EFFLEURAGE AND SLOW STROKE BACK MASSAGE REDUCE MENSTRUAL PAIN AMONG THE FEMALE STUDENTS

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During menstrual period, female students experience pain and physical discomfort and it may decrease their performance. The menstrual pain was then assessed with two massage technique: effleurage and slow stroke back massage. Thirty two female students aged 18-21 years old of Ngudi Waluyo Midwifery Academy of 2015 as total sampling population were separated to two groups. Group 1 obtained effleurage massages whilst Group 2 experienced slow stroke back massage group. Sixteen students for each experimental group were selected through a purposive sampling technique. A quasy experiments with two group pretest-posttest design was employed in this study. The menstrual pain was scored using numeric rating scale by the researchers. The results exhibited a significant decrease of menstrual pain among the female students after obtained the massage. Both methods are recommended to increase student performance related to stress during menstruation.

Keywords: Pain Menstrual, Effleurage Massage, Slow Stroke Back Massage

1. INTRODUCTION

Menstruation is the discharge of the decidua layer (superficial) endometrium accompanied by bleeding (Jane, 2009). During menstruation women experience pain and physical discomfort before and immediately after the menstrual flow and continued for 8 hours to 72 hours around the back and abdomen. More than 50% of women in obtained pain in their productive ages and roughly 10-15% of them had lost their jobs, school and family life (Proverawati, 2009).

Pain during the menstrual periods was recognized as a result of a very strong contraction of a substance prostaglandin at uterine. The substance employs a function to make the lining of the uterus to contract and to pinch or restrict the blood vessels causing a shortage of oxygen and glucose needed for cellular metabolism (to keep tissue alive), called as ischemia. The prostaglandin substances also stimulate a nervous pain in the uterus, so that it increases to the intensity of pains. As the result, the pain will be experienced at the waist and thighs, accompanied by nausea and vomiting, headache, diarrhea and irritable (Maryunani, 2010).

Complementary methods have the effect of non-invasive, simple, inexpensive, simple / easy to use, effective, rapidly available and without the harmful side effects than pharmacological methods. Besides, without the side effects of non pharmacological treatment also does not cause systemic allergic reactions (Judha \textit{et al.} 2012). Effleurage massage is one of alternative solution to reduce pains during menstruation. Effleurage massage provides a slow and soft pressure and rubbing at the skin surface by a pressing fingertip (Maryunani, 2010). Zulianti (2013) explained that
the effluerage technique decreased almost 3 levels of pain. Another massage technique that may reduce the pain level called slow stroke back massage - a gentle, slow, and rhythmic massage in the back by covering 5 cm area on both sides of the spine bulge from head to the sacrum area. Mukhoirotin & Zuliani (2010) revealed the stimulus cutaneous or known as slow stroke back massage (SSBS) was able to reduce the pain intensity around 1 or 2 levels. This study is aimed to determine the effectiveness of effluerage and slow stroke back massage against menstrual pain intensity in the students of Ngudi Waluyo Midwifery Academy of 2015.

2. RESEARCH METHODOLOGY

2.1. Design and Sample

This research employed an analytic method designed with a quasy experimental design and involved in a pretest-posttest design. Thirty two students aged 18-21 years of Ngudi Waluyo Midwifery Academy of 2015 as population were separated to two groups. Group 1 obtained effluerage massages whilst Group 2 experienced slow stroke back massage group. Sixteen students for each experimental group were selected through a purposive sampling technique. Inclusion criteria included the women with menstrual pain on day 1-3 and in a state comos mentis. The samples were required to not consume anti-pain medication in the treatment of menstrual pain. The respondents should not experience severe and heavy menstrual pain and heavy. The experimental groups obtained massages for 5 minutes.

2.2. Measurement

A numeric rating scale was employed to rate the menstrual pain. Researchers conducted observations or direct observation of the subject of research. The pain levels were assessed before and after treatment. The scoring use the observation sheet menstrual pain by using numeric rating scale proposed by Downie et. al. in 1978 as shown in Potter and Perry (2006). The menstrual pain was scored from 0 (no pain experience) to 10 (heavy pain). 

2.3. Data Analysis

Shapiro Will test was used to obtain data distribution. Homogeneity test was conducted to examine the pain intensity before treatment between the two groups. To find out the difference level, parametric data was employed to analyze the normal distributed data whilst the non-parametric test was performed for non-normal distributed data.

3. RESULTS AND DISCUSSIONS

From 32 correspondents, we noted that the menstrual pain among the observed students aged 18-21 years ranged from 1 to 6, as shown in Table 1. The both treatments may reduce the menstrual pain at the 5-level. From Table 2, we confirmed that respondents who obtained effluerage and slow stroke back massage have similar score of menstrual pain. It shows the female students at AKBID Ngudi Waluyo involved in this study have no developmental differences that affect to the reaction to menstrual pain (Potter & Perry, 2006).
Table 1. The menstrual pain among the female students before and after effleurage and slow stroke back massage

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Range (min to max)</th>
<th>Mean ± SE</th>
<th>Median</th>
<th>SD</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effleurage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>16</td>
<td>1-6</td>
<td>3.94 ± 0.38</td>
<td>4.00</td>
<td>1.52</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Post-test</td>
<td></td>
<td>0-5</td>
<td>2.25 ± 0.38</td>
<td>2.00</td>
<td>1.52</td>
<td></td>
</tr>
<tr>
<td>SSBM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-test</td>
<td>16</td>
<td>1-6</td>
<td>3.81 ± 0.35</td>
<td>4.00</td>
<td>1.424</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Post-test</td>
<td></td>
<td>0-4</td>
<td>1.50 ± 0.25</td>
<td>1.00</td>
<td>1.033</td>
<td></td>
</tr>
</tbody>
</table>

With effleurage massage, the mean pain score (± SE) decreased from 3.94 (± 0.38) to 2.25 (± 0.38). While receiving effleurage massage, skins stimulate sensory message to cerebral cortex by fiber A-δ to not receive the pain signal and reinforce the pain control (Maryunani, 2010). Effluerage massage may increase endorphin level, a neurotransmitters and neuromodulators, that inhibit the transmission of pain messages Judha et al., 2012). Kaada and Torsteinbo (1989) revealed an increasing of endorphin level at the connective tissue after effleurage massage which related to the perceived pain, warmth and comfort massage.

Slow stroke back massage (SSBM) provided a decreasing pain from the mean score (± SE) 3.81 (± 0.35) to 1.50 (± 0.25). This treatment performed to relieve pain by activating the transmission of nerve fiber sensory A-beta and reducing the transmission of pain in through C fibers and A-delta small diameter while closing the gate synapses for the transmission of impulses pain (Potter & Perry, 2006). Harris and Richard (2009) revealed significant values on improving indicators of relaxation of both physiological and psychological through SSBM and skin stimulation showed.

Table 2. The difference (p value) of menstrual pain among the female students provided effleurage massage and slow stroke back massage

<table>
<thead>
<tr>
<th>Groups</th>
<th>Effleurage</th>
<th>SSBM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test</td>
<td>Post-test</td>
</tr>
<tr>
<td>Effleurage</td>
<td>0.803</td>
<td>--</td>
</tr>
<tr>
<td>Pre-test</td>
<td>--</td>
<td>0.129</td>
</tr>
</tbody>
</table>

The decreasing menstrual pain among the involved females found significant (p value < 0.001) after obtained the effleurage and slow stroke back massage. Table 2 exhibited no significant decreasing of menstrual pain between the two massage methods. It indicated both massages are recommended to reduce the menstrual pain among the female students.

4. CONCLUSIONS AND RECOMMENDATIONS

We revealed a significant decreasing mean score of menstrual pain among the students of AKBID Ngudi Waluyo by providing them effleurage and slow stroke back massage. Both methods are recommended to increase student performance related to stress during menstruation. Further assessment related to stress hormone is required to confirm the results.
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REFERENCES