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Effectiveness of the self-tapping relaxation technique on dysmenorrhea pain among nursing students

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Abstract

Background: Menstruation is the discharge of blood, mucus, and cell debris from the uterus at regular intervals with a regular cycle. One of the non-pharmacological methods that can be used to reduce menstrual pain is self-tapping. The phenomenon found in female students of the Emmaus Dormitory in Surabaya, they overcome dysmenorrhea by taking anti-pain medication, consuming traditional herbal medicine " turmeric/curcuma terra merita (meritorious earth) " and not being given anything until the pain goes away.

Purpose: To analyse the effectiveness of the self-tapping relaxation technique on dysmenorrhea pain

Method: One-group-pre-post test experimental design with a population of nursing students living in the Emmaus female dormitory in Surabaya who experienced primary dysmenorrhea. The sampling technique used was simple random sampling with 35 participants. The instrument used is the Numeric Rating Scale.

Results: In the self-tapping pre-intervention, most of the participants (51%) experienced severe pain. After being given self-tapping more than 50% (51%) of the participants experienced mild pain. Wilcoxon test results showed = 0.05 and p = 0.000. p-value < then Ho is rejected, which means that there is an effect of self-tapping on the decrease in the level of primary dysmenorrhea.

Conclusion : Self-tapping techniques can reduce primary dysmenorrhea by increasing the serotonin hormone.

Keywords: The self-tapping; Relaxation technique; Dysmenorrhea pain

INTRODUCTION

Menstruation is the periodic discharge of blood, mucus, and cellular debris from the uterus with a regular cycle (Nani, 2018). Problems that are often experienced by women related to menstruation are dysmenorrhea such as primary dysmenorrhea which causes cramps that are concentrated in the lower abdomen (Prawirahardjo, 2011). Primary dysmenorrhea is dysmenorrhea that is felt and is not accompanied by a history of infection in the pelvis or pelvis under normal circumstances and occurs mostly in women in their 20s and will end in their 30s.

The phenomenon found in female students at the Emmaus Putri Dormitory in Surabaya, they overcome dysmenorrhea by taking pain relievers, some consume the traditional herbal medicine turmeric acid and some are not given anything until the pain goes away. They have never done self-tapping at this time and do not know self-tapping to reduce dysmenorrhea.

In Indonesia, it is estimated that 50% of women of childbearing age experience primary dysmenorrhea, and some of them experience severe dysmenorrhea (Husain, 2013; Wardani, & Suryanti, 2020). self-

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tapping is more effective in reducing the level of primary dysmenorrhea pain in PSIK FK UGM students (Lismidiati, Santi, & Akbar, 2017). In Surabaya, about 1.07 – 1.31% of the total dysmenorrhea patients come to the obstetrics department (Handayani & Rahayu, 2014).

Based on the results of a preliminary survey on female students in the Emmaus Girls Dormitory, it is known that of 10 female students aged 20 years and over who experience dysmenorrhea, 80% (8 people) have dysmenorrhea and 20% (2 people) do not experience dysmenorrhea, and 80% (8 students) female students, 20% (2 people) students experienced severe pain and immediately took pain medication, 40% (4 people) students experienced moderate pain and took traditional medicine. and 20% (2 female students) female students experienced mild pain and were not given anything until the pain disappeared. Students who experience dysmenorrhea at this time have not done self-tapping to reduce the dysmenorrhea they feel. Pain that occurs during menstruation occurs due to excessive production of endometrial prostaglandins during the luteal phase. Prostaglandins diffuse into the endometrium and cause uterine contractions (Corwin, 2009). Pain when felt continuously results in disruption of the fulfillment of basic needs and psychological disorders such as irritability, irritability, and discomfort. Very severe pain can lead to neurogenic shock which can be life-threatening and dangerous to health (Anurogo & Wulandari, 2011).

A safe and comfortable non-pharmacological therapy that can be used to reduce menstrual pain is self-tapping, namely touch tapping which is done independently. Tapping touch is a comprehensive treatment procedure that uses touch and rhythm. Gentle massage helps reduce stress on the body and mind and promotes feelings of well-being and positive thinking. Self-tapping is a simple therapy that is easy to do by anyone, can be done alone, and does not require a lot of money (Nakagawa, 2010).

RESEARCH METHOD

The design of this study used a pre-experimental: one-group pre-post test design to determine the effect of self-tapping on the decrease in the level of primary dysmenorrhea in female students in the female dormitory of Emmaus Surabaya. The research was conducted at the Emmaus Girls Dormitory, Surabaya, 4th floor of the Recreation Room (RR). The population of this study was female students who met the inclusion criteria, namely female students who were willing to be participants, aged over 20 years, experienced mild to severe menstrual pain during menstruation, did not take analgesic drugs, or used other non-pharmacological methods. . The number of samples is 35 participants, and the sampling technique used is simple random sampling. Data was collected by engaging observation, where this observation was carried out and measured by the participants themselves, namely before the intervention was carried out. Before giving self-tapping, the respondent filled out the NRS pain scale on the observation sheet distributed by the researcher to fill in the respondent when the respondent experienced menstrual pain. Then the intervention was carried out for 15 minutes. After the intervention, the researcher measured the dysmenorrhea scale which was filled in by the participants themselves on the observation sheet using the NRS pain scale. The tapping guide itself was obtained from The Association of Tapping Touch in the form of tapping steps that were carried out independently and accompanied by pictures. The guidelines are then packaged in the form of a booklet that is equipped with guidelines for conducting research that were presented by the participants. Then the respondent performs self-tapping steps independently. Data analysis used univariate analysis (total and numerical percentage in terms of mean and standard deviation) and bivariate analysis using Wilcoxon-test.

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RESULTS

Table 1. Demographic Characteristic of Participants (N=35)

Variables	Result
Age (Mean±SD)(Range)(Years)	(21.37±1.24)(20-25)
Age (n/%)	
20 years	10/28.6
21 years	8/22.9
22 years	15/42.8
25 years	2/5.7
Menarche Age (n/%)	
<12 years	6/17.1
12-14 years	16/45.7
15-18 years	8/22.9
> 18 years	5/14.3
Physical activity (n/%)	
Regularly 3x a week	10/28.6
Irregular	25/71.4
Family History (n/%)	
Yes	23/65.7
Not	12/34.3
Psychological Factors (n/%)	
There is a problem	6/17.1
No problem	29/82.9

Source: Primary data (2020)

Characteristics of the study participants were the age category, the mean age of the participants was 21.37 ± 1.24, (45.7%) participants experienced their first menstruation at the age of 12-14 years, (71.4%) participants had irregular physical activity, (65.7 %) of participants who had a family history of experiencing primary menstrual pain, while for psychological factors, it was obtained from 35 participants (82.9%) of participants did not experience psychological problems.

Table 2. The Effectiveness of The Self-Tapping Relaxation Technique on Dysmenorrhea Pain (N=35)

Pain scale	Before Intervention (n/%)	After Intervention (n/%)	p-value
No Pain	-	1/2.8	**0.000**
Mild Pain	1/2.8	18/51.5	
Moderate Pain	10/28.6	15/42.9	
Severe Pain	24/68.6	1/2.8	

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Based on table 2 above, shows that the level of primary dysmenorrhea felt by participants before and after self-tapping where out of 35 participants, before self-tapping 68.6% of participants experienced severe primary dysmenorrhea, 28.6% of participants experienced primary dysmenorrhea and 2.8% of participants experienced mild primary dysmenorrhea and After self-tapping, the level of primary dysmenorrhea of the participants became 51.5% of participants had mild primary dysmenorrhea, 42.9% of participants had moderate primary dysmenorrhea and 2.8% of participants had no primary dysmenorrhea and 2.8% of participants had severe primary dysmenorrhea.

DISCUSSION

Dysmenorrhea Pain before Intervention

The results showed that (68.6%) participants experienced severe primary dysmenorrhea. Judging from the age of menarche <12 years, 6 (85.7%) participants experienced severe primary dysmenorrhea. The severity of menstrual pain is associated with early menarche (Perry, Hockenberry, Lowdermilk, & Wilson, 2014). This also follows a study conducted by Martı´nez, Zafra, and Ferna´ndez (2018) In a group of students in Spain, the results obtained from 258 participants, 104 (71.7%) participants experienced severe primary dysmenorrhea with menarche age <12 years and research from other studies explained that there was a relationship between early menarche age and severe primary dysmenorrhea (Al-Matouq, Al-Mutairi, Al-Mutairi, Abdulaziz, Al-Basri, Al-Enzi, & Al-Taiar, 2019). This can happen because at an earlier menarche there is a longer exposure to the uterus which will stimulate the prostaglandin hormone which plays an important role during dysmenorrhea which can increase uterine contractions, causing pain. Another reason may be that dysmenorrhea usually occurs with the ovulation cycle, which does not occur. formed immediately after menarche.

In terms of physical activity, 21 participants (75%) who did not do physical activity regularly experienced severe primary dysmenorrhea. Irregular physical activity can increase the appearance of pain during menstruation (Bavil, Dolatian, Mahmodi, & Baghban, 2018). Physical activity can act as a non-specific analgesia by increasing blood circulation in the pelvis and stimulating the release of beta-endorphins. This physical activity leads to prevention and regression of dysmenorrhea by reducing stress and improving mood. Regular exercise especially the three days before the start of menstruation increases blood flow to the pelvis, interfering with the accumulation of prostaglandins that can delay the onset of pain. Exercise during menstrual pain also causes a more rapid transfer of excess substances and prostaglandins from uterus, which is a major factor in menstrual pain, and thus reduces the duration of pain during menstruation.Exercise can decrease sympathetic nervous system activity.and increase parasympathetic activity during rest and reduce stress and reduce menstrual symptoms.Physical activities such as exercise Regular use can increase relief and pain by increasing the secretion of endorphins, which are the body's most powerful natural opiates.

From the aspect of family history, 16 (69.6%) participants with a family history of dysmenorrhea experienced severe primary dysmenorrhea, and 7 (30.4%) experienced moderate primary dysmenorrhea. Women who have a history of dysmenorrhea from their mother or sister tend to be more likely to experience dysmenorrhea compared to women who do not have a family history (Handayani & Rahayu, 2014). According to researchers, this is caused by genetic factors related to DNA, RNA, chromosomes, where DNA is a substance that is inherited in an organism (such as humans) which is inherited from a mother or sister who has dysmenorrhea. This is also in line with other studies which explain that women with a family history of dysmenorrhea can experience dysmenorrhea because of behaviors learned from their mothers and older sisters (Fernández-Martínez, Onieva-Zafra, & Parra-Fernández, 2018).

Dysmenorrhea Pain After Intervention

The results showed that (51.5%) of participants had mild primary dysmenorrhea, and (42.9%) of participants had moderate primary dysmenorrhea. From the psychological aspect, (51.7%) participants

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who did not have psychological problems experienced mild primary dysmenorrhea. One of the psychological factors is anxiety related to menstrual pain (Lismidiati, & Hapsari, 2017). When anxiety increases, the perception of pain will increase, and vice versa if the perception of pain increases then anxiety will increase. Emotionally stable people are more likely to tolerate pain than emotionally unstable people.

Research conducted by Sirait (2018) and Nakagawa (2010) that self-tapping can reduce the level of primary dysmenorrhea. Physiologically, self-tapping can relieve physical tension, provide a feeling of comfort and new energy, reduce physical pain and fatigue, reduce physical stress symptoms, activate the parasympathetic nervous system, and increase the serotonin hormone. the serotonergic hormone serotonin (5-HT) neurons are known to play a role in pain relief.

The Effectiveness of The Self-Tapping Relaxation Technique on Dysmenorrhea

The results showed that before self-tapping 24 (68.6%) of participants experienced severe primary dysmenorrhea, 10 (28.6%) participants experienced primary dysmenorrhea, and 1 (2.8%) participants experienced mild primary dysmenorrhea and after self-tapping, the primary 18 (51.5%) participants experienced mild primary dysmenorrhea, 15 (42.9%) participants experienced moderate primary dysmenorrhea and 1 (2.8%) participants did not experience primary dysmenorrhea and 1 (2.8%) participants experienced severe primary dysmenorrhea.

After testing using the Wilcoxon test with a significance level of α = 0.05. The price ρ < gets the price ρ = 0,000. Therefore ρ <α then Ho is rejected and H1 is accepted. This means that there is an effect of self-tapping on reducing the level of primary menstrual pain in female students at the Emaus Girls Dormitory, Surabaya. Self-tapping or tapping touch is a therapy that involves rhythmic behavior, namely by touching rhythmically using the fingers of the right and left hands alternately. The rhythmic gentle tapping/massage causes an increase in serotonin secretion. Serotonergic (5-HT) is known to play an important role in reducing pain levels in humans (The Association of Tapping Touch, 2010; Nakagawa, 2010). This is supported by research conducted by Lismidiati et al (2017), that there is a significant difference in the mean score of menstrual pain before and after self-tapping therapy. Other research by Haniyah (2020) that there is a significant difference in the reduction pain levels before the self-tapping intervention between the treatment group and the control group with a value of p = 0.000. Tapping touch is a comprehensive treatment technique that uses touch and rhythm. Gentle massage helps to reduce tension in the body and mind and to promote a feeling of well-being and positive thinking. Self-tapping is a simple therapy that is easy to do by anyone, can be done alone, and does not require a lot of money.

In research conducted by Arita at the Toho University Medical Department, it was proven that serotonin levels were increased in participants who did tapping touch. There are nine participants aged 18-76 years. Participants were asked to do tapping touch in pairs for 15 minutes. To assess serotonergic activity, blood and urine serotonin levels were examined before and after therapy. The results showed that there was a significant increase in serotonin levels between before and after therapy. In addition, to assess the psychological effects, measurements were made with the parameters Profile of Mood States (POMS) and Visual Analog Scale (VAS). The results show that there is a reduction in anxiety, fatigue, confusion, stress, and pain(The Association of Tapping Touch, 2010).

CONCLUSION

There is an effect of giving *self-tapping* on the decrease in the level of primary dysmenorrhea in female students at the Emaus Female Dormitory, Surabaya.

RECOMMENDATION

The researcher suggested to the Female Dormitory of Emmaus Surabaya to carry out non-pharmacological management to reduce primary dysmenorrhea by means of routine self-tapping on female students who experience primary

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dysmenorrhea while still involving all the factors that influence the occurrence of primary dysmenorrhea. primary dysmenorrhea level and became one of the health programs of the Emmaus Women's Dormitory.

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