

THE INFLUENCE OF THE EFFECTIVENESS OF ACUPRESSURE THERAPY ADOLESCENT GIRLS

Nur Higma Sakina^{*}, Sahrudi

Sekolah Tinggi Ilmu Kesehatan Abdi Nusantara, Indonesia

Email : nurhigma07@gmail.com

Abstract

Background: Based on data from the World Health Organization (WHO) in 2020, the incidence of dysmenorrhoea was 1769,425 (90%) women suffering from dysmenorrhoea, with 10-16% suffering from severe dysmenorrhoea. The incidence of dysmenorrhea in the world is very high. On average, more than 50% of women suffer from it (Herawati, 2021). Dysmenorrhea is one of the many gynecological problems, which affects most women and if left untreated causes the inability to carry out activities every month. **Research Objectives:** This study aims to determine the effect of the effectiveness of acupressure therapy on dysmenorrhea in adolescent girls at Karya Bangsa Vocational School, Tangerang City. **Research Method:** This research is a pre-experimental quantitative research which aims to determine the effect of acupressure therapy at the switch point on dysmenorrhea pain in teenage female students at Karya Bangsa Vocational School, Tangerang City. The sample size used in this research was based on the type of experimental research. In this research, the sample size used was 38 respondents. This research uses a formula according to (Arikunto, 2014) **Research Results:** Based on the results of the Wilcoxon Signed Ranks Test statistical test on pain levels, significant results were obtained, $p \text{ value} = 0.000 < 0.05$. The results of this analysis show that acupressure therapy has an effect on reducing the dysmenorrhea pain scale. **Conclusions and Suggestions:** There is an effect of providing acupressure therapy on dysmenorrhea in young women at Karya Bangsa Vocational School, Tangerang City. It is hoped that it can develop seminar and training programs on non-pharmacological therapy, especially acupressure for nurses or other health workers.

Keywords: Acupressure Therapy, Dysmenorrhea,

Introduction

During puberty, a woman's age ranges from twelve to twenty-five years. There are two phases in a woman's menstrual cycle: the early stage and the late stage. "Early adolescence" refers to children aged 12–16 years and "late adolescence" refers to children aged 17–25 years (MOH RI, 2019). Adolescence is sometimes referred to as puberty. This is a period of developmental transition between childhood and adulthood. Rapid physical, cognitive, social, and emotional changes occur during puberty, and puberty is just one of many changes that occur during this time. As one of the physical changes that occurs during puberty, menstruation is a sign that a woman is experiencing a period of reproductive organ dysfunction (Hockenberry & Wilson, 2019).

The menstrual period is marked by a full discharge of menstrual blood from the vaginal opening, as well as other symptoms generally associated with menstruation. Egg cells that do not meet sperm are at fertilization and the egg cells together with the inner uterine wall will shed or fall off and exit through the vagina, indicating that the woman has reached puberty (Ministry of Health of the Republic of Indonesia, 2019; Mahfiana, et al, 2019). The first menstrual period usually occurs between the ages of

12 and 16 years for most women (Saryono, 2011). This period will include actions from several angles, such as psychology, physiology, etc. (Kusmiran, 2021). Menstruation is a physiological process that occurs in the reproductive system. Malfunctioning of the reproductive system can result in bleeding during menstruation (dyseminorrhoea) (Shaleh, 2017).

Subjective disconnection is characterized by unpleasant sensory and emotional experiences (Muttaqin, 2018). As a woman who has experienced menorrhoea (Wong, 2011)

In women, dysmenorrhoea can occur either at the beginning or during menstruation, without any obvious pathology and is usually accompanied by cramps. According to Agussafutri (2017). The first menstrual period, also known as period pain or dysmenorrhoea, is experienced by most women without menstrual cramps, and is more common in first-year college students. Like symptomatic disorders, dysmenorrhoea is a disorder that appears and can cause discomfort, like diseases of this nature (Fitria, 2020).

One of the processes that occurs during menstruation is the transition from polyphase to interphase, namely the gradual secretion of endometrial prostaglandin levels which can oppose the concentration of the myometrium, causing chemical changes followed by the release of the hormone progesterone. levels in the last phase of the luteal phase. This causes tenderness on the outside of the uterus before, during and after delivery (Fitria, 2020). Compared to women who do not menstruate, those who menstruate have the ability to produce prostaglandins 10 times more often. In most cases, the pain is located before or even during menstruation. The color of the enlarged rash is usually described as pink just before or during menstruation, which usually begins between two to four days before menstruation (Wulanda, 2020). Menstrual pain or also called dysmenorrhoea is divided into two types: primary and secondary. Priming dysmenorrhoea is a genital organ without abnormalities. Primordial dyspareunia can increase the amplitude and frequency of uterine contractions due to excessive prostaglandin hormones.

The most common symptom of menorrhoea is bloating or gas under the skin that causes an unpleasant sensation. Depression, headaches, acne, tension, lethargy, nausea, vomiting, irritability, seizures, weight gain, flatulence, back pain, bloating, discomfort during dysmenorrhoea. This celebration starts the day before the holiday and continues for two days until the holiday ends (Fitria, 2020).

The administration method can be classified into pharmaceutical or non-pharmaceutical (Hyde, 2017). One effective pharmaceutical treatment for primary dysmenorrhoea is a prostaglandin synthesis inhibitor, such as naproxen (Naprosyn), ibuprofen (Motrin), or amefenamic acid (Ponstel) (Sinclair, 2020). Manual therapy such as acupuncture, kupunter, acupressure, relaxation, and air hanging is a non-pharmacological approach to childbirth (Potter & Perry, 2018).

One non-pharmacological treatment that can reduce swelling is acupressure (Waluyo, 2018). Orpressure is an ancient healing art that uses fingers to gradually press certain points on the body, stimulating the body's ability to heal itself naturally. The body will relax, blood flow will increase, the body's life force and energy will also increase, helping speed up healing of dysmenorrhoea pain. (Wong, 2021)

Based on data from the World Health Organization (WHO) in 2020, "the incidence of dysmenorrhoea is 1769,425 (90%) women suffering from dysmenorrhoea, with 10-16% suffering from severe dysmenorrhoea, the incidence of dysmenorrhoea in the world is very high with an average of more than 50% women suffer from it" (Herawati, 2021).

In Indonesia, the incidence of dysmenorrhoea is 64.25%, consisting of 54.89% primary dysmenorrhoea and 9.36% secondary dysmenorrhoea. Over the past 50 years, 75% of women have experienced menstrual cramps. Symptoms of primary dysmenorrhoea usually appear in women of childbearing age and women who have never been pregnant. (Indonesia, 2022).

Discomfort is most common in women aged 20–25 years, and 61% of these women are unmarried (Reeder, 2020). Nearly half of the female population in Indonesia suffers from mild to moderate

dehydration. On the other hand, the left side experiences mild pain of moderate intensity, which sometimes causes the patient to feel numb (in enduring the pain). Every six minutes, one of the girls has to miss school because she is menstruating. It was revealed that 13% of girls experienced a decline in school attendance. This is considered important because of the high academic value. (Kemendikbud, 2017).

At Karya Bangsa Vocational School, which is an educational institution with secondary vocational school education, it has 126 female students starting from classes X, XI and XII. Based on a preliminary study conducted by researchers on November 11 2023 at Karya Bangsa Vocational School, there were 87 female students who experienced primary dysmenorrhea with symptoms of pain/cramps in the lower abdomen to the hips and as many as 10 students experienced dysmenorrhea with complaints of not being able to carry out activities as usual and 29 students did not have complaints of dysmenorrhea. From the data above, researchers are interested in conducting research on the influence of the effectiveness of acupressure therapy on dysmenorrhea in adolescent girls at Karya Bangsa Vocational School, Tangerang City in 2023.

Research Methods

Researchers use pre-experimental studies, where the pre-experimental design maximizes the relationship between variables due to circumstances in which the intervention is not feasible in the same way as the actual experiment (Wood & Habber, 2019). The pre-experimental design must be flexible to minimize the impact of setbacks (Haryati, 2019). This research uses a single group approach using a pretest and posttest design only. The one group approach only refers to one intervention group without any other intervention groups. (Wood & Habber, 2018)

Research Result

1. Univariate Analysis

a. Description of the characteristics of female students at Karya Bangsa Vocational School, Tangerang City

This analysis was carried out to obtain the characteristics of the respondents in this study, namely young women at Karya Bangsa Vocational School in 2023. The results of the analysis are as follows

Table 5.1 Description of Respondent Characteristics (Age, Religion, Ethnicity and Class) of female students at Karya Bangsa Vocational School, Tangerang City.

No	Variabel	Frequency	Percentage (%)
1	Age		
	13-15	9	23.7%
	16-18	29	76.3%
Total		38	100%
2	Religion		
	Islam	38	100%
	Christian	0	0%
	Hindu	0	0%
	Buddha	0	0%
Total		38	100%
3	Tribes		
	Java	10	26.3%
	Sunda	13	34.2%
	Malay	3	7.9%
	Batak	6	15.8%

	Betawi	6	15.8%
	Total	38	100%
4	Class		
	X	14	36.8%
	XI	10	26.3%
	XII	14	36.8%
	Total	38	100%

Based on the table above, the results obtained are the distribution of Respondent Characteristics, namely 16-18 years old, 29 respondents (76.3%), mostly Muslims (100%), Sundanese mostly (34.2%), and Classes X, XII mostly 14 respondents (36.8%).

b. The scale of dysmenorrhea in female students at KaryaBangsa Vocational School Tangerang City before being given acupressure intervention at the sacred point

This analysis was carried out to obtain the level of pain before being given acupressure therapy for dysmenorrhea in adolescent girls at Karya Bangsa Vocational School in 2023. The results of the analysis are as follows:

Table 5. 2 Frequency Distribution of Dysminorrhea Pain Levels in adolescent girls before acupressure therapy

Pain Level	F	%
No Painful	4	10.5
Mild Pain	9	23.7
Moderate Pain	12	31.6
Severe Pain	13	34.2
Total	38	100

Source: Primary Data

Based on table 5.2, it is known that the frequency distribution of pain levels before being given acupressure therapy for dysmenorrhea in adolescent girls at Karya Bangsa Vocational School in 2023, the majority of respondents had severe pain, 13 people (34.2%).

c. **The scale of dysmenorrhea in female students at Karya Bangsa Vocational School, Tangerang City after being given acupressure intervention at the sacred point**

This analysis was carried out to obtain the level of pain after being given acupressure therapy for dysmenorrhea in adolescent girls at Karya Bangsa Vocational School in 2023. The results of the analysis are as follows:

Table 5.3 Frequency Distribution of Dysminorrhea Pain Levels in adolescent girls after acupressure therapy

Pain Level	F	%
No Painful	10	26.3
Mild Pain	19	50
Moderate Pain	9	23.7
Total	38	100

Source: Primary Data

Based on table 5.3, it is known that the frequency distribution of pain levels after being given acupressure therapy for dysmenorrhea in adolescent girls at Karya Bangsa Vocational School in 2023, the majority of respondents had mild pain, 19 people (50%).

2. Bivariate Analysis

The results of the data normality test showed that the pain level data during the pre-test obtained a p value = 0.226. In the pain level data during the post test, the p value = 0.035. In the post test pain level, the p value was <0.05, which means the data was not normally distributed. Because the data was not normally distributed, it did not meet the requirements for a dependent T test (paired samples t-test), so the Wilcoxon signed ranks test was carried out.

a. The influence and effectiveness of acupressure therapy at switch points for dysmenorrhea

This analysis was carried out to obtain the level of pain before and after being given acupressure therapy for dysmenorrhea in adolescent girls at Karya Bangsa Vocational School in 2023. The results of the analysis are as follows:

Table 5.4 The Effect of Providing Acupressure Therapy on Dysmenorrhea in Adolescent Girls at Karya Bangsa Vocational School in 2023

Posttest- Pretest intervensi	N	Mean Rank	Sum of Ranks	Nilai <i>P</i> Value
Negative Ranks	27 ^a	14.00	.00	0,000
Positif	0 ^b	.00		
Ties	11 ^c			
Total	38^d			

Source : Wilcoxon signed ranks test

Based on table 5.4, the results of data analysis of category results were tested using the Wilcoxon test. There were 27 young women who experienced a decrease in pain, an increase of 0, and there were still 11 young women. Sig (p) = 0.000 < α = 0.05. This means that there is an influence of acupressure therapy on female adolescent dysmenorrhea at Karya Bangsa Vocational School in 2023.

Discussion

Interpretation and results of the discussion

Interpretation of the results of this research clarifies the discussion and analysis of research results and compares them with previous research or theories that support or contradict new information. Management of dysmenorrhea includes experience of treating dysmenorrhea with ethnic interpretation and description of the respondent's dysmenorrhea pain scale. The second research objective in accordance with the research objectives and hypotheses is to determine the effectiveness of acupressure treatment in reducing the size of dysmenorrhea pain in adolescent female students at Karya Bangsa Tangerang Vocational School.

1. Characteristics of respondents based on ethnicity

Ethnicity is one of the things that can influence parents in teaching children how to express and respond to pain. There are more than 300 ethnic groups in Indonesia or to be precise 1,340 ethnic groups according to the 2020 BPS census. The largest proportion of ethnic characteristics of respondents in this study is Sundanese (34.2%) and Javanese (26.3%). In this case, the Sundanese tribe occupies the highest ethnic group, reaching 30% of the total population. Sundanese people mostly gather in West Java, but millions of people have transmigrated and spread across various islands of the archipelago and even abroad, Javanese, Batak, and the next largest Betawi tribe.

2. Description of the respondent's dysmenorrhea before therapy

Scalar analysis of respondents' dysmenorrhea pain showed that on average before acupressure intervention was carried out, 34.2% of respondents experienced severe pain, which affected 13 respondents. The results of this study are almost entirely in line with research conducted in Banda Aceh in 2019 regarding cases of dysmenorrhea which were mostly reported by respondents aged between 7 and 9 years or were at the bottom of the pain scale with a frequency score of 37 female students or higher. They also showed the results of research conducted by Murtiningsih in the Cimahi area in 2014 on 18 teenagers who experienced dysmenorrhea which showed that the average dysmenorrhea experienced by teenagers was 6.5 before implementing the intervention. This research was conducted by Damisah and Lismarni in Bukit Tinggi in 2013, where eighteen teenagers who experienced mild cognitive impairment were assessed using the Visual Analog Scale which had a deviation threshold of 2.437.

3. Description of the respondent's dysmenorrhea after therapy

The pain scale after giving acupressure intervention therapy for dysmenorrhea in young women at Karya Bangsa Vocational School with the results of the analysis was from severe pain to mild pain for 19 people (50%). Similar research regarding the effect of acupressure therapy carried out by Sri, et al. 2015 at Undayana University on 15 students with severe dysmenorrhea pain showed that the pain scale before the intervention was given was 5.73 while after the intervention it was 2.73. Another acupressure therapy was given to 9 young women who experienced dysmenorrhea. In 2013, the Mataram Ministry of Health Polytechnic Nursing Department explained that the average pain scale before the acupressure intervention was given was 4.78, while after the intervention was given it was 2.67 (Mardiatun, 2013). Other research regarding acupressure therapy is applied to young women who experienced dysmenorrhea in 27 respondents at SMPN 5 and SMPN 13 Pekanbaru in 2018, explaining that the average pain before acupressure intervention was 4.22 and after acupressure intervention it was 3.19 (Oswati, 2018). Research on acupressure therapy can be concluded that the average dysmenorrhea scale becomes mild after the intervention is given. The cause of this difference in size is due to the effect of breast pressure on the body's production of endorphins. Endorphins are natural endogenous chemicals that make the body feel good. The release of endorphins is controlled by the nervous system. Sensitivity to external stimuli is high enough that it can be detected with acupressure techniques, and can also be used to activate the endothelial system to release some endorphins according to the body's needs. This is what causes the scale difference to become smaller every time the experiment is carried out. (Hasanah, 2018)

4. Effectiveness of acupressure therapy for dysmenorrhea

The results of the normality test on the dysmenorrhea data set are the average between pre- and post-acute pressure interventions. The results of statistical analysis using the acupressure method showed that there was a significant influence on the degree of dysmenorrhea before and after the intervention. One of the significant findings is research on the application of acupressure to adolescent girls who experience dysmenorrhea (Efriyarnhi, 2015). Similar research was also reported with respondents who were not given acupressure intervention, showing that there was a significant effect of acupressure therapy on dysmenorrhea pain (Hasanah, 2018). This analysis, which began with previous research from the University of Riau regarding acupressure therapy, can effectively reduce the degree of dysmenorrhea pain in respondents who experience primary or severe dysmenorrhea (Julianti, 2014)

Additional research conducted at the Pitri MA Asy-Syifa Dormitory in the city of Blik Papan in 2015 showed that acupressure therapy could significantly reduce the amount of skin damage experienced by young women suffering from skin diseases. primary and severe dysmenorrhea (Nurhayati, 2015).

The results of the analysis regarding the effectiveness of acupressure therapy were proven by bivariate analysis of the results of the data normality test, in the pre-test data, a p value = 0.226 was obtained for the pain level at post-test. test obtained a p value = 0.035. For the post-test pain level, the p value was <0.05, which means the data was not normally distributed, so it did not meet the requirements for the dependent T test (pair sample t-test), so the Wilcoxon signed ranks test was carried out. With the results, it can be seen that the level of pain in respondents before giving acupressure therapy to 38 female students with a mean value of 1.89 with a minimum value of 0 and a maximum value of 3. The mean value in this study after giving acupressure therapy was 0.97 with a minimum value 0 and the maximum value is 2. Based on the results of the Wilcoxon Signed Ranks Test on pain levels, the results obtained were significant, p value = 0.000 < 0.05. The results of this analysis show that acupressure therapy has an effect on reducing the dysmenorrhea pain scale.

The reason is that the effectiveness of the acupressure treatment above is that it can reduce the sensory perception of pain through the release of endorphins, which are hormones that easily cause a tingling sensation in the body. Accurate pressure maintenance has several benefits. First, anxiety treatment can reduce the intensity of negative emotions (distraction), causing a person's attention to be diverted from their own feelings. Second, although this has never been done before, maintaining an appropriate level of pressure is necessary to be able to participate in the instructions provided. (Krishnanda)

Conclusion

Research on the effectiveness of acupressure therapy in reducing the intensity of dysmenorrhea in female students carried out at SMK Karya Tangerang City, researchers came to several conclusions:

1. The description based on ethnicity shows that of all 38 respondents, there were 13 respondents (34.2%) who came from the Sundanese tribe, 10 respondents (26.3%) came from the Javanese tribe, 6 respondents (15.8%) came from the Batak tribe, 6 respondents (15.8%) came from the Betawi tribe, and 3 respondents (7.9%) came from the Malay tribe.
2. Description of each respondent's dysmenorrhea before acupressure was performed on the sacral point. On the dysmenorrhea scale, most of those experiencing severe dysmenorrhea pain were still able to carry out their activities (34.2%), moderate pain was (31.6%), mild pain was (23.7%), and did not experience pain as much as (10.5). %)
3. The description of dysmenorrhea for each respondent after acupressure therapy at the sacral point is: Mild pain (50%), no pain (26.3%), pain as much as (23.7%). Which means it can be concluded that there is an effective effect after receiving this acupressure therapy.
4. The effectiveness value of acupressure therapy at this sacred point can be seen from the mean value obtained before carrying out the intervention, namely 1.89 with a minimum value of 0 and a maximum value of 3. And the mean value after acupressure therapy is 0.97 with a minimum value of 0 and a maximum value 2. Which means that there is an influence of acupressure therapy on dysmenorrhea in young women at Karya Bangsa Vocational School in 2023

References

- [1] Baradero, M and Dayrit, M. 2017. Nursing Care Series for Patients with Reproductive System and Sexuality Disorders. Jakarta: EGC
- [2] Bobak, Lowdermilk, Jensen. 2020. Maternity Nursing Textbook (6th Edition), Translated by Maria A. Wijayati, Peter I. Anugerah. Jakarta: EGC
- [3] B, Private. 2019. "Secret" Recipes for Women's Health. Jakarta: CV Sagung Seto
- [4] B, Private. 2019. Tips and Tricks for Caring for Intimate Organs. Jakarta: CV Sagung Seto
- [5] Budiarti, Dewi. 2019. Relationship between acupressure and pain level and duration First Stage of Labor in Primiparous Mothers in Garut. Depok: University of Indonesia
- [6] Chen, H. M & Chen. 2018. Effects of Accupressure at the Sanyinjio Point on Primary Dysmenorrhea. NCBI: US National Library of Medicine National Institutes of Health Dahlan, M. S. 2018. Statistics for Medicine and Health. Jakarta: Salemba Medika
- [7] Damayanti, P. I., Ardhiyanti, Y., Pitriani, R. 2019. Complete Guide to Basic Midwifery Skills 1. Yogyakarta: Deepublish
- [8] Deharnita, et al. 2018. Reducing Pain with Dysmenorrhea Exercises. Paralela Journal Vol. 1: Padang Ministry of Health Polytechnic
- [9] Republic of Indonesia Ministry of Health. 2019. Guidebook for Using KIE Media, Worker and Student Version. Jakarta: Indonesian Ministry of Health Health Promotion Center
- [10] Djuanda, Adhi, et al. 2020. Science of Skin and Venereological Diseases. Edition 6. Jakarta: Faculty of Medicine, University of Indonesia. P. 3-4, 7-8
- [11] Fan, Qing R. & Hendrickson, Wayne A. 2015. Structure of Human Follicel Stimulating Hormone in Complex with its Receptor. New York: Nature Publishing Group Ganong
- [12] William F. 2018. Pathophysiology of Disease Introduction to Clinical Medicine 5th Edition. Jakarta: EGC
- [13] Hanafiah, M. J. 2019. Menstruation and its Cycles. In: Wiknjosastro, H. Ed. Gynecology, Second Edition, Seventh Printing. Jakarta: PT Bina Pustaka Sarwono Prawihardjo, pp. 103-104
- [14] Hasanah, Oswati. 2019. Effectiveness of Acupressure Therapy for Dysmenorrhea in Adolescents at SMPN 5 and SMPN 13 Pekanbaru. Depok: University of Indonesia
- [15] Heffner, L. J. & Schust, D. J. 2018. At a Glance of the Reproductive System Second Edition. Jakarta: Erlangga
- [16] Hockenberry, et al. 2017. Wong's Essentials of Pediatric Nursing Tenth Edition. Canada: Elsevier
- [17] Hyde, Thomas E. 2017. Conservative Management of Sports Injuries Second Editon. United States of America: Junes and Bartlett Publishers
- [18] English, Priastya. 2017. The Effect of Hatha Yoga on Reducing Dysmenorrhea in Nursing Faculty Students at Widya Mandala Catholic University Surabaya. Undergraduate thesis. Surabaya: Widya Mandala Catholic University
- [19] Isnaeni, Susi. 2018. Factors related to the occurrence of dysmenorrhea in young women. Psychology Thesis. USU
- [20] Julianti, et al. 2019. Effectiveness of Acupressure for Primary Dysmenorrhea in Adolescent Girls: Riau University
- [21] Kristina. 2019. Primary Dysmenorrhea. Jakarta: Balai Pustaka
- [22] Kurniawati, Dewi and Yuli Kusumawati. 2018. The Effect of Dysmenorrhea on Activities in Vocational School Students. Journal of Public Health Vol. 6:
- [23] Kurniyawan, Enggal Hadi. 2016. Alternative Complementary Therapy for Acupressure in Reducing Pain Levels. NurseLine Journal Vol. 1: University of Jember
- [24] Kusmiran, Eny. 2019. Adolescent and Women's Reproductive Health. Jakarta: Salemba Medika Publishers
- [25] Kusmiyati, et al. 2018. Complete Guide to Pregnancy Care. Yogyakarta:

- [26] LeMone, P, Burke, Karen. 2018. Medical Surgical Nursing, Critical Thinking in Client Care (4th Edition). New Jersey: Prentice Hall Health
- [27] Lesmana, et al. 2017. Basic Physiology for Pharmacy, Nursing and Midwifery Students. Yogyakarta: CV Budi Utama
- [28] Llewelyn, Derek Jones. 2019. Every Woman. Jakarta: Delapratasa Publishing
- [29] Mahfiana, Layyin, et al. 2019. Adolescents and Reproductive Health. Yogyakarta: STAIN Ponorogo Press
- [30] Manuaba, et al. 2009. Understanding Women's Reproductive Health, Edition 2. Jakarta: EGC
- [31] Manuaba, I. B. G., I. A. Chandranita Manuaba, and I. B. G. Fajar Manuaba. 2009
- [32] Introduction to Obstetrics Lecture. Jakarta: EGC Medical Books
- [33] Manuaba, I. G. B. 2018. Obstetrics and Gynecological Diseases and Family Planning. Jakarta: Hippocrates
- [34] Manuaba, I. B. G. 2019. Understanding Women's Reproductive Health. Edition 2. Jakarta: EGC
- [35] Medline Plus. 2019. Health Problems in Pregnancy. Rockville Picke: National Library
- [36] Merrill, R. M. 2019. Principles of Epidemiology Workbook: Exercise and Acrivities. Jones and Barlett Learning. Canada
- [37] Muttaqin, Arif. 2018. Textbook of Nursing Care for Clients with Nervous System Disorders. Jakarta: Salemba Medika
- [38] Nuari, Nian Afrian and Dhina Widayati. 2017. Disorders in the Urinary System and Nursing Management using the 2016 NIC NOC & Spider Web Design SDKI Approach. Yogyakarta: CV Budi Utama
- [39] Notoatmodjo, S. 2019. Health Research Methodology. Jakarta: Rineka Cipta NS, Sallika. 2019. Miscellaneous Women's Health. South Jakarta: Bukune
- [40] Nugraha, M. 2018. Midwifery and Reproductive Health Care. Medan: Gramiko Pustaka Raya
- [41] Paath, et al. 2018. Development Psychology: a Life Span Approach. 5th Edition.
- [42] New York: Mcgraw-Hill Kogakusha Ltd
- [43] Perry & Potter. 2019. Fundamentals of Nursing. Book 1, Edition 9. Jakarta: Salemba Medika
- [44] Perry & Potter. 2019. Basic Nursing Seventh Edition. St. Louis Missouri: Mosby Elsevier
- [45] Prawirohardjo, Sarwono. 2018. Gynecology. Jakarta: PT Bina Pustaka
- [46] Sarwono Prawirohardjo Proverawati, Atikah and Misaroh. 2019. Menarche, First Menstruation Full of Meaning. Yogyakarta: Nuha Medika
- [47] Rustam, Erlina. 2015. An overview of young women's knowledge of menstrual pain (dysmenorrhea) and how to deal with it. Andalas Journal of Health Vol. 4: Unand
- [48] Saputra, Koosnadi and Syarif Sudirman. 2019. Acupuncture for Pain with a Neuroscience Approach. Jakarta: CV Sagung Seto
- [49] Sari, Wening, et al. 2019. Complete Guide to Women's Health. Depok: Spreader of Self-Help Groups
- [50] Sarwono. 2009. Adolescent Psychology. Jakarta: Raja Grafindo Persada
- [51] Saryono. 2017. Reproductive Biochemistry for Midwifery, Nursing, Medicine and Public Health (Kespro). Yogyakarta: Cendika Partner Publishers
- [52] Welch, Claudia. 2019. Balance Your Hormones, Balance Your Life. Depok: Spreader of Self-Help Groups
- [53] Wiknjosastro, Hanifa. 2018. Gynecology. Edition 2. Jakarta: EGC
- [54] Wong, M Ferry. 2020. ACUYOGA Combination of Acupressure + Yoga. Depok: Spreader of Self-Help Groups
- [55] Wong, M Ferry. 2020. Complete Guide to Massage. Depok: Yulaikhah Group Self-Help Spreader.
- [56] Setiani, Ika. 2015. Factors associated with the incidence of primary dysmenorrhea in female

- students at Dian Nuswantoro University. Semarang: Dian Nuswantoro University
- [57] Shaleh, Abdul Qadir. 2017. *The Fruit of the Heart Between Jewelry and Tests of Faith*. Yogyakarta: Diandra Creative
- [58] Sharma et al. 2018. *Exploring Feeding Value of Oak (Quercus Incana) Leaves: Nutrient Intake and Utilization in Lifest Calves*. Sci
- [59] Sibagariang, E. E, Pusmaika, R & Rismalinda. 2010. *Women's Reproductive Health*. Jakarta: Trans Info Media
- [60] Sinclair, Constance. 2020. *Midwifery Pocket Book*. Jakarta: EGC
- [61] Smeltzer, Suzanne C and Bare, Brenda G. 2021. *Brunner and Suddarth's Textbook of Medical Surgical Nursing (Ed. 10, Vol 1,2)*, Translated by Agung
- [62] Waluyo, et al. Jakarta: EGC
- [63] Sukarni, Icesmi and Margareth ZH. 2013. *Pregnancy, Childbirth and Postpartum*. Yogyakarta: Nuha Medika
- [64] Sukarni, I and Wahyu, P. 2013. *Maternity Nursing Textbook*. Yogyakarta: Nuha Medika
- [65] Sulistyowati. 2019. *The Secret to Health and Beauty Until Old Age*. Yogyakarta: CV. ANDI
- [66] Suryani, Widyasih. 2019. *Psychology of Mothers and Children*. Yogyakarta: Citramaya Thaniez et al. 2019. *Basics of Obstetrics and Gynecology*. Jakarta: Tyrant Hippocrates, Denise. 2019. *Midwife's Pocket Dictionary*. Jakarta: EGC
- [67] Tjay, Tan Hoan and Kirana Rahardja. 2017. *Important Medicines Benefits, Uses and Side Effects*. Jakarta: Gramedia
- [68] Waluyo, Srikandi. 2019. *100 Diabetes Questions and Answers*. Jakarta: PT Elex Media Komputindo 2018. *Pregnancy*. Jakarta: EGC State University