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Effect of transcutaneous electrical nerve stimulation (TENS) on the Pain Intensity Phase I Stage of Labor Active In Bidan Praktik Mandiri Rahmadina Rosa 2019

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ABSTRACT

Managing labor pain takes care maternal affection which according to the WHO document describes one way to provide care that is dear mother called the Safe Motherhood. Where there are 10 steps to provide the maternal affection care delivery care in the method of pain relief without the use of drugs. TENS nonpharmacological method one can increase the comfort of the mother during labor and have an influence on effective coping to the experience of childbirth This study aims to determine "TENS effect on the first stage of labor pain intensity active phase ". This research is a quantitative research with experimental designs with post test only control group design. The study group was divided into a control group and TENS. The study was conducted in BPM Rahmadina Rosa Pekanbaru in October 2019 s / d in January 2020. Samples 20 to TENS group and 20 for the control group, so the total sample of 40 samples. Research instrument using TENS affixed to (T10-L1) and point(2-S4) on primigravida performed two times at 4 cm cervical dilatation and opening of the cervix 8 cm for 15 minutes. Using pain measurement tool Numerical Rating Scale (NRS). The results of analysis of influence between the intervention group and control the intensity TENS pain in the cervical opening 4 cm, found that most of the pain level in the medium category TENS group, while the control group level of pain mostly in the weight category. However, based on the statistical test obtained by value p> 0.05, it can be concluded there was no difference in the intervention group and the control TENS at 4 cm cervical dilatation. While the results of analysis of the effect of TENS group to the intensity of pain in the cervical opening 8 cm, shows that there is a difference between intervention and control groups, Statistical test results obtained value of p <0.05, it can be concluded that there are significant differences in the intervention group and the control TENS. TENS conclusion may affect the reduction of pain intensity in the first stage of labor is the active phase, where both are used in TENS 8 cm cervical dilatation. This means that there are differences in the perceived reduction in pain intensity respondents in the intervention group with the control.

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1. Introduction

Managing labor pain takes care maternal affection which according to the WHO document describes one way to provide care that is dear mother called the Safe Motherhood which has a mission to promote excellence model of care delivery can improve birth outcomes, the model of midwifery care support and protect the process normal birth. Agency Coalition for Improving Maternity Services (CIMS) bear Safe Motherhood Initiative formulated 10 care measures dear mother and the points to 7 mentioned to provide delivery care in the method of pain relief without the use of drugs (Pusdiknakes, 2003). Research in the United States 70% to 80% of women who gave birth to expect delivery to take place without pain. Various methods are used to give birth mother did not always feel ill and will feel comfortable. Currently in developing countries 20% to 50% of births in hospitals do with sectio Caesaria, high Caesaria sectio operation caused the mothers who want maternity prefer a relatively painless operation. The pain can affect maternal conditions such as fatigue, fear, anxiety and stress. Stress can lead to a weakening of uterine contractions and lead to a long labor. (WHO, 2001; Ramamurthy, 2006). The pain can affect maternal conditions such as fatigue, fear, anxiety and stress. Stress can lead to a weakening of uterine contractions and lead to a long labor. (WHO, 2001; Ramamurthy, 2006). The pain can affect maternal conditions such as fatigue, fear, anxiety and stress. Stress can lead to a weakening of uterine contractions and lead to a long labor. (WHO, 2001; Ramamurthy, 2006).

Various attempts were made to reduce pain during labor, both pharmacological and non-pharmacological. Pharmacological pain management is more effective than non-pharmacological

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methods, but the methods of pharmacology is more expensive, and potentially have adverse effects. While the non-pharmacological method is cheaper, simpler, effective and without any adverse effects. (Burns, 1994). Pain reduction techniques include acupressure, besides that TENS can also reduce pain during childbirth where transcutaneous electrical nerve stimulation (TENS) is one of the non-pharmacological analgesia which popularized its use in dealing with labor pain. TENS can significantly reduce the duration of the first stage of labor in nullipara and multipara and reduce the use of drugs analgesia (Johnson, 2013).

Research conducted by Panggayuh, Hupitoyo and Tarsikah (2006), which examined the effects of hipoanalgesik TENS on pain first stage of labor active phase, one method to reduce labor pain in various countries is transcutaneous electrical nerve stimulation (TENS) research results indicate a difference in the intensity of pain before and after the use of TENS where TENS effectively reducing labor pain when I.

This pain reduction method has not been socialized throughout the territory of Indonesia, especially the reduction of labor pain, according DG Nutrition and KIA Kepmenkes RI (2012) The number of births in the province of Riau in 2011 as many as 117 796 deliveries. Where the fact the field method of pain relief TENS has not been done or known by health workers themselves, in the field are common methods of pain reduction are likely to use drugs to relieve pain during childbirth even field often found mother asks induced by confinement in order to speed up the delivery process with hope no longer feel pain (DHO. Kampar, 2013).

2. Method

This research is a quantitative research with experimental designs with post test only control group design. The study group was divided into control and experimental groups: control group and TENS. The study was conducted in BPM Rahmadina Rosa Pekanbaru in October 2019 s / d in January 2020. The population in this study were all mothers inpartu the first stage of the active phase in BPM Rahmadina Rosa. The samples are part of the population that meets the criteria for inclusion and exclusion in BPM Rahmadina Rosa. So the total sample of 20 groups of TENS and 20 to a control group, so the total sample of 42 samples, consecutive sampling Sampling techniques. Measuring devices using TENS affixed(T10-L1) and dititik (2-S4) on primigravida performed two times at 4 cm cervical dilatation and opening of the cervix 8 cm for 15 minutes. Using pain measurement tool Numerical Rating Scale (NRS)

3. Results and Analysis

3.1. Univariate analysis

a. General data

1. The frequency distribution characteristics of the respondents that include age, education, occupation and ethnicity.

Table 1.
Frequency Distribution of Respondents in Group Acupressure, TENS and Control

No.	characteristics of Respondents	TENS		Control	
		f	%	f	%
1	Age				
	20-25 years	16	80	12	60
	26-30 years	2	10	8	40
	31-35 years	2	10	0	0
2	Education				
	SD	3	15	0	0
	SMP	3	15	4	20
	High School	9	45	14	70
	PT	5	25	2	10
3	Profession				
	Does not work	15	75	17	85
	Work	5	25	3	15
4	tribe				
	Malay	14	70	11	55
	Java	6	30	9	45

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b. Custom Data

Table 2.
Effect of TENS on Pain Intensity Active Phase I Stage of Labor at the Opening 4 cm

Pain intensity Opening 4 cm	TENS				ρ
	Intervention		Control		
	f	%	f	%	
moderate	11	55	6	30	0,201
Weight	9	45	14	70	
amount	20	100	20	100	

Table 3.
Effect of TENS on Pain Intensity Active Phase I Stage of Labor in the opening 8 cm

Pain intensity Opening 8 cm	TENS				ρ
	Intervention		Control		
	F	%	f	%	
moderate	13	65	4	20	0,011
Weight	7	35	16	80	
amount	20	100	20	100	

3.2. Results

The results of analysis of influence between the intervention group and control the intensity TENS pain in the cervical opening 4 cm, found that most of the pain level in the medium category TENS group, while the control group level of pain mostly in the weight category. However, based on the statistical test obtained by value p> 0.05, it can be concluded there was no difference in the intervention group and the control TENS at 4 cm cervical dilatation. While the results of analysis of the effect of TENS group to the intensity of pain in the cervical opening 8 cm, shows that there is a difference between intervention and control groups, statistical test results obtained value of p <0.05, it can be concluded that there are significant differences in the intervention group and the control TENS ,

TENS of research administration had no effect on the opening of 4 cm, this is most likely due to increased levels of stress and anxiety of the mother, according Norwitz (2007) of labor pain is generally felt great and only 2-4% of women who experience mild pain during labor. According to the research results in the field facts massage tool use TENS at the opening of a new 4 cm is still known by the mother so the mother inpartu inpartu still appeared to retreat during the administration of this TENS tool, resulting in less effect and does not produce satisfactory results. At the opening of this plus more influenced by the level of anxiety and stress that given the high maternal stimulation massage with massage tool is to give effect so common that lack of comfort in the mother.

The use of TENS in the intervention group at 8 cms there is a significant relationship to the intensity of the pain this has happened because TENS is a technique of non-invasive simple, during the administration of TENS vibration massage menggunaakan electric current generated by a portable pulse generator and supplied through the surface of healthy skin through the pads conducting electrodes. How giving Reiki TENS selectively activates fiber conjecture large diameter (Aβ) without activating the fiber nociceptive smaller diameter (Aα and C), resulting in a substance analgesic segmental issued by the brain rapidly and is localized to the dermatome that works on the central nervous system and peripheral to reduce pain (Carrol, 1997 in Yulifah, 2009).

Research conducted by Ho, L. Irene and Grace (2011). TENS in relieving labor pain getting the TENS can reduce the pain of labor as much as 38% than that TENS can accelerate the first stage of labor and can be well-received by the mother during delivery.The results showed no difference in pain intensity between mothers who do TENS stimulation with mothers who did not do TENS. After being given a TENS stimulation, reduced pain a mother feels lighter. In theory TENS works by stimulating the production of endorphins through the electrode attached to the back of the mother, endorphin is a neuropeptide that is the substance of analgesic issued a brain that works on the central nervous system and peripheral nervous system to decrease pain, with a reduction in pain will reduce the stimulation of the sympathetic nervous to press emotions such as fear and anxiety, thus the fear and anxiety will be reduced (Reeder, 2013; Myles, 2009).

Simkin (2008) observed that the beneficial effects lasted only stimulate the skin with TENS forwarded so when discontinued pain worse. The losses caused by the adaptation process, the

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nervous system becomes accustomed to the stimulation and sensory organs stopped responding. The results of this context is the reduction of the effect of stimulating the skin to relieve pain. Thus, Simkin recommends stimulating during labor must be done intermitan, such as TENS electrodes that particular attachment only during contractions, or vary in terms of the kind of touch and location. As already mentioned, the advantages claimed TENS extends beyond the purely physiological changes, psychological effects may also occur (Mander, 2003).

4. Conclusion

Giving TENS has no effect on the opening of 4 cm, this is most likely due to increased levels of stress and anxiety of the mother, use of TENS in the intervention group at 8 cms there is a significant relationship to the intensity of pain because this happened TENS is a non-invasive technique is simple,

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