Journal of Positive School Psychology http://journalppw.com
2022, Vol. 6, No. 8, 3035-3045

The Effect Of Finger Grip Relaxation Techniques As Pain Therapy (Non Pharmacological) Due To Dysmenorrhea In Middle School Students

Lailatul Fadliyah[1] , Hendy Hendarto[2] , Amellia Mardhika[3] , Ardianti Agustin[4] , Iswatun[5] , Anesthesia PMT[6] , Emuliana Sulpat[7] , Eka Sarofah[8]

[1] Program Study of Doctoral Degree in Medical Science, Faculty of Medicine , Universitas Airlangga, Surabaya, Indonesia.
[1]Faculty of Vocational Studies, Universitas Airlangga, Surabaya, Indonesia.
[2] Program Study of Doctoral Degree in Medical Science, Faculty of Medicine , Universitas Airlangga, Surabaya, Indonesia.
[3] Faculty of Vocational Studies, Universitas Airlangga, Surabaya, Indonesia.
[4] Faculty of Psychology, Wijaya Putra, Surabaya, Indonesia.
[5] Faculty of Vocational Studies, Universitas Airlangga, Surabaya, Indonesia.
[6] Faculty of Vocational Studies, Universitas Airlangga, Surabaya, Indonesia.
[7]Faculty of Vocational Studies, Universitas Airlangga, Surabaya, Indonesia.
[8] Faculty of Vocational Midwifery, Universitas Islam Lamongan, Indonesia.

Abstract

Dysmenorrhea is abdominal pain during menstruation which can be followed by nausea, vomiting, and even fainting. Dysmenorrhea increases prostaglandin (PG) F2-Alfa, namely cyclooxygenase (COX-2) resulting in hypertonus and vasoconstriction myometrium resulting ischemia and resulting lower abdominal pain. Situation causes the productivity of adolescents to decrease and results not being able to carry out physical and psychological activities. Quality of life for young women decreases, it can also reduce concentration in learning. Non-pharmacological management, namely distraction, relaxation techniques, and also skin stimulation techniques can reduce pain intensity. Study qualitative research design pre-experimental one group pre-post test design, student population, purposive sample of 136 students taken by simple random sampling. Dependent variable is adolescents who experience dysmenorrhea while the independent variable is finger grip relaxation techniques. Wilcoxon Signed Rank Test results SPSS Asymp results. sig. (2-tailed) 0.000 < = 0.05 so that H1 is accepted, there is effect of finger grip relaxation techniques on dysmenorrhoea pain. Reflex points the hands provide reflex (spontaneous) stimulation at the time of grip. Stimulation will flow shock waves or electricity to the brain. These waves generate impulses sent by non-nociceptive afferent nerves resulting the gates in thalamus being closed so that stimulus cerebral cortex is inhibited which useful for reducing pain scale dysmenorrhea. Reference from study non-pharmacological technique can be disseminated to secondary schools for the management of pain due to dysmenorrhea in adolescent menarche and early menstruation order to improve the quality and concentration learning.

Keywords: Finger Grip Relaxation, Dysmenorrhea Pain, Middle School Students.

1. INTRODUCTION

The child will grow up to be a teenager and develop towards the adult stage which will experience menstruation. Dysmenorrhea pain in the lower abdomen but can spread to the lower back and thighs, which is felt during or before menstruation which can even be accompanied by hip pain, nausea, vomiting, dizziness and fainting. The cramps come from contractions in the uterus, prostaglandin (PG) F2-Alfa, namely cyclooxygenase (COX-2) resulting in hypertonus and vasoconstriction in the myometrium which results in ischemia and causes pain in the lower abdomen which is a normal part of the menstrual process, and is usually first felt when it starts. bleeding and continues for up to 32-48 hours (Bernardi et al., 2019).

Dysmenorrhea can also cause unstable psychological disorders, stress, depression, excessive anxiety and the state of dysmenorrhea has a high impact on women's lives, interferes with daily activities, lower academic performance in adolescents, poor sleep quality and has a negative effect on mood. liver, can cause anxiety and depression (Petraglia et al., 2017) (Hailemeskel et al., 2016).(Udayar et al., 2022). If the menstrual pain is so severe that it forces the sufferer to rest and leave work or daily routine activities for several hours or several days. This is what causes young women to be unproductive, not concentrating and not doing their daily activities.

Cases of dysmenorrhea were reported by 84.1% of women, with 43.1% reporting that the pain occurred during each period, and 41% reporting that the pain occurred over several periods (Grandi et al., 2012). In Indonesia, the incidence of dysmenorrhea is large, showing that patients with dysmenorrhea reach 60-70%. The incidence of primary dysmenorrhea in Indonesia is 54.89%, while the remaining 45.11% is secondary dysmenorrhea. (Lail, 2019)

The classification of dysmenorrhea is primary dysmenorrhea and secondary dysmenorrhea. Primary dysmenorrhea is menstrual pain without gynecological abnormalities. During menstruation, sloughed endometrial cells release prostaglandins. Prostaglandins stimulate uterine muscles that affect blood vessels causing uterine ischemia (decreased blood supply to the uterus) through the myometrium (muscle wall of the uterus) and vasoconstriction (narrowing of blood vessels). Primary dysmenorrhea is very painful menstruation that occurs without gynecological disease (Habibi et al., 2015).

Factors that can cause dysmenorrhea include menarche, family history, physical activity, menstrual cycle, duration of menstruation, body condition, nutritional status with age, nutritional status, age of maternal menarche (Romlah & Agustin, 2020) (Gunawati & Nisman, 2021). Women with more severe stress have a 79% chance of experiencing more severe dysmenorrhea (Maryam et al., 2016).

Psychologically, adolescents who are emotionally unstable and do not get a good explanation about menstruation are easy to experience dysmenorrhea. Parental emotions, behaviors, and health also play a role in adolescent pain experiences, where overprotective parental behavior, increased stress, and a history of chronic pain are important parental level influences. Adolescents or children with chronic pain have poorer family functioning (e.g., more conflict, less cohesion) than families with healthy children (Palermo, Tonya M., Valrie, Cecelia R., Karlson, 2022)

The finger grip relaxation technique is an action to free mentally and physically from tension and stress so that it can increase tolerance to pain. Relaxation is divided into deep breathing relaxation, muscle relaxation and finger gripping. The finger grip relaxation technique can be used as an intervention in the hospital or at home to reduce pain in postoperative patients (Calisanie & Ratnasari, 2021). The finger grip technique here is also carried out with guided imagination techniques to create an impression in the client's mind and then concentrate on that impression so that it can gradually reduce the perception of pain. Research studies show that the overall prevalence of primary dysmenorrhea is 71% and secondary is 18% (Kharaghani & Damghanian, 2017). Primary dysmenorrhea usually occurs in

young women who have had their first menstruation (6-12 months) after the first menstruation, as soon as a regular ovulatory cycle is determined. High school students are teenagers who have experienced menstrual pain for the first time or several times. During menstruation, exfoliated endometrial cells release prostaglandins, this affects the uterine muscle, blood vessels causing uterine ischemia (decreased blood supply to the uterus) through the myometrium (muscle of the uterine wall) and vasoconstriction (narrowing of blood vessels). One in four women experience annoying menstrual pain characterized by the need for medication and absence from studies or social activities (Grandi et al., 2012) (Habibi et al., 2015).

Pain management is one way that can be used to treat pain in students who experience dysmenorrhea. Broadly speaking, pain management can be done with pharmacological management and non-pharmacological management (Pinandita, I. Purwanti, E., & Utoyo, 2012)

Distraction and relaxation techniques are non-pharmacological therapies that have been widely applied to patients who experience pain. The results showed that there were differences in the results

pain scale between pre-test and post-test with postoperative patient relaxation distraction techniques (Rohyani, 2022).

In its development, this distraction technique can be done in various ways, one of which is the finger grip technique. Therapy that uses hand touch and breathing techniques to balance the body's energy that can help patients control themselves when unpleasant feelings arise that can cause pain, physical and emotional stress. The results of the study obtained a postoperative pain scale before finger grip relaxation was carried out with a very heavy scale. There was a decrease in the pain scale before and after the finger gripping technique was carried out in postoperative sectio caesarea patients (Pongoh et al., 2020).

Grasping your fingers while taking deep breaths can reduce and heal physical and emotional tension, because finger grips will warm the points of entry and exit of energy in the meridians or energy channels in the fingers and release locked energies called safety energy locks. due to unbalanced feelings so that blockages in the energy pathways become smooth so that the body, soul, and mind achieve relaxation. The finger grip relaxation technique provides an action to free mentally and physically from tension and stress, so as to increase tolerance to pain. Relaxation can also reduce levels of the stress hormone cortisol, reducing sources of depression so that pain can be controlled and body functions are getting better. Pain intensity research shows that there is an effect of finger grip relaxation on reducing pain in post sectio caesarea patients in the Delima room of Kertosonono Hospital (Astutik & Kurlinawati, 2017)

Numerical rating scale (NRS)

Pain is an uncomfortable and highly individual feeling that cannot be felt or shared with others. In general, pain is a feeling of discomfort, either mild or severe. Pain involves two aspects, namely psychological and physiological, both of which are influenced by factors such as culture, age, environment and support systems, past experiences, anxiety and stress. Pain is defined as an unpleasant feeling condition, is very subjective because the feeling of pain is different for each person in terms of the scale or level. Pain can be felt by sufferers if pain receptors induce afferent peripheral nerve fibers, namely A-delta fibers and C fibers. A-delta fibers have myelin that convey pain impulses quickly, cause sharp sensations, and localize the source of pain and detect pain intensity. C fibers do not have myelin so they transmit impulses more slowly and are very small in size. A-delta fibers and C fibers will convey stimulation from peripheral nerve fibers when biochemical mediators that are active in the pain response such as potassium and prostaglandins are released due to tissue damage (Perry, 2017).

Numerical rating scales are used instead of word descriptive tools. In this case the client assesses pain using a 0-10 scale. Pain scale at 0 means no

pain, numbers 1-3 indicate mild pain, numbers 4-6 are included in moderate pain, while numbers 7-10 are categories of severe pain. Therefore, the NRS scale will be used as a research instrument. According to the pain scale is categorized as follows:

1. 0 : no pain complaints, no pain
2. 1-3: start to feel and can be held, mild pain.
3. 4-6: pain that is bothersome and requires effort to endure, moderate pain.
4. 7-10: the pain is very disturbing and unbearable, grimacing, screaming and even screaming, severe pain.

The most effective scale used to assess pain intensity before and after therapeutic intervention (Perry, 2017).

Numerical rating scales are used instead of word descriptive tools. In this case the client assesses pain using a scale of 0-10. The most effective scale used to assess pain intensity before and after therapeutic intervention (Perry, 2017).

Picture 1. Numerical rating scale (NRS)

Finger grip relaxation technique

Finger grip relaxation is a relaxation technique used to relieve or reduce pain by holding each finger in (Aswad, 2020). This technique is adopted from the Jin Shin Jyutsu. Jin Shin Jyutsu is Japanese acupressure (Djala & Tahulending, 2018).

Grasping fingers is a way to balance and harmonize energy throughout the body. A touch of the thumb is believed to relieve anxiety and headaches. The grip on the index finger is done to minimize frustration, fear and muscle pain and is in direct contact with the kidneys. The middle finger is closely related to blood circulation and fatigue, a touch of the middle finger creates a relaxing effect that can overcome anger and reduce blood pressure and fatigue in the body. A touch of the ring finger can help reduce digestive and respiratory problems and can overcome negative energy and feelings of sadness. The little finger is in direct contact with the heart and small intestine. Holding on to the little finger is believed to relieve nervousness and stress (Djala & Tahulending, 2018).

The finger grip technique applied here consists of several stages: 1) Prepare a quiet environment, 2) Position the client in a comfortable position such as sitting or lying down, ask the client to catch his breath and relax his mind, 3) Ask the client to take deep breaths slowly and gently to relax all muscles, while closing the eyes, 4) Relaxation begins with the client holding the thumb with gentle pressure, holding it until the pulse is felt, 5) The client is asked to regulate the breath with a regular count, 6) Hold the thumb for about 2-3 minutes with regular breaths and then so on one by one switch to the index finger, middle finger, ring finger and little finger with the same time span, 7) Release your finger grip and try to be more relaxed (Sulung & Rani, 2017).

Picture 2. Finger grip relaxation technique.

2. METHOD

This type of research is this research using experimental research. The research design used is one group pre-post test design, involving one group of subjects by observing the intensity of dysmenorrhea pain before and after being given treatment or intervention. Purposive sampling was 136 high school students in grades 10, 11, and 12. The inclusion criteria were dysmenorrhea during menstruation and willing to be studied voluntarily and signed an informed consent. First, prospective respondents are given direction and knowledge about the research objectives, data collection methods and interventions to be carried out. Data retrieval at a time span of two months to anticipate the menstrual cycle on a backward date. the number of respondents is more representative. Purposive sampling of 136 high school students with mild to severe dysmenorrhea. Collecting data by observing the pain scale using a numerical rating scale (Numerical rating scale, /NRS), Observations were made twice, namely pre-test and post-test. Observation of the pre-test pain scale was then carried out with finger grip relaxation techniques intervention and then a post-test assessment of the NRS pain scale was carried out. Data analysis Editting, scoring, Coding, Tabulating, Entry data, use test Wilcoxon. This research has received ethical approval from the health research ethics commission, University of Muhammadiyah Lamongan no. 210/EC/KEPKS2/04/2022.

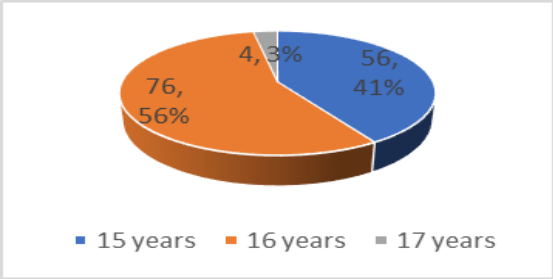
3. RESULTS

The results of the research presented include the characteristics of the respondents based on their age and the time of their first menstruation or menarche. While the specific data includes the observation of the pre-test pain scale before the finger grip relaxation technique intervention and post-test after the intervention. The cross table of the results of the pre and post tests as well as the Wilcoxon statistical test with a significance level of 0.05.

Characteristics of respondents based on their adolescent age. and age of menarche.

Table 1 Distribution of Respondents by Age of Middle Class Students.

No	Age	Frequency	Percentage %
1	15 year	56	41.2
2	16 year	76	55.9
3	17 year	4	2.9
	Total	**136**	**100**

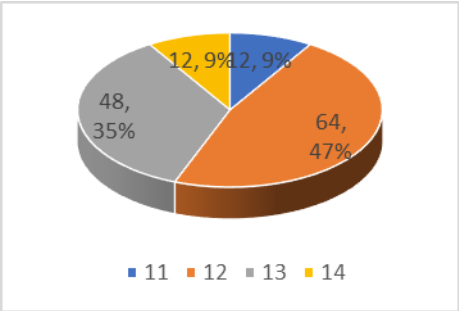


Based on the data in table 1 above, it can be seen that most of the respondents aged 16 years held 76 (55.9%), a small proportion were aged 17 years (2.9%).

Table 2 Distribution of Respondents by Age of Menarche in Middle Class Students

No	Menarche Age	Frequency	Percentage e %
1	11 year	12	8.8
2	12 year	64	47.1
3	13 year	48	35.3

4	14 year	12	8.8
	Total	**136**	**100**

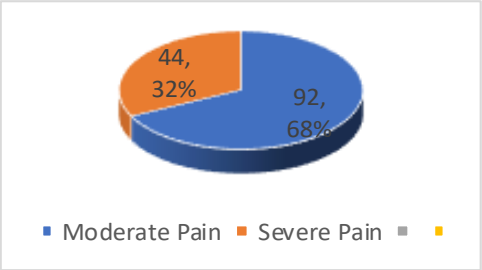


Based on table 2, it can be seen that almost most of the respondents got their first menstruation or menarche at the age of 12 years with a total of 64 respondents (47.1%). A small proportion at the age of 11 and 14 each 12 respondents (8.8%).

Specific data from the results of the study include the pre-test observation of the menstrual pain scale (dysmenorrhea) before giving the finger grip relaxation technique and the post-test menstrual pain scale (dysmenorrhea) after the finger grip relaxation technique on reducing menstrual pain (dysmenorrhea) in high school students. Pain scale using a numerical rating scale (Numerical rating scale, /NRS),

Table 3 Pre-test Dysmenorrhea Pain Scale before Intervention of Finger Grip Relaxation Techniques

No	Pain Scale	Frequency	Percentage (%)
1	Moderate Pain	92	67.6
2	Severe Pain	44	32.4
	Total	136	100

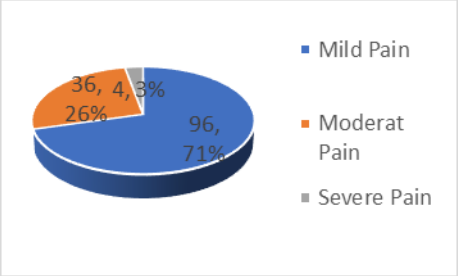


Based on table 3 above, it can be seen that before being given the finger grip relaxation technique, (pre-test) most of the respondents who experienced moderate pain with a pain scale of 4-6 were 92 students (67.6%), and almost most of the students experienced severe pain. with a pain scale of 7-10, which is 44 (32.4%).

Table 4 Post-test Dysmenorrhea Pain Scale after Intervention of Finger Grip Relaxation Technique.

No	Pain Scale	Frequency	Percentage (%)
1	Nyeri ringan	96	70,6
2	Nyeri Sedang	36	26,5
3	Nyeri Berat	4	2,9

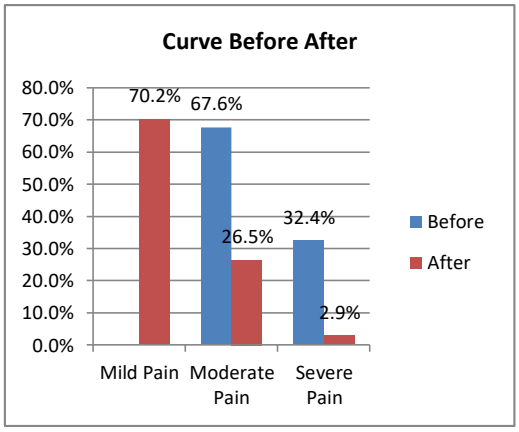
	Total	**136**	**100**



Based on table 4, it can be seen that after the finger grip relaxation technique intervention (post-test) most of the 96 (70.6%) students who experienced dysmenorrhea were on a pain scale of 1-3 (mild pain), as many as 36 students (26.5%)) experienced moderate pain scale and a small part, namely 4 students (2.9%) experienced severe pain.

Table 5 The effect of finger grip relaxation techniques on the intensity of dysmenorrhea pain.

Pain Scale	**Measurement results**			
	Before		**After**	
	F	**%**	**F**	**%**
Mild Pain	0	0	96	70.6
Moderate Pain	92	67.6	36	26.5
Severe Pain	44	32.4	4	2,9
Total	**136**	**100**	**126**	**100**
Uji Wilcoxon Signed Rank Test p value 0,000				



Based on table 5, the results of most of the pre-test before the intervention of finger grip relaxation techniques were carried out were 92 students (67.6%). Post-test after the finger grip relaxation technique intervention showed that most of the respondents experienced mild pain as many as 96 respondents (70.6%). The Wilcoxon Signed Rank Test using the SPSS program obtained Asymp results. sig. (2-tailed) 0.000 < = 0.05 so H1 is accepted, which means that there is an effect of finger grip relaxation techniques on the intensity of dysmenorrhoea pain in middle school students.

4. DISCUSSION

Adolescence is seen as a period that begins with the arrival of puberty and ends with the arrival of adulthood. argues that adolescence actually does not have a clear place, it does not belong to the group of children, but also does not belong to the group of adults. Adolescents are considered not to be adults, because they are still unable to master their physical and psychological functions, not including children, because adolescents experience many changes, both physical and psychological. Phases of human life there are several physical and emotional events that are regulated by neurohormones, namely: fundamental to human development, responsible for changes in thoughts, attitudes, and body size and composition that culminate in full maturity for a tiring and reproductive life (Ciampo & Ciampo, 2020)

One of the most important hormones in adolescent girls is the hormone estrogen, which has two important functions. The first function is to trigger the emergence of secondary female sexual characteristics that cause growth in the reproductive organs. The second function is to regulate the monthly menstrual cycle in the reproductive organs. This early period of menstruation, young women often experience abdominal pain due to tight uterine muscles contracting. Dysmenorrhea is a common secondary symptom of various gynecological disorders, but it also appears in most women as the main form of the disease. Pain associated with dysmenorrhea is caused by hypersecretion of prostaglandins and increased uterine contractility. Primary dysmenorrhea is quite common in young women and remains with a good prognosis, although it is associated with a low quality of life (Bernardi et al., 2019). The incidence of dysmenorrhea in college students was reported in 84.2% of girls and 15.8% reported no dysmenorrhea (Kural et al., 2015).

The results showed that most of the female students experienced menstrual pain/dysmenorrhea on a moderate pain scale, namely 4-6. Pain is a very subjective entity. Despite the fact that two individuals may have the same clinical diagnosis, their quantification of the severity of pain may be very different, depending on the individual to respond or respond to. (Delgado et al., 2018). Some students may tolerate pain by continuing to carry out learning activities at school, but some other students feel severe pain during menstruation so they cannot participate in learning. Pain is not something that is easily diagnosed or documented by magnetic resonance imaging (MRI) scans or imaging studies. We have to look at pain in a more subjective way and track each patient longitudinally (Tripathi & Kumar, 2014).

Management of menstrual pain/dymenorrhea with non-pharmacological techniques, namely finger grip relaxation techniques is an alternative therapy that can be done on female students. This technique can be given to students who experience primary dysmenorrhea, namely dysmenorrhea that occurs without being followed by pathological conditions in the reproductive system. Pain associated with dysmenorrhea is caused by hypersecretion of prostaglandins and increased uterine contractility. The incidence of dysmenorrhea is quite frequent in young women and remains with a good prognosis, although it can be associated with a low quality of life (Petraglia et al., 2017).

Age of menarche affects menstrual pain, the younger the age of the female adolescent, the greater the incidence of dysmenorrhea. Psychological factors of immature girls will have a higher impact on pain. The transition from childhood to adulthood that causes anxiety disorders, difficulty sleeping, unable to manage emotions or being more sensitive. Psychological conditions like this cause young women at a younger age to not be able to control their feelings of pain well, namely with a pain scale that is higher than older ages (Soesilowati & Annisa, 2016)(Habibi et al., 2015).

Adolescence is a period where they like to try new things, tend to imitate what they see, including the application of finger grip relaxation techniques. Researchers have no difficulty in teaching and practicing this technique to middle-class young women who experience

dysmenorrhea. The finger grip relaxation technique uses several stages, namely: 1) Prepare a quiet environment, this intervention is carried out in the school health room so as not to cause environmental noise, 2) Position the respondent in a comfortable position such as sitting or lying down, (according to the wishes of the young woman), ask the respondent to catch her breath, close her eyes and relax her mind, 3) Ask the respondent to take a deep breath slowly and gently to relax all muscles, while closing his eyes, 4) Relaxation begins by directing the respondent's hand to grip the thumb with gentle pressure, holding it until you feel the pulse, 5) Respondents were asked to regulate their breath with a regular count and remain relaxed, 6) Grasp the thumb gently for approximately 2-3 minutes with regular breaths and then so on one by one switch to the index finger, middle finger, ring finger and little finger with the same time span, 7) Release the grip of the fingers slowly and try to be more relaxed (Sulung & Rani, 2017). The finger grip technique is carried out while regulating the breath (relaxation) is carried out for approximately 3-5 minutes and can be repeated independently to reduce physical and emotional tension, finger grip will warm the points of entry and exit of energy meridians (emergency channels) located on the fingers. The reflex points on the hand will stimulate reflex (spontaneous) when gripping. The stimulation will flow electrical waves to the brain which will be received and processed quickly, then forwarded to the nerves in the affected organs. The end result of this process is a blockage in the path of the energy being smooth. The effect of this muscle relaxation causes the level of norepinephrine in the blood to decrease. In a state of relaxation it will naturally trigger the release of endorphins, this hormone is the body's natural analgesic so that pain will decrease. Relaxing muscles will spread stimulation to the hypothalamus so that the soul and human internal organs feel calm and comfortable (Handoyo & Hartati, 2021). Research on the pain scale after sectio caesarea shows that there is an effect of finger grip relaxation techniques on reducing pain levels (Tyas & Sadanoer, 2019), (AZ et al., 2022) Nurses mostly use distraction and relaxation to manage pain (Ibitoye et al., 2019).

Recommendation

The statistical test shows that there is a significant effect of finger grip relaxation techniques on high school students to reduce dysmenorrhoea pain. For educational institutions, it can be applied to students through School Health Business activities to treat dysmenorrhea pain at school and can also be done at home. Outreach to female students is important to anticipate pain conditions at no cost. cheap, easy to do anywhere and no side effects because it does not use drugs. This technique can be applied to primary dysmenorrhea without being followed by pathological conditions or comorbidities and disorders of the reproductive system.

5. REFERENCE

1. Grandi, G., Ferrari, S., Xholli, A., Cannoletta, M., Palma, F., Romani, C., Volpe, A., & Cagnacci, A. (2012). Prevalence of menstrual pain in young women: What is dysmenorrhea? Journal of Pain Research, 5, 169–174. https://doi.org/10.2147/JPR.S30602
2. Petraglia, F., Bernardi, M., Lazzeri, L., Perelli, F., & Reis, F. M. (2017). Dysmenorrhea and related disorders. F1000Research, 6(0), 1–7. https://doi.org/10.12688/f1000research.11682.1
3. Lail, N. H. (2019). Hubungan Status Gizi, Usia Menarche dengan Dismenorea pada Remaja Putri Di SMK K Tahun 2017. Jurnal Ilmiah Kebidanan Indonesia, 9(02), 88–95. https://doi.org/10.33221/jiki.v9i02.225
4. Kharaghani, R., & Damghanian, M. (2017). The prevalence of dysmenorrhea in Iran: A systematic review and meta-analysis. Iranian Red Crescent Medical Journal, 19(3), 1–10. https://doi.org/10.5812/ircmj.40856
5. Pinandita, I. Purwanti, E., & Utoyo, B. (2012). Jurnal Ilmiah Kesehatan Keperawatan, Volume 8, No. 1, Februari

2012. Jurnah Kesehatan Perawatan, 8(1), 32–43. http://ejournal.stikesmuhgombong.ac.id/JIKK/article/view/66

6. Rohyani, D. (2022). The Effect of Relaxation Techniques and Distraction Techniques on Reducing Pain Scale in Postoperative Patients at UKI Hospital East Jakarta in 2020. Journal Educational of Nursing(Jen), 4(2), 98–107. https://doi.org/10.37430/jen.v4i2.97
7. Pongoh, A., Egam, A., Kamalah, R., & Mallongi, A. (2020). Effectiveness of Finger Held Relaxation on the Decrease in Intensity of Pain in Patient of Post-Sectio Caesarea in RSUD Sorong Regency. Systematic Reviews in Pharmacy, 11(9), 953–956. https://doi.org/10.31838/srp.2020.9.138
8. Habibi, N., Huang, M. S. L., Gan, W. Y., Zulida, R., & Safavi, S. M. (2015). Prevalence of Primary Dysmenorrhea and Factors Associated with Its Intensity Among Undergraduate Students: A Cross-Sectional Study. Pain Management Nursing, 16(6), 855–861. https://doi.org/10.1016/j.pmn.2015.07.001
9. Romlah, S. N., & Agustin, M. M. (2020). Faktor-Faktor Yang Berhubungan Dengan Kejadian Dismenorea Pada Siswa Kelas XI Jurusan Keperawatan Di SMK Sasmita Jaya 1 Pamulang. Prosiding Seminar Nasional Hasil Penelitian & Pengabdian Kepada Masyarakat 2020, Vol. 1(No. 1), Hal: 384-392.
10. Gunawati, A., & Nisman, W. A. (2021). Faktor-Faktor yang Berhubungan dengan Tingkat Dismenorea di SMP Negeri di Yogyakarta. Jurnal Kesehatan Reproduksi, 8(1), 8. https://doi.org/10.22146/jkr.56294
11. Maryam, Ritonga, M. A., & Istriati. (2016). Relationship between Menstrual Profile and Psychological Stress with Dysmenorrhea. Althea Medical Journal, 3(3), 382–387. https://doi.org/10.15850/amj.v3n3.884
12. Palermo, Tonya M., Valrie, Cecelia R., Karlson, C. W. (2022). Family and parent influences on pediatric chronic pain: A developmental perspective. American Psychologist, Vol 69(2)(Feb-Mar 2014,), 142–152.
13. Calisanie, N. N. P., & Ratnasari, A. N. (2021). The Effectiveness of the Finger Grip Relaxation Technique to Reduce Pain Intensity in Post-Appendectomy Patients: A Literature Review. KnE Life Sciences, 2021, 753–757. https://doi.org/10.18502/kls.v6i1.8751
14. Bernardi, M., Lazzeri, L., Petraglia, F., Perelli, F., & Reis, F. M. (2019). Dysmenorrhea and related disorders [version 1 ; peer review : 3 approved]. F1000Research 2017, 6, 1–7.
15. Kural, M., Noor, N., Pandit, D., Joshi, T., & Patil, A. (2015). Menstrual characteristics and prevalence of dysmenorrhea in college going girls. Journal of Family Medicine and Primary Care, 4(3), 426. https://doi.org/10.4103/2249-4863.161345
16. Delgado, D. A., Lambert, B. S., Boutris, N., McCulloch, P. C., Robbins, A. B., Moreno, M. R., & Harris, J. D. (2018). Validation of Digital Visual Analog Scale Pain Scoring With a Traditional Paper-based Visual Analog Scale in Adults. JAAOS: Global Research and Reviews, 2(3), e088. https://doi.org/10.5435/jaaosglobal-d-17-00088
17. Tripathi, L., & Kumar, P. (2014). Challenges in pain assessment: Pain intensity scales. Indian Journal of Pain, 28(2), 61. https://doi.org/10.4103/0970-5333.132841
18. Petraglia, F., Bernardi, M., Lazzeri, L., Perelli, F., & Reis, F. M. (2017). Dysmenorrhea and related disorders. F1000Research, 6(0), 1–7. https://doi.org/10.12688/f1000research.11682.1

19. Sulung, N., & Rani, S. D. (2017). Teknik Relaksasi Genggam Jari Terhadap Intensitas Nyeri Pada Pasien Post Appendiktomi. Jurnal Endurance, 2(3), 397. https://doi.org/10.22216/jen.v2i3.2404
20. Handoyo, & Hartati. (2021). The Effect Of Finger Hold Relaxation Techniques On Mean Arterial Pressure (Map) In Hypertension Patients. NVEO – Natural Volatiles & Essential Oils, 8(5).
21. Ibitoye, B. M., Oyewale, T. M., Olubiyi, K. S., & Onasoga, O. A. (2019). The use of distraction as a pain management technique among nurses in a North-central city in Nigeria. International Journal of Africa Nursing Sciences, 11(January), 100158. https://doi.org/10.1016/j.ijans.2019.100158
22. Astutik, P., & Kurlinawati, E. (2017). Pengaruh Relaksasi Genggam Jari Terhadap Penurunan Nyeri Pada Pasien Post Sectio Caesarea. Strada Jurnal Ilmiah Kesehatan, 6(2), 30–37. https://doi.org/10.30994/sjik.v6i2.6
23. Perry, P. (2017). Fundamentals of Nursing (P. Perry (ed.); 9th ed.). Elsevier.
24. Tyas, A. D., & Sadanoer, I. M. (2019). Pengaruh Teknik Relaksasi Genggam Jari Terhadap Penurunan Tingkat Nyeri Pada Pasien Post Operasi Sectio Caesarea. Jurnal Bidan Komunitas, 3(2), 86–92.
25. Pada, D., Stikes, M., Tuah, H., & Kunci, K. (n.d.). Pengaruh Teknik Relaksasi Genggam Jari Terhadap Intensitas Nyeri.
26. AZ, R., Tarwiyah, T., & Maulani, M. (2022). Pengaruh Teknik Relaksasi Genggam Terhadap Skala Nyeri Pasien Post Operasi. JINTAN: Jurnal Ilmu Keperawatan, 2(1), 27–32. https://doi.org/10.51771/jintan.v2i1.216
27. Udayar, S. E., Jeergiyal, D. P., & Kruthika, K. (2022). Prevalence and Predictors of Dysmenorrhea and its Impact on Quality of Life among Tribal Adolescent Girls in India. Unnes Journal of Public Health, 11(1), 23–32. https://journal.unnes.ac.id/sju/index.php/ujph/article/view/45965
28. Ciampo, L. A. Del, & Ciampo, I. R. L. Del. (2020). Physical, emotional and social aspects of vulnerability in adolescence. International Journal of Advanced Community Medicine, 3(1), 183–190. https://doi.org/10.33545/comed.2020.v3.i1c.135