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Original Research

Acupressure to Reduce Dysmenorrhea in Adolescent

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ABSTRACT

Background: *Dysmenorrhea is uncomfort symptom which suffered by adolescents during menstruation period. Adolescents experienced with dysmenorrhea and this commonly primary. Dysmenorrhea affects almost half of all woman, and it is need the safe and effective pain management. One of non-medical treatment techniques is acupressure. The purpose of this study to analize the effect of acupressure to reduce dysmenorrhea in adolescents.*

Methods: *The design was quantitative experiment with intervention group and control group for each 26 respondents. The acupoints are SP6, Li4, and PC6. Intervention group got acupressure for 2 days in early period with 30times massage for each accupoint twice a day. The pain was measured using visual analog scale (VAS) before and after intervention. Data analize using SPSS software.*

Results: *The result showed diffreneces in pain severity after acupressure to intervention group with mean 2,43 and p value 0.027(p<0,005).*

Conclusion: *Acupressure at the SP6, Li4 and PC6 can reduce pain severity of dysmenorrhea in adolescents.*

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INTRODUCTION

Menstruation is the process of releasing the uterine wall which followed with bleeding and happened over every month, except when the pregnancy was held. Menstruation is one of the sign of maturity in woman. Commonly, it initiated at teenage 9-12 years old, and few got late at 13-15 years old (Anurogo & Wulandari, 2011). Problems that experienced by adolescent about menstruation generally become a trigger to have effort in finding solution to other person or going to health care facilities. General problems which experienced by adolescents are amenorrhea, dysmenorrheal, premenstrual syndrome, metroraghia and menoraghia. Dysmenorrhea is gynecological complaint in woman which happened as the effect of progesterone hormone imbalance, then the pain occur (Murtiningsih, M & Karlina, 2015).

Primary dysmenorrhea were experienced about 60-75% young woman with mild and medium intensity, and few get severe pain, and cause the woman helpless (Wirawan, J.P., Prasmusinto, 2011). Commonly, dysmenorrhea which suffered by adolescents is primary dysmenorrhea that happened physiologically. Several attempts were made to reduce pain with non steroid anti inflammation drugs (such as ibuprofen,

naproxen, and mefenamid acid). The drugs will be more effective if it consume 2 days before menstruation and to be continued untill the 1^{st}-2^{nd} day of menstruation (Nugroho, 2014).

The development of science and technology found many alternative therapy to reduce pain, one of them with acupressure. The base of acupressure is the pengembangan from acupuncture techniques, the media was not needle but use the fingers or tools. The goal is stimulate natural ability to self healing by return the body balance (Fengge, 2012). The effect of the pressure in acupoints increase the endorphin levels which reduce the pain. It produce in the body especially in the blood and endogeneous peptide opioid in the central nerve system. The nerve of tissue stimulate to endocrine system to release endorph as the body need and it hope will decrease the menstrual pain (Widyaninggrum, 2013).

The way to recude menstrual pain with acupressure have been studied to saw the effect of acupressure to dysmenorrhea with the result of pain decreased 1,47 and p=0,00 (α<0,005) which mean any differences of menstrual pain after acupressure therapy (Khasanah & Astuti, 2015). Other study analyze the effect of acupressure to primary dysmenorrheal using acupoints SP6 and SP8. The result showed significant differences pain before and after acupressure with p value of <0.05(Gharlogi, Torkzahrani, Akbarzadeh, & Heshmat, 2012). From earlier study on February 2020 in SMK NU Ungaran, many female students suffered dysmenorrhea and they didn't know how to reduce menstrual pain. Mostly will take a rest or sleep, so they were not attend to the school, few did warm compress, and consume the drug to reduce pain. A few studies have suggested that acupressure is effective to relief pain in general.Some studies also shown that use of acupressure affects to dysmenorrhea. However, limited articles have been published concerning the effectiveness of acupressure on Li4 and PC6 acupoints and its effects on dysmenorrheal. This study will use three acupoints Sp6, Li4 and PC6 to reduce pain of dysmenorrhea and will take for two days in period in intention to get the effect immediately in adolescents. The purpose of this study to analize the effect of acupressure to menstrual pain in adolescents in SMK NU Ungaran .

MATERIALS AND METHOD

Research design in this study is quantitative with experimental pre and post test design. The method was used to compare the result before and after acupressure intervention in intervention group and control group without acupressure. The sampling was used purposive sampling, 28 respondents for each group with total 56 respondents. The amount of adolescents which include inclusion criteria were 65, the sampling use Slovin count. The respondents were female students in SMK NU Ungaran in class X, XI and XII with inclusion criteria they had menstruation, got dysmenorrheal during menstrual period, and didn't know about acupressure. Scoring of pain intensity used the visual analog scale (VAS). Acupressure was done to intervention group in acupoint of SP6, Li4 and PC6. It was done in each acupoint and clockwise 30times for 2 days. Deep breathing intervention was done in control group for 2 days. Ethical clearance was approved by authors institution with number 060/A.1/FK-UNW/VI/2020, then research letter done in SMK NU Ungaran. Evaluation of pain intensity was measured before and after intervention in each group. Data was analize using SPSS software.

RESULT S

The study was held in SMK NU Ungaran, Kabupaten Semarang. Based on the result of the study, data collected as below:

Table 1. Respondents characteristics based on age and dysmenorhea

Variable	Group			
	Intervention (n(%))	**Control (n(%))**	**n**	**%**
Age				
16-17 yo	10 (35,71)	12 (42,86)	22	39,29
18 yo	13 (46,43)	13 (46,43)	26	46,43
>18yo	5 (17,86	3 (10,71)	8	14, 28
Total	28	28	56	100
Menstrual Pain				
Last 6 months	16(57, 14)	9 (32,14)	25	44,64
1year	8 (28,57)	13 (46,43)	21	37,5
>1year	4 (14,29)	6 (21,43)	10	17,86
Total	28	28	56	100
Effort to reduce pain				
rest	15 (57,69)	17 (65,38)	32	57,14
warm compress	3 (11,54)	4 (15,38)	7	12,5
drugs	8 (30,77)	5 (19,2)	13	23,21
Total	28	28	56	100

Based on table 1 was known most widely respondents at 18 years old (46,43%) and got menstrual pain in the last 6 months (44,64%). Most of the respondents who got dysmenorhea have chooce rest or sleep method to reduce pain, there were 32 respondents (57,14%).

Table 2. The average pain intensity before and after acupressure therapy in the intervention group and the control group

Pain Intensity	Intervention group				Control group			
	Mean	SD	Min	Max	Mean	SD	Min	Max
Pre	3,03	0,771	2	4	2,64	0,680	2	4
Post	2,41	0,983	1	4	2,80	0,631	2	4

In table 2, it can be seen that the mean of pain intensity score before acupressure therapy in intervention group 3,03 (SD 0,771), while in control group 2,64 (SD 0,680). The mean of pain intensity score after acupressure therapy in intervention group 2,41 (SD 0,983) and in control group 2,80 (SD 0,631).

Table 3. Differences in pain intensity before acupressure therapy in the intervention group and the control group

Variable	Pain Intensity			
	Mean	*Mean Diff*	*SD*	*P*
Intervention	3,03	0,373	0,771	0,069
Control	2,61		0,680	

Based on table 3 above, the mean of pain intensity of dysmenorhea before acupressure therapy in the intervention group 3,03 with SD 0,771 and 2,61 in the control group with SD 0,680. The analysis result obtained p value 0,069 >α (0,05), it means that pain intensity in intervention group and in control group before acupressure therapy were homogen.

Table 4. Differences of pain intensity after acupressure therapy in the intervention group and the control group

Variable	Pain Intensity			
	Mean	*Mean diff*	*SD*	*P*
Intervention group	2,43	0,531	0,771	0,027
Control group	2,79	0,983	0,631	

On table 4 above, the mean of pain intensity after acupressure therapy in the intervention group 2,43 with SD 0,771. The result was p (0,027) <α (0, 05), it conclude that there was mean differences of pain intensity between intervention group with acupressure therapy and control group with deep breathing.

DISCUSSION

Based on study to 56 respondents of female students in SMK NU Ungaran, mostly at 18 years old. This result was appropriate with study about the effect of acupressure where the range of age which suffered dysmenorhea at 16-18 years old. (Julianti, Hasanah, & Erwin, 2014). Age Age range at 16-18 years old was represents age where primary dysmenorhea occurs. The increasing age and education pushing the need to resolve the pain which suffered by female. It can be seen that mostly respondents choose to take a rest to reduce pain or by warm compress, only few who consume the drug to reduce pain intensity.

Decreased pain of respondents in the intervention group after acupressure therapy caused by analgesic effect by acupressure, it works by stimulate ofA-beta nerve fibers so impulse transmition to A-delta fibers and C decreased. T cell will decrease simulation, then cerebral cortex will describe the sensory information in conscious level. At the end menstrual pain is not passed to the center and pain was decrease (Tamsuri, 2007). Acupressure increase the endorphin levels in the body so the pain decrease (Hartono, 2012).

The effect of acupressure to pain intensity prove it effective with the pressure in Sanyinjiao acupoint. The result of the study in pain intensity diffreneces after acupressure therapy 3,00 (p <0,05) (Efriyanthi, Suardana, & Suari, 2015). The similar study about the acupressure in sanyinjiao acupoint to dysmenorhea scale showed the effect to the differences of dysmenorhea scale with the result p<0, (Tyas, Ina, & Tjondronegoro, 2018).

The result of the study was α< 0,05 can be conclude the acupressure is effective as the therapy to reduce menstrual pain or dysmenorhea. The study which support the effect of acupressure to dysmenorhea with the pressure in Li4 and ST36 acupoints 40 times with twice a day. The result showed the decreasing of pain intensity 1,95 point (p=0,002). The pressure in Li4 and ST36 was faster to release endorphin so the pain decreased (Zulia, Rahayu, & Rohmayanti, 2017). Acupressure therapy more effective to reduce pain because it have analgetic effect (Hartono, 2012).

The study which used acupoint SP6 to reduce pain and menstrual distress swohed SP6 had immediate pain-reliefing effect with total 40 respondents, value of p=0,003 for PVAS score. The intervention for three days and 20 minutes acupressure in SP6 (Wong, Lai, & Tse, 2010). Other study used SP6 to reduce pain of dysmenorrheal to 30 respondents with 20 minute acupressure, the result showed the difference pain intensity with p=0.004 in first hour after intervention (Mirbagher-ajorpaz, Adib-hajbaghery, & Mosaebi, 2011). Auricular acupressure to reduce pain of dysmenorrhea was used in 45 adolescent and the result showed significant differences with p<0,001, the acupressure were done for three days in jagung, sinmun, gyogam and naebunbi (Cha & Sok, 2016).

This study used three acupoints SP6 (sanyinjiao), it function in reduce pain, and smooth the menstruation flow. Acupoint Li4 (Hegu) woks out body heat and wind, reduce pain and smooth the menstruation flow. Acupoint PC 6 (Neiguan) works reduce pain (Sukanta, 2008). Acupressure were done in 2 days during menstrual period with three acupoints to get the effect faster than using single acupoint. By using three acupoints expected the respondents immediately felt analgetic effect in first hour of dysmenorrhea.

CONCLUSION

Accupressure is effective to reduce dysmenorrhea with massage in accupoints SP6, Li4 and PC6. Acupressure has analgesic effect so it's reduce pain caused by dysmenorrheal in adolescent. It's located on the outside of the body so the massage is easy to be done anywhere. For feasibility of acupressure therapy in practice, it is needed to train and learn the exact position of acupoint in the body.

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