <0.05, which means that there is a significant difference in the level of knowledge after being given abdominal effleurage massage training to overcome dysmenorrhoea.

Results of Skills Analysis of Adolescent Girls Before and After Abdominal Effleurage Massage Training

Table 5. Results of Analysis of Adolescent Girls' Skills Before and After Abdominal Effleurage Massage Training

Variable	n	Min	Max	Mean±Std	P-Value
Pre	45	20,00	50,00	33,33 ±8,79	0,000
Post	45	70,00	100,00	93,33±7,68	
Negative rank	0°				
Positive rank	45°				
Ties	0°				

Based on the table above, it is known that the mean value of post-test skills is 93.33 and the meanvalue of pre-testskills is 33.33. The p value is 0.000 <0.05, which means there is a significant difference in skills after being given abdominal effleurage massage training to overcome dysmenorrhoea.

Discussion

1. Overview of Adolescent Girls' Knowledge About Abdominal Effleurage Massage to Overcome Dysmenorrhea Before and After Training

Based on the results of data processing, it is known that the average value of adolescents' initial knowledge of abdominal effleurage massage to overcome dysmenorrhea is 62.66 with the lowest value of 20 and the highest value achieved by respondents of 90. Knowledge is a memory that comes from the results and process of finding out or information from others through the process of education and experience (Sundayana, 2020). Knowledge is the result of knowing activities related to an object which can be a thing or event (Rukmi Octaviana and Aditya Ramadhani, 2021). Based on the above understanding, it can be concluded that the definition of knowledge is the memory of a thing or event that comes from learning activities, finding out, or getting information from others. Knowledge is the result of human curiosity about anything through certain methods and with certain tools.

This knowledge varies in type and nature, some are direct and some are indirect, some are not fixed (changing), subjective, and specific, and some are fixed, objective and general. The type and nature of this knowledge depends on its source and by what means and tools it is obtained, and there is true knowledge and false knowledge. Of course what is desired is correct knowledge (Suwanti and Aprilin, 2017).

Regarding the respondents' answers about the respondents' knowledge that was still wrong, this could be due to the fact that most respondents still lacked information about dysmenorrhea received by adolescent girls both from school and non-school environments. In addition, vulnerable sources of information are difficult to obtain considering that the provision of reproductive health education, especially about dysmenorrhea, is still lacking in each school and in the environment where the teenager lives. Not only that, health workers in the area rarely provide health education, especially about abdominal effleurage massage education to schools and at the village level there is no such thing.

As revealed in research conducted by Reza, et al (2022) explained that schools are a strategic means of delivering health education systematically to the younger generation. The rare presence of health workers in schools can break the chain of dissemination of important health information and knowledge for children

Dian, et al (2022) also added that the presence of health workers in schools is often limited. Due to the amount of work, limited resources, and competing priorities can cause health workers to rarely attend schools. This has an impact on the implementation of health education programs in schools.

After receiving training, the average knowledge of adolescents (post) is 78.66, meaning that there is an increase in the level of knowledge about abdominal effleurage massage to overcome dysmenorrhea. Training is an effective means to increase the level of knowledge of adolescent girls. Through training, young women can broaden their insight and understanding of abdominal effleurage massage to overcome dysmenorrhea. Training not only conveys new information and concepts, but also deepens participants' understanding more comprehensively.

According to Dian (2022), training plays a role in updating participants' information and knowledge. By delivering the latest developments in a field, training can ensure that participants keep abreast of scientific and technological advances. It can also help reduce knowledge gaps among participants who have different backgrounds or levels of understanding. Thus, training can create uniformity and the same standard of knowledge, as in the results of this study there is a significant difference in the knowledge and skills of adolescent girls about abdominal effleurage massage to overcome dysmenorrhea after being given training.

2. An overview of the skills of adolescent girls about abdominal effleurage massage to overcome dysmenorrhea before and after being given training

Based on the results of the study, the average skills of adolescents before being given training were 33.33 with the lowest value of 20 and the highest value achieved by respondents of 50. The above conditions can be caused because

adolescent girls have not received adequate information about the benefits and techniques of abdominal effleurage massage to overcome dysmenorrhea. also confirmed by Dian (2022) that adolescents do not get adequate education or training about abdominal effleurage massage.

According to Nurayuda (2023) in her research related to effleurage massage training in Muara Enim Regency, North Sumatra explained that 20 adolescent girls who were studied before being given training, were not skilled in performing effleurage massage techniques.

After being given training, it is known that the average skill of adolescents (Post) is 93.33 with the lowest value of 70 and the highest value achieved by respondents of 100. This means that there was an increase in skills from 33.33 to 93.33 or an increase of 60 points. In the final results of the study showed that 86.7% had been done correctly about the stages of abdominal effleurage massage.

According to Reza (2022) training is one of the most effective approaches to improve one's skills, training can provide comprehensive knowledge and understanding of the correct massage techniques. Participants will get complete information about the types of massage, proper movements, and the purpose and benefits of each technique. This will equip participants with a strong theoretical foundation before practicing it directly.

Also added by Awad et al, (2021) massage training provides opportunities for participants to practice and practice these techniques under the guidance of experienced instructors.

According to Sihombing et al., (2024) various factors that influence the process of receiving learning and training, including internal and external factors. The internal factors in question are the physical condition of the trainees, mental readiness and maturity in receiving information. Meanwhile, external factors include training infrastructure, syllabus or relevant learning materials and environmental conditions during training. So that it is necessary to do direct practice during training so that participants can develop motor skills, accuracy, and fluency in performing massage. Feedback from the instructor will also

help participants improve and perfect their technique.

3. Differences in Knowledge of Adolescent Girls About Abdominal Effleurage Massage Before and After Training

Based on the results of the study, it can be seen that the mean value of the post test knowledge level is 78.66 and the mean value of the pre-test knowledge level is 62.66. Z value of -5.219 with p value $0.000 < 0.05$ which means there is a significant difference in the level of knowledge after being given abdominal effleurage massage training to overcome dysmenorrhea.

Training is a structured process that involves acquiring knowledge, skills, and competencies through organized instruction, practice, and experience (Resdiono, 2022). The main purpose of training is to improve individual or group performance by providing new information, refining existing skills, and encouraging professional development (Nurayuda, 2023).

Training has a positive influence on increasing knowledge. Through training, individuals can gain new knowledge, deepen their understanding of a topic, and develop relevant skills. Training can also help individuals to keep up with the latest developments in a particular field. In the context of abdominal effleurage massage, training can provide more in-depth knowledge of the technique and its benefits. Trainees can learn the correct movements, an understanding of abdominal anatomy and physiology, and the principles underlying abdominal effleurage massage. Thus, the training can increase adolescents' knowledge of abdominal effleurage massage and help them develop the necessary skills to perform it correctly. In addition, the training can also provide opportunities to share knowledge and experiences with instructors and other participants. Discussions and interactions in training can enrich understanding and broaden perspectives on abdominal effleurage massage.

In line with the results of research conducted by Awad (2021), training correlates with increased knowledge about abdominal effleurage massage. The same findings were conveyed in Jitasari's research (2022) training

plays an important role in increasing knowledge by providing individuals with information, as in the results of this study there is a significant difference in the knowledge and skills of adolescent girls about abdominal effleurage massage to overcome dysmenorrhea after being given training.

4. Differences in the skills of adolescent girls about abdominal effleurage massage before and after training.

Based on the results of the study, it is known that the mean value of the posttest skills is 93.33 and the mean value of the pre-test skills is 33.33. The Z value of -5,893 with a p value of $0.000 < 0.05$ means that there is a significant difference in skills after being given abdominal effleurage massage training to overcome dysmenorrhea.

Training has a significant impact on skill improvement. Through training, individuals can acquire new skills, deepen existing skills, and develop abilities relevant to work or daily activities.

One of the main benefits of training is its ability to provide participants with comprehensive knowledge and understanding. During the training, participants will receive comprehensive information on techniques, methods and best practices in a particular field. This provides a strong theoretical foundation for participants before they practice directly (Resdiono, 2022).

Furthermore, training also provides an opportunity for participants to practice and apply these skills under the guidance of experienced instructors. Through hands-on practice, participants can develop motor skills, accuracy and fluency in performing specific tasks. Feedback from the instructor will also help participants to refine and perfect their skills.

In addition, training can help individuals to keep up with the latest developments in a particular field. By delivering the latest information and cutting-edge trends, training enables participants to stay up-to-date and competitive in the face of evolving challenges (Resdiono, 2022).

In line with the results of research conducted by Awad et al, (2021) stated that training

correlates with improved skills on abdominal effleurage massage. The same findings were conveyed in Jitasari's research (2022) training plays an important role in improving skills by providing individuals with information, as in the results of this study there is a significant difference in the knowledge and skills of adolescent girls about abdominal effleurage massage to overcome dysmenorrhea after being given training.

CONCLUSION

There is a significant difference between the knowledge and skills of adolescent girls about *abdominal effleurage massage* before and after training.

ADVICE

It is expected that young women can utilise online resources such as video tutorials, articles, and discussion forums related to *abdominal effleurage* massage to expand knowledge and skills. Perform *abdominal effleurage massage* independently to overcome dysmenorrhoea.

For future research, it is hoped that the addition of a control group in the study can be done, so that the results of the study appear more significant. Researchers can compare the effectiveness of different counselling methods, such as using leaflet or pocket book media.

Health facilities are expected to develop training for adolescents to increase independence in overcoming dysmenorrhoea with *abdominal effleurage massage* either by continuous implementation or by providing health education information about dysmenorrhoea management through short videos on social media or creating consultation groups that can be easily accessed by the community, especially adolescents.

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