



THE EFFECTIVENESS OF ABDOMINAL STRETCHING EXERCISE AND CLASSICAL MUSIC THERAPY ON DYSMENORRHOEA PAIN INTENSITY AMONG ADOLESCENT WOMEN

Tasya Anggraini^{1*}, Toha Muhaimin¹, Nurhayati¹, Achmad Ali Basri²

¹Master of Nursing Program, Faculty of Nursing, Universitas Muhammadiyah Jakarta, Jl. K.H. Ahmad Dahlan, Cireunde, District. Ciputat Timur, South Tangerang, Banten 15419, Indonesia

²Department of Nursing, Faculty of Health Science, Universitas dr. Soebandi Jember, Jl. DR. Soebandi No. 99, Cangkring, Patrang, Patrang, Jember Regency, East Java 68111, Indonesia

*tasyaanggraini2727@gmail.com

ABSTRACT

The prevalence of dysmenorrhea was high in all the countries and caused a decrease in quality of life among adolescents. One of the recommendations to reduce pain is abdominal stretching exercises and classical music therapy. However, limited studies were found to know the comparison of both interventions. Objective. This study aimed to explore the effectiveness of abdominal stretching exercises compared to classical music therapy on dysmenorrhea pain intensity among adolescent women. Methods: This study is quasi-experimental with pre-test and post-test design using a convenience sampling method. During one one-month period from August to September 2023, this study was conducted among adolescents. The inclusion criteria were adolescent women who experienced menstruation pain, were in stable condition, not taking any painkiller medication the exclusion criteria were respondents with chronic conditions. A total of 38 respondents divided into two groups agreed to participate in this study. The instrument used is the NRS (Numerical Rating Scale) from 0-10. The researcher provided the abdominal stretching exercise for 15 minutes while the classical music therapy intervention for 15-20 minutes for 3 days. Data was analyzed using the Independent T-test. Results. The majority of respondents before intervention were in moderate pain and after intervention decreased in mild and moderate pain. Both interventions were significant in reducing pain with a p-value <0.005. Conclusion: Abdominal Stretching more effective in reducing the intensity of dysmenorrhea pain compared to classical music therapy.

Keywords: abdominal stretching exercise; adolescent girls; classical music therapy; dysmenorrhea

First Received 14 March 2024	Revised 22 April 2024	Accepted 24 April 2024
Final Proof Received 30 August 2024	Published 31 August 2024	
How to cite (in APA style) Anggraini, T., Muhaimin, T., Nurhayati, N., & Basri, A. A. (2024). The Effectiveness of Abdominal Stretching Exercise and Classical Music Therapy on Dysmenorrhore Pain Intensity among Adolescent Women. Indonesian Journal of Global Health Research, 6(S4), 317-322. https://doi.org/10.37287/ijghr.v6iS4.3318 .		

INTRODUCTION

According to the recent data, the general prevalence of dysmenorrhea was 41-91.5% determined by age (Gutman, G., Nunez, A. T., & Fisher, M. (2022). Meanwhile, in Indonesia, the prevalence of dysmenorrhea sufferers is 64.5% with the most cases found in adolescents, namely 17-24 years old with a primary dysmenorrhea incidence rate of 54.89% while secondary dysmenorrhea is 45.11% (Ministry of Health Indonesia, 2022). Even though dysmenorrhea is the main gynecological complaint of adolescents among different countries and vital public health burden because diminished quality of life but many adolescents do not seek medical care for this condition and not received Appropriate counselling and

management (De Sanctis, V., Soliman, A. T., Elsedfy, H., Soliman, N. A., Elalaily, R., & El Kholy, M. (2016).

Previous study mentioned that among adolescent who experienced dysmenorrhea contributed to the development of adult endometriosis (Dai, Y., Luo, H., Zhu, L., Yang, W., Xiang, H., Shi, Q., & Jin, P, 2024) The high incidence of dysmenorrhea is influenced by several factors, for instance age at menarche, family history of dysmenorrhea, fast food habits, anemia, and abnormal Body Mass Index (BMI), lack of physical activity, low quality sleep and stress levels (Horman, N., Manoppo, J., & Meo, L. N. (2021). The total of 81.3% young woman who did low physical activity tended to experience dysmenorrhea, and for those who practice active physical activity had 20.0% experienced mild dysmenorrhea (Sugiyanto, S., & Luli, N. A. (2020) One of the recommendation to reduce pain is low-intensity exercise (Goss, G. L. (2023). Abdominal stretching exercise aims to increase muscle strength, endurance and flexibility therefore can reduce dysmenorrhea (Ardiani & Sani, 2020). Several research described there was a significant effect after abdominal stretching exercise on reducing dysmenorrhea pain (Hidayah, N, 2017; Mansoben, N., Gurning, M., & Sikowai, I. H. (2021). Furthermore, classical music therapy is an activity or activity to divert pain in dysmenorrhea so that awareness can control the pain (Bingan, E. C. S. (2020; Utari, M. D. (2017).

Study showed young women with menstrual pain reduced the dysmenorrhea level (Saavedra&Ruiz-Sternberg, 2020). Providing classical music therapy is effective for teenage girls who experience pain during menstruation because it is very beneficial and has almost no side effects (Ituga, A. S., Taqiyah, Y., & Agustini, T. (2020). Based on the explanation the researcher interest to explore the effectiveness of abdominal stretching exercise compared to classical music therapy on dysmenorrhore pain intensity among adolescent women.

METHOD

The study used a quasi-experimental approach with two group of control and intervention and conducted pre-test and post-test design. Convenience sampling method was applied in this study. This study was conducted in one of senior high school in urban city Indonesia during one month period from August-September 2023. The inclusion criteria of this study was adolescent woman who experienced menstruation pain, stable condition, not taking any pain killer medication the exclusion criteria were respondents with chronic conditions. A total of 38 respondents divided into two groups agreed to participate in this study. Instruments was used is NRS (Numerical Rating Scale) from 0-10 with the higher scare indicating more pain. Based on previous research NRS showed good reliability with kappa = 0.4923 (Silverberg, J. I. 2021). This instrument has been used in numerous study. This scale is designed to determine the severity of pain and provide opportunities for patients to express themselves how much pain he experienced (Potter, P. A., Perry, A. G., Stockert, P. A., & Hall, A, 2021)This scale is quite helpful when comparing the scale of pre- and post-operative care (Yudiyanta, N. K., & Ratih, NW (2015) At the first, researcher conducting health assessment and measure baseline of pain level. The researcher provided the abdominal stretching exercise intervention for 15 minutes with movements according to the Standard Operational Procedure (SOP), while the classical Music therapy intervention was carried out for 15-20 minutes. This research was conducted for 3 days and at the end researcher measure again pain level, Data was analyzed using Independent T-Test. This research gained ethical permission from the Ethic Committee- University of Muhammadiyah Jakarta Number 1203/F.9-UMJ/VIII/2023 at 28 July, 2023

RESULTS

Table 1.
Demographic Characteristics of Respondents (n=38)

Demographic Characteristics	Intervention (n,%)	
	Abdominal Stretching Exercise (n=19)	Music Classic (n=19)
Age (years old)		
Middle Adolescent (14-16)	11 (57.9)	9 (47.4)
Late Adolescent (17-20)	8 (42.1)	10 (52.6)
Age Menarche (years old)		
< 12	2 (10.5)	5 (26.3)
≥ 12	17 (89.5)	14 (73.7)
Menstruation Duration (days)		
<7	11 (57.9)	9 (47.4)
≥ 7	8 (42.1)	10 (52.6)
Family History with Dysmenorrhea		
Yes		
No	3 (15.8)	6 (31.6)
	16 (84.2)	13 (68.4)

Table 2.
The Pain Comparison Among Respondents

Numeric Rating Scale (n,%)	Abdominal Stretching Exercise		Music Classic	
	Before	After	Before	After
Mild Pain		7 (36.8)	1 (5.3)	13 (68.4)
Moderate Pain	14 (73.9)	12 (63.2)	17 (89.5)	6 (31.6)
Severe Pain	5 (26.3)		1 (5)	

Table 3.
The Effectiveness of Intervention

Variables	Group	Mean	P-value
Before	Abdominal Stretching Exercise	5.74	0.01*
	Music Classic	4.84	
After	Abdominal Stretching Exercise	3.95	0.01*
	Music Classic	3.00	

The majority of respondents in the abdominal stretching group were in their middle teens (14-16 years) with a total of 11 (57.9%) but in music classic were late adolescents (17-20 years old) with a total of 10 (52.6.9%) (Table 1). Both groups share several similarities of menarche age was more than ≥ 12 years and had a family history of dysmenorrhea. However, the difference showed that more young women experienced menstruation in less than 7 days with a total of 11 (57.9%) in the abdominal stretching group compared to the music classic group with a total of 10 (52.6%). Based on Table 2, the majority of respondents before intervention were in moderate pain and after intervention decrease in mild and moderate pain. From statistical analysis, both intervention were significant in reducing pain with a p-value < 0.005 (Table 3)

DISCUSSION

The results of this research are the theory that reducing pain during menstruation can be done with non-pharmacological therapy (Yuli, R. (2017). These results are supported by previous research conducted among high school pupils (Abidin, J., Supriyadi, S., & Surendra, M. (2019). The reduction in the intensity of dysmenorrhea pain in this study was greatly

influenced by abdominal stretching which involved movement of the abdominal muscles, with the extent to which respondents followed physical activity procedures consistently. The results of this research are by the theory which states that classical music therapy is a therapy using music aimed at enhancing or improving various conditions, both physical, emotional, cognitive and social in individuals. Music is an effective distraction technique that can reduce the intensity of menstrual pain by diverting a person's attention from the feelings they are feeling. By using classical music, individuals can concentrate on interesting or pleasant stimuli so that they no longer focus on the pain they are feeling (Tetti, S., & Eli, C. (2017).

Researchers analyzed that classical music therapy intervention had a significant difference before and after classical music therapy intervention with a decrease in the intensity of dysmenorrhea pain which diverts attention to something else and can relax so that one does not care about the pain and there is evidence that classical music therapy can relieve painful. The advantages of using Classical Music Therapy are that it is cheaper than analgesics, the non-invasive procedure does not injure, there are no side effects, and it is very popular among teenagers who cannot use physical therapy to reduce pain (Grimonia, 2014).

CONCLUSION

Abdominal Stretching had a greater effect on reducing the intensity of dysmenorrhea pain due to physical movement by stretching the abdominal muscles compared to classical music therapy because this therapy only listened to and distracted the pain and there was no physical movement in Classical Music Therapy and more effective as evidenced.

REFERENCES

- Abidin, J., Supriyadi, S., & Surendra, M. (2019). Pengaruh William Flexion Exercise terhadap penurunan intensitas nyeri haid (dysmenorrhea) pada siswi SMAN 7 Kota Malang. *Jurnal Sport Science*, 9(1), 39.
- Ardiani, N. D., & Sani, F. N. (2020). Pemberian Abdominal Stretching Exercise Terhadap Nyeri Disminore Pada Remaja. *Jurnal Ilmiah Kesehatan*, 13(1).
- Bingan, E. C. S. (2020). Terapi Musik Instrumental Dayak Terhadap Pengurangan Nyeri Haid (Dismenorhoe) Pada Remaja Putri Kota Palangka Raya. *JPP (Jurnal Kesehatan Poltekkes Palembang)*, 15(1), 14-20.
- Dai, Y., Luo, H., Zhu, L., Yang, W., Xiang, H., Shi, Q., & Jin, P. (2024). Dysmenorrhea pattern in adolescences informing adult endometriosis. *BMC Public Health*, 24(1), 373.
- De Sanctis, V., Soliman, A. T., Elsedfy, H., Soliman, N. A., Elalaily, R., & El Kholy, M. (2016). Dysmenorrhea in adolescents and young adults: a review in different countries. *Acta Bio Medica: Atenei Parmensis*, 87(3), 233.
- Goss, G. L. (2023). Dysmenorrhea in Adolescents. *The Journal for Nurse Practitioners*, 19(8), 104710.
- Grimonia, E. (2014). *Dunia Musik. Nuansa Cendekia*.
- Gutman, G., Nunez, A. T., & Fisher, M. (2022). Dysmenorrhea in adolescents. *Current problems in pediatric and adolescent health care*, 52(5), 101186.
- Hidayah, N., & Rusnoto, F. I. (2017). Pengaruh Abdominal Stretching Exercise Terhadap Penurunan Dismenore Pada Siswi Remaja Di Madrasahaliyah Hasyim Asy'ari Bangsri

- Kabupaten Jepara'. The 5th Flurecol Proceeding, 954-963.
- Ituga, A. S., Taqiyah, Y., & Agustini, T. (2020). Pengaruh Pemberian Terapi Musik Klasik terhadap Penurunan Dismenore Primer pada Remaja Putri. *Window of Nursing Journal*, 61-72.
- Horman, N., Manoppo, J., & Meo, L. N. (2021). Faktor-faktor yang berhubungan dengan kejadian dismenore primer pada remaja putri di Kabupaten Kepulauan Sangihe. *Jurnal Keperawatan*, 9(1), 38-47.
- Mansoben, N., Gurning, M., & Sikowai, I. H. (2021). Pengaruh Abdominal Stretching Exercise terhadap Penurunan Dismenore pada Remaja Putri. *Jurnal Ilmiah Kesehatan (JIKA)*, 3(3), 201-209.
- Ministry of Health Indonesia. (2021). *Profil Kesehatan Indonesia*. Kemenkes RI.
- Saavedra, J. S. M., & Ruiz-Sternberg, A. M. (2020). The effects of music listening on the management of pain in primary dysmenorrhea : A randomized controlled clinical trial'. *Nordic Journal of Music Therapy*
- Silverberg, J. I. (2021). Validity and reliability of a novel numeric rating scale to measure skin-pain in adults with atopic dermatitis. *Archives of dermatological research*, 313(10), 855-861.
- Sugiyanto, S., & Luli, N. A. (2020, May). Hubungan Aktivitas Fisik dengan Tingkat Dismenore pada Siswi Kelas XII SMK Negeri 2 Godean Sleman Yogyakarta. In *Prosiding University Research Colloquium* (pp. 7-15).
- Tetti, S., & Eli, C. (2017). *Konsep dan Aplikasi Relaksasi Dalam Keperawatan Maternitas*. Refika Aditama.
- Utari, M. D. (2017). Efektivitas Pemberian Terapi Musik (Mozart) Dan Back Exercise Terhadap Penurunan Nyeri Dysmenorrhea Primer. *Jurnal Ipteks Terapan*, 11(4), 283-288.
- Yuli, R. (2017). *Buku Ajar Asuhan Keperawatan Maternitas Aplikasi NANDA, NIC dan NOC*. TIM.

