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GENTLE HUMAN TOUCH AGAINST CHANGES IN PREMATURE BABY'S BLOOD PRESSURE

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Abstract

Premature babies are babies born before 37 gestational age, many problems that often arise in premature babies such as hypoglycemia or immature hemodynamic status in this case is blood pressure. To maintain the stability of blood pressure, a nursing intervention is needed, namely Gentle Human Touch. This study aims to see how the influence of gentle human touch on blood pressure in premature infants by using quantitative research methods with a Quasi Experimental design to try out an intervention on a group of subjects with or without a comparison group, but not randomized to include subjects in the treatment or control group. with a sample of 9 people in the perinatology room of Ibnu Sina Hospital Makassar. The results showed that the p value: 0.001 which indicates that there is an influence of gentle human touch on the blood pressure of premature babies in the perinatology room of Ibnu Sina Hospital Makassar. It is hoped that the nurses on duty in the perinatology room will be able to implement this intervention.

***Keywords**: Premature Baby, Gentle Human Touch, Touch Therapy*

Introduction

Premature babies are babies born before 37 weeks' gestation, regardless of birth weight (Wong, 2009). Problems that often occur in premature babies are caused by the immaturity of the body's organs, so that it will have an impact on the physiological and biochemical conditions of the body that cause disturbances (eg hypoglycemia, hypocalcemia, hyperbilirubinemia and so on), this can cause death (Indrasarto, 2008).

The number of premature babies is still increasing. The incidence of premature babies (less than 37 weeks) is estimated at an average of 15 million births per year worldwide. Based on data from the WHO in 2017, the 10 countries with the highest preterm birth rates were Malawi: 18.1%, Comoros: 16.7%, Congo: 16.7%, Zimbabwe: 16.6%, Equatorial Guinea: 16.5%, Mozambique: 16.4%, Gabon: 16.3%. Pakistan: 15.8%, Indonesia: 15.5%, Mauritania: 15.4%.

Anatomy and physiology that are not well developed in premature babies will cause babies to tend to experience complex problems such as: unstable body temperature in premature babies has difficulty maintaining body temperature due to increased heat loss, reduced subcutaneous fat, body surface ratio to body weight larger, reduced heat production due to insufficient brown fat and the inability to shiver. Difficulty breathing occurs due to deficiency of lung surfactant leading to respiratory distress syndrome (RDS). Cardiovascular problems: Patent ductus arteriosus (PDA) is a common thing found in preterm infants, namely hypotension and hypertension (Indrasarto, 2008).

Babies born prematurely are susceptible to various complications such as instability in hemodynamic status, especially the baby's blood pressure, if not treated properly. Premature babies are required to be cared for in an incubator because premature babies do not have the ability to adapt to their environment. Incubators are very useful for maintaining the body temperature of premature babies to remain stable, due to imperfect temperature regulation in premature babies so that it can endanger their health conditions (Damayanti, 2020).

Touch therapy is very important for the optimal growth and development of premature babies and one of the most developed senses that nurses provide for premature babies. Therapeutic touch is considered a complementary medicine. Touch as a complementary therapy gives nurses the opportunity to approach patients specifically as they care for the neonate. In addition, therapeutic touch is a non-invasive treatment technique that does not require special equipment and technology. It can be easily combined with traditional medicine and thus reduce the cost of treatment, duration of illness, and complications. Therefore, it is important for nurses to know the effect of touch on premature infants to determine routine care and policies and to evaluate the potential of tactile stimulation as an effective intervention to promote overall growth and development (Dur et al., 2020).

One touch therapy that can be given to premature babies is Gentle Human Touch. On this basis, the researcher intends to conduct research related to Gentle Human Touch on the blood pressure status of premature babies in the Perinatology Room of Ibnu Sina Hospital Makassar.

Methods

This research is a quantitative research with a Quasi Experimental design. Quasi Experimental Research is a study that tries an intervention on a group of subjects with or without a comparison group, but it is not randomized to include subjects in the treatment or control group (Back, 2014). This is done by giving a pretest (initial observation) before being given an intervention, after being given an intervention then a posttest (final observation) is carried out (Sugiyono, 2017). The number of samples used were 9 people with vulnerable research from April-June 2018, which took place in the Perinatology Room of Ibnu Sina Hospital Makassar.

Results

After the GTH intervention was carried out on samples in the Perinatology room of Ibnu Sina Hospital Makassar, the following results were obtained:

Tabel 1 Average Blood Pressure Before & after GHT Therapy at Ibnu Sina Hospital Makassar (n=9)

Group	Time	Systolic Blood Pressure					Diastolic Blood Pressure				
		n	Mean	SD	Min-Max	95% CI	N	Mean	SD	Min-Max	95% CI
GHT method	Pre	9	64,22	3.383	60 – 68	61,62 – 66,82	9	47,22	3,632	45-55	44,43 – 50,1
	Post	9	74,44	1,130	72 – 75	73,58 – 75,31	9	59,44	1,667	55 – 60	58,16 – 60,73

Source: Primary Data 2018
Information :* Pre = Before intervention, Post = after 5 days of intervention;

Table 1 shows the average systolic blood pressure of preterm infants before GHT therapy is 64.22 mmHg with (SD = 3.3 83), the min-max value is in the range of 60-68 mmHg and the average diastolic blood pressure of premature infants 47.22 mmHg with (SD = 3.632), the min-max value is in the range of 45 – 55 mmHg. The average systolic blood pressure of premature infants after GHT therapy was 74.44 mmHg with (SD = 1.130), the min-max value was in the range of 72-75 mmHg and the average diastolic blood pressure of premature infants was 59.44 mmHg with (SD = 1.667), the min-max value is in the range of 55 – 60 mmHg.

Table 2 Effect of Gentle Human Touch Therapy on Systolic and Diastolic Blood Pressure of Premature Babies at Ibnu Sina Hospital Makassar (n=9)

NO	Variabel	Group	Measurement	Mean	SD	t	Df	P value
1	Systolic Blood Pressure	GHT	Before	64,22	3,383	-6,001	8	0,001
			After	71,11	1,364			
			Difference	6,889	3,444			
2	Diastolic Blood Pressure	GHT	Before	47,22	3,632	-10,094	8	0,001
			After	59,44	1,667			
			Difference	12,222	3,632			

Table 2 shows the difference in the mean systolic blood pressure of preterm infants before and after GHT therapy was 6.889 (SD=3.444) with a (p value of 0.001). The difference in the mean diastolic blood pressure of preterm infants before and after GHT therapy was 12.222 (SD=3.632) with a (p value of 0.001). Based on the results, it can be concluded that there is an effect of gentle human touch therapy on the systolic and diastolic blood pressure of premature infants.

Discussion

The results showed that there was a significant difference in blood pressure before and after being given gentle human touch therapy (p value 0.001). The researcher's analysis of systolic blood pressure and diastolic blood pressure in infants

before therapy was at low blood pressure, this was influenced by the age of the baby and gestational age where there was immaturity of organs in premature infants. Meanwhile, after gentle human touch therapy, there was a significant increase in blood pressure because the soft touch made can make the baby feel comfortable, thus affecting the work of the heart.

This is in line with research conducted by Bijari et al (2020) that gentle human touch therapy can make babies calm so that it will affect heart performance, where touch will also stimulate blood circulation and increase energy because more oxygen is sent to the brain and throughout the body. Touch with gentle pressure on the baby will cause the nerve endings on the surface of the skin to react to touch. Furthermore, these nerves send messages to the brain through a network of nerves in the spinal cord. This process can cause stimulation of peripheral sensory nerve receptors, especially pressure receptors. This stimulation activates the parasympathetic nervous system. (Varela et al., 2018)

From another study, it was explained that the presence of gentle human touch therapy can increase the sense of security and comfort of premature babies, especially during sleep breaks. Where the sleep behavior of premature babies tends to increase with the combination of gentle human touch with musical instruments. This can occur because of the calm effect felt by the baby and the functioning of the two sense organs such as the skin and the sense of hearing of the premature baby. (Coma et al., 2020).

Another study conducted by Manzontti et al (2018), explains that after treatment with the osteopachit system combined with touch therapy can increase oxygen saturation levels of newborns. This happens because of the metabolic activity of the baby, so it can be concluded that with this therapy, premature infants produce an initial vascular metabolic effect followed by an autonomic (parasympathetic) response (Raghuraman et al., 2020)

Conclusion

From the results of the study, it can be concluded that there is an influence of gentle human touch on the blood pressure of premature babies in the perinatology room of Ibnu Sina Hospital Makassar. So it is recommended for nurses on duty in the perinatology room or in the NICU to be able to implement this intervention

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