Original Article

Health Education on Mother's Knowledge and Skills in Care of Kanguru Methods in LBW In Peristi's Room at Mokopido Tolitoli Hospital

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ABSTRACT

Background: In Indonesia, it is estimated that one baby dies every six minutes, one of which is due to having a low body weight. One way to prevent babies from dying from low weight is to use the kangaroo method. Objective To find out the effect of Health Education on the Knowledge and Skills of Mothers in Kangaroo Method Care at LBW in the Hospital Room at Mokopido Tolitoli Hospital.
Methods: The design used in the study was pre-experiment, one group pre-posttest. Population is All Mothers of a Baby. The sample size is 30 respondents using accidental sampling technique. Independent variables of the study were counseling about the kangaroo method on LBW. The dependent variable is knowledge and skills. Data was collected using a questionnaire, then data were analyzed using the Wilcoxon test with a significance level of $\alpha \leq 0.05$.
Results: The results showed that respondents had less knowledge before health education as many as 24 respondents (80%), good knowledge after health education as many as 22 respondents (73.3). unskilled, need help before health education as many as 26 respondents (86.7%), independent after health education after health education, as many as 26 respondents (86.7). The results obtained by statistical test results found that the knowledge of respondents before and after health education p <a with a = 0.05, which means that there is a significant effect of health education on knowledge (p = 0,000), and skills (p = 0,000)
Conclusion: The discussion of this study was an assessment of the knowledge and skills of women in PMK in LBW infants before and after being educated about the use of a good and effective method of kangaroos to help the baby maintain the stability of the baby's temperature.

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Introduction

In Indonesia, an estimated one baby dies every six minutes, one of which is due to having a low body weight. One way to prevent babies from dying from low body weight is to use the kangaroo method. The Kangaroo method or inherent baby care found since 1983 is very useful for treating premature and low birth weight babies, which can be done during hospital care or

at home (Tangke, 2021). Kangaroo method is a method of early treatment with a touch of skin to the skin between mother and newborn baby in a position like kangaroo. This method is able to meet the basic needs of premature newborns by providing situations and conditions similar to the mother's womb. So that gives an opportunity to be able to adapt well to the outside world. Kangaroo care has been shown to produce effective and long-term regulation of body temperature and stable heart and respiratory rate in premature babies. Skin-to-skin care encourages babies to look for nipples and suck them, this strengthens the bond between mother and baby and helps the success of breastfeeding (Potter, 2014).

Based on the World Health Organization (WHO) in 2007, in developing countries nearly 70% of 5 million neonatal deaths and 17 out of 25 million births per year gave birth to babies with LBW (less than 2500 gr. Developing countries such as the United States and Canada strongly support the effectiveness and safety of skin care per skin (such as kangaroos) for premature babies because babies can feel the pleasure of happiness and feeling that is very extraordinary. Based on the results of Surreal conducted by the Central Bureau of Statistics (BPS) in collaboration with the National Family Planning Coordinating Board (BKKBN, 2015, 2016) of Bali Province, the infant mortality rate in 2009 was 4.1 per 1000 live births (Dinkes, 2010). The results of the preliminary study on February 15, 2018, found that there was no treatment for the Kangaroo Hospital (PMK) in the Hospital of Mokopido Tolitoli Hospital. The nurse only provides information about PKM when the patient returns home. In the last three months there were an average of 30 LBW babies in the Mokopido Tolitoli Hospital room. It was also found that of the 10 parents who had LBW babies at Mokopido Toltoli Hospital, all of them did not know about the kangaroo care method skills.

The treatment of the kangaroo (PMK) method or mother care kangaroo is a method of care for babies with low birth weight (LBW) by imitating the kangguru animals that put their babies who are always premature (less months) in their pockets to be ready to live in the outside world. Premature babies and low birth weight babies are very vulnerable to various things, especially in maintaining a stable body temperature risk of hypothermia (cold) and death. To prevent hypothermia in small infants under 2,500 grams, kangaroo treatment can be done, namely contacting the baby's skin with the mother's skin so that the mother's body temperature will maintain the temperature of the baby's body temperature and function as a thermoregulator (Fitri, 2018; Nurlaila, 2017). The Ministry of Health and Social Welfare has developed the essential neonatal service policy and the kangaroo method as one of the ways in implementing the policy that aims to prevent hypothermia (Ludington‐Hoe & Swinth, 1996; Merchant et al., 2020). A study of the application of the kangaroo method in hospitals in Ethopia has 67% of babies born prematurely and LBW who are at high risk can be overcome. Likewise, India which applies this method further reduces infant mortality. For example the ability of babies to drink breast milk (approximately 180-200 ml / kg / day) then increase weight slowly at least 20-30 gr or 1 week about 2 ounces (Datta et al., 2018; Mastiningsih, 2021). The Association of Indonesian Perinatologists (Perinasia) in the kangaroo method orientation seminar held at the Indonesian Health Promotion Forum, premature and low birth weight babies are especially at risk of death caused by hypothermia (body temperature below 36.5 ° C), in addition to asphyxia (difficulty breathing) and infection. It is

estimated that the incidence of premature and LBW in Indonesia is indeed declining but still quite high at 52% per 100 live births.

Research from the Faculty of Medicine UNPAD and the Ministry of Health and Social Affairs has examined in general, that rural women accept the kangaroo method. Almost all mothers who implement it receive support from the family. They argue, the method of kangaroos makes babies calm and lots of breastfeeding. Traditionally some of the actions in the kangaroo method have been known to the public by the term local Bedako (OKU Regency), Makaleppe (Makassar), Kadukui (Bugis) and West Seram Island (Maluku) Based on this background researchers are interested in researching with the title Health Education to Knowledge and Mother's Skills in Kangaroo Method Treatment at LBW in the Hospital Room in Rsud Mokopido Tolitoli..

Method

Design used in the study was pre-experimental, one group pre-post-test. Population is All All Mothers of a Baby. The sample size is 30 respondents using accidental sampling technique. Independent variables of the study were counseling about the kangaroo method on LBW. The dependent variable is knowledge and skills. Data was collected using a questionnaire, then the data were analyzed using thetest Wilcoxon with a significance level of $\alpha \leq 0.05$..

Results

Table 1. Distribution of Frequency Characteristics of Respondents by Age in Mokopido Tolitoli Hospital on 30 August-28 September 2018 (n = 30)

No	Age	Frequency	Percentage
1	<20 years	2	6.7
2	20-35 years	20	66.7
3	> 35 years	8	26.7
	Total	**30**	**100**

The results showed that more than half of the respondents aged 20-35 years were 20 respondents (66.7%), and the least were aged <20 years as many as 2 respondents (6.7 %).

Table 2. Frequency Distribution Characteristics of Respondents by education in hospitals Mokopido Tolitoli on 30 August to 28 September 2018 (n = 30)

No.	Education	Frequency	Percentage
1	Elementary	4	13.3
2	junior	6	20.0
3	high school	20	66.7
	Total	**30**	**100**

The results of the study showed that more than half of the respondents had high school education as many as 20 respondents (66.7%), and the least were having elementary education as many as 4 respondents (13.3%).

Table 3. Distribution of Frequency Characteristics Respondents are based on employment in Mokopido Tolitoli Hospital on 30 August-28 September 2018 (n = 30)

No	Job	Frequency	Percentage
1	Employee	10	33.3
2	Self Employed	4	13.3

No	Job	Frequency	Percentage
3	Not Working	16	53.3
	Total	**30**	**100**

the results showed that most respondents do not work as much as 16 respondents (53.3%), and the least is to have a job as an entrepreneur as much as 4 respondents (13.3%).

Table 4. Distribution of Frequency Characteristics of Respondents based on Information Sources at Mokopido Tolitoli Hospital on 30 August-28 September 2018 (n = 30)

No	Information Sources	Frequency	Percentage
1	Health worker	15	50.0
2	Print media	3	10.0
3	Electronic media	12	40.0
	Total	**30**	**100**

The results of the study showed that half of the respondents received information from health workers as many as 15 respondents (50%), and those who received the least information from print media were 3 respondents (10%).

Table 5. Frequency Distribution of Knowledge-Based Respondents in Mokopido Tolitoli Hospital on 30 August-28 September 2018 (n = 30)

No	Knowledge	Before		After	
		Frequency	Percentage	Frequency	Percentage
1	Less	24	80.0	0	0
2	Enough	6	20.0	8	26, 7
3	Baik	0	0	22	73.3
	Total	**30**	**100**	**30**	**100**

The results showed that most respondents had insufficient knowledge before health education as many as 24 respondents (80%), and more than half of respondents had good knowledge after health education which is as much as 22 respondents (73.3).

Table 6. Frequency Distribution of Respondents by Skills in hospitals Mokopido Tolitoli on 30 August to 28 September 2018 (n = 30)

No	Skills	Before		After	
		Frequency	Percentage	Frequency	Percentage
1	skilled, need help	26	86.7	4	13.3
2	Skilled, mandiri	4	13.3	26	86.7
	Total	**30**	**100**	**30**	**100**

The results showed that almost all respondents were not skilled, needed help before health education as many as 26 respondents (86.7%), and almost all skilled respondents, independent after health education after health education as many as 26 respondents (86.7).

Table 7. Cross tabulation between knowledge and respondent's work in Mokopido Tolitoli Hospital on 30 August-28 September 2018 (n = 30)

			Employment			
			Employees	Self Employed	Not working	Total
Knowledge _pre	Less	Count	9	3	12	24
		% of Total	30,0%	10,0%	40,0%	80,0%
	Enough	Count	1	1	4	6
		% of Total	3,3%	3,3%	13,3%	20,0%
Total		Count	10	4	16	30
		% of Total	33,3%	13,3%	53,3%	100,0 %

The results of the study showed that most respondents had

insufficient knowledge and did not work before health education as many as 12 respondents (40%).

Table 8. Cross tabulation between skills with the age of the respondent in Mokopido Tolitoli Hospital on 30 August-28 September 2018 (n = 30)

			Age			
			<20 years	20-35 years	> 35 years	Total
Skill _pre	Not skilled, need help	Count	2	16	8	26
		% of Total	6,7%	53,3%	26,7%	86,7%
	skilled, independent	Count	0	4	0	4
		% of Total	,0%	13,3%	,0%	13,3%
Total		Count	2	20	8	30
		% of Total	6,7%	66,7%	26,7%	100,0%

The results showed that most respondents had unskilled skills and aged 20-35 years before health education as many as 16 respondents (53.3%).

Table 9. Cross tabulation between skills and respondent's work in Mokopido Tolitoli Hospital on 30 August-28 September 2018 (n = 30)

			Job Occupation			
			Employee	Entrepreneur	Not working	Total
Skil _pre	Not skilled, need help	Count	7	3	16	26
		% of Total	23,3%	10,0%	53,3%	86,7%
	Skilled, independent	Count	3	1	0	4
		% of Total	10,0%	3,3%	,0%	13,3%
Total		Count	10	4	16	30
		% of Total	33,3%	13,3%	53,3%	100,0 %

The results of the study showed that most respondents had skills that were unskilled and did not work before health education as many as 16 respondents (53.3%).

Table 10. Cross tabulation between knowledge and skills before health education at Mokopido Tolitoli Hospital on 30 August-28 September 2018 (n = 30)

			Skills _pre		Skills _pre
			Unskilled, needs help	Unskilled, needs help	
Knowledge _pre	Less	Count	21	3	24
		% of Total	70,0%	10,0%	80,0%
	Enough	Count	5	1	6
		% of Total	16,7%	3,3%	20,0%
Total		Count	26	4	30
		% of Total	86,7%	13,3%	100,0%

The results of the study found that more than half of the respondents had less and unskilled knowledge, needed assistance before health education as many as 21 respondents (70%).

Table 11. Cross tabulation between knowledge and skills after health education at Mokopido Tolitoli Hospital on 30 August-28 September 2018 (n = 30)

			Skills _pre		Total
			Unskilled, needs help	Unskilled, needs help	
Knowledge _post	Enough	Count	1	7	8
		% of Total	3,3%	23,3%	26,7%
	Good	Count	3	19	22
		% of Total	10,0%	63,3%	73,3%
Total		Count	4	26	30
		% of Total	13,3%	86,7%	100,0%

The results of the study showed that more than half of the respondents had good knowledge and skill, needed assistance after health education as many as 21 respondents (70%).

Table 12. Test Results Statistics

	Knowledge	Skill
Z	-4,862[a]	-4,690[a]
Asymp. Sig. (2-tailed)	,000	,000

a. Based on negative ranks.
b. Wilcoxon Signed Ranks Test

The statistical test results found that on the knowledge of respondents before and after health education p <a with a = 0.05, which means that there is a significant effect of health education on knowledge (p = 0,000), and skills (p = 0,000).

Discussion

The results of the study found that the majority of respondents had good and skilled knowledge, needed assistance after health education as many as 21 respondents (70%). The results of statistical tests found that on the knowledge of respondents before and after health education p <a with a = 0.05, which means that there is a significant effect of health education on skills (p = 0,000).

Counseling is a system and process of change in individuals and society so that better changes can be realized as expected. Counseling can be seen as a form of education for adults. Counseling is the involvement of someone to communicate information consciously with the aim of helping others give opinions so that they can make the right decisions (Juwita, 2018; Rusdiana & Setiawan, 2018; Vernissa et al., 2017). Counseling is a process of behavior change in the community so that they know, want and are able to make changes to achieve increased production, income or profits and improve their welfare. Health education is a combination of various activities and opportunities based on the principles of learning to achieve a situation, where individuals, families, groups or society as a whole want to live healthy, know how and do what can be done. Kangaroo method treatment (PMK) is a treatment for premature babies by making direct contact between the skin of a baby and skin-to-skin (Hastuti, 2018; Ilmiati, 2021; Merdekawati, 2017; Nurlaila, 2017). Another definition is the method of early and continuous care with a touch of skin to skin (Skintoskincontact) between mothers and premature babies and LBW in positions such as kangaroos (Purwandari et al., 2019; Sapurtri et al., 2019).

Based on the results of statistical tests it was found that the knowledge of respondents before and after health education obtained p <a with a <0.05, which means that there was a significant effect of health education on skills (p = 0,000). This result is supported by the results of a research by Suradi (2000), which states that the Kangaroo Method is able to meet the basic needs of LBW by providing a situation and condition similar to the uterus which gives the LBW an opportunity to adapt well to the outside world. Providing Health Education affects the increase in knowledge and skills of mothers in Kangaroo Method Care at LBW in the Peristi Room at Mokopido Tolitoli Hospital. There are some respondents who have good knowledge after health education but have less skills, the cognitive possibility of the respondent is capable, but for less motor skills. Respondents after health education about the kangaroo method experienced an increase in knowledge in the form of understanding, purpose, indication and readiness, as well as skills in the preparation and implementation stages..

CONCLUSION

The results of the study showed that almost all respondents had insufficient knowledge before health education as many as 24 respondents (80%), the results

of the study more than half of respondents had good knowledge after health education as many as 22 respondents (73.3). The results showed that almost all unskilled respondents needed help before health education as many as 26 respondents (86.7%). The results of the study of almost all independent respondents after health education after health education were 26 respondents (86.7). The results of statistical tests found that the knowledge of respondents before and after health education p <a with a = 0.05, which means that there is a significant effect of health education on knowledge (p = 0,000), and skills (p = 0,000).

References

BKKBN. (2015). *Angka Kehamilan di Kalangan Remaja*. Badan Kependudukan dan Keluarga Berencana Nasional (BKKBN).

BKKBN. (2016). *Laporan Kinerja Instansi Pemerintah Badan Kependudukan dan Keluarga Berencana Nasional Tahun 2015*.

Datta, P., Mohi, G. K., & Chander, J. (2018). Newborns 6oz/8oz/10oz Milk Water Bottle Wide Neck Baby Feeding Bottle-dee. cc. *Journal of Laboratory Physicians*, *10*(1), 6.

Fitri, L. (2018). Hubungan BBLR Dan Asi Ekslusif Dengan Kejadian Stunting Di Puskesmas Lima Puluh Pekanbaru. *Jurnal Endurance: Kajian Ilmiah Problema Kesehatan*, *3*(1), 131–137.

Hastuti, P. (2018). Pendidikan Kesehatan Meningkatkan Praktik Perawatan Metode Kanguru (Pmk) Pada Ibu Nifas Dengan Bayi Berat Lahir Rendah. *Jurnal Riset Kesehatan*, *7*(1), 32–36.

Ilmiati, I. (2021). Health Education On Mother's Knowledge And Skills In Care Of Kanguru Methods In LBW In Peristi's Room At Mokopido Tolitoli Hospital . *Journal of Applied Nursing and Health*, *3*(2 SE-Articles), 25–32. https://janh.candle.or.id/index.php/janh/article/view/6

Juwita, R. (2018). Hubungan konseling dan dukungan keluarga terhadap kepatuhan ibu hamil mengkonsumsi tablet Fe. *Jurnal Endurance: Kajian Ilmiah Problema Kesehatan*, *3*(1), 112–120.

Ludington-Hoe, S. M., & Swinth, J. Y. (1996). Developmental aspects of kangaroo care. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, *25*(8), 691–703.

Mastiningsih, N. P. (2021). The Impact of Moringa Leaves, Katuk Leaves and Oxytocin Massage on Quantity and Quality of Mother's Milk as Patients Health Center in Bali. *Journal of Environmental Treatment Techniques*, *9*(1), 275–279.

Merchant, R. M., Topjian, A. A., Panchal, A. R., Cheng, A., Aziz, K., Berg, K. M., Lavonas, E. J., Magid, D. J., & Adult Basic and Advanced Life Support Neonatal Life Support, Resuscitation Education Science, and Systems of Care Writing Groups, P. B. and A. L. S. (2020). Part 1: Executive summary: 2020 American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. *Circulation*, *142*(16_Suppl_2), S337–S357. https://doi.org/https://doi.org/10.1161/CIR.0000000000000918

Merdekawati, D. (2017). Pengaruh Pengajaran Metode Kanguru Terhadap Pengetahuan Ibu Bayi BBLR. *Jurnal Ipteks Terapan*, *11*(3), 265–271.

Nurlaila, N. (2017). Hubungan pelaksanaan perawatan metode kanguru (PMK)

dengan kejadian hipotermi pada bayi Berat Lahir Rendah (BBLR). *Husada Mahakam: Jurnal Kesehatan*, *3*(9), 466–473.

Potter, P. A. (2014). *Essentials for Nursing Practice*. Elsevier Health Sciences.

Purwandari, A., Tombokan, S. G. J., & Kombo, N. L. C. (2019). Metode Kanguru Terhadap Fungsi Fisiologis Bayi Berat Lahir Rendah. *JIDAN (Jurnal Ilmiah Bidan)*, *6*(2), 38–45.

Rusdiana, L., & Setiawan, H. (2018). Perancangan Aplikasi Monitoring Kesehatan Ibu Hamil Berbasis Mobile Android. *Sistemasi: Jurnal Sistem Informasi*, *7*(3), 197–203.

Sapurtri, I. N., Handayani, D., & Nasution, M. N. (2019). Pengaruh Perawatan Metode Kanguru Terhadap Peningkatan Suhu Tubuh Bayi Berat Lahir Rendah di NICU Rumah Sakit GrandMed Lubuk Pakam Tahun 2018. *Jurnal Penelitian Kebidanan & Kespro*, *1*(2), 6–9.

Tangke, M. F. (2021). *Literature Review: Pengaruh Metode Kanguru Terhadap Peningkatan Suhu Tubuh Bayi BBLR Yang Mengalami Hipotermi*. Poltekkes Kemenkes Kupang.

Vernissa, V., Andrajati, R., & Supardi, S. (2017). Efektivitas leaflet dan konseling terhadap kepatuhan minum tablet besi dan kadar hemoglobin ibu hamil dengan anemia di puskesmas di kabupaten bogor. *Media Penelitian Dan Pengembangan Kesehatan*, *27*(4), 229–236.