

Method Care of Kangaroo for the Baby with Weight of Low Birth In Hospital X

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ABSTRACT. Nationally, based on riskesdas (2019), the prevalence of low birth weight (LBW/BBLR) was 6.2%. Based on data at Hospital X, the number of LBW in 2017, 2018 and 2019 was 207 babies (10.1% died), 254 babies (7.9% died) and 301 babies (8% died) respectively. From January to March 2020 from 34 LBW babies, 5 babies or 14.7% died. The kangaroo care method was not successful for many mother. The cause of the unsuccessfulness has to do with patient behavior, but it is not certain what factors are associated with the unsuccessfulness of kangaroo care methods. This study aims to find out what factors that influence the care of the kangaroo method in mothers with LBW at Hospital X in 2020. This research use quantitative study with a cross sectional study approach, the data collection instrument is a questionnaire. The univariate analysis showed that the largest percentage were respondents with good Kangaroo Method Care behavior (65.0%), than the respondents with bad behavior. Based on Bivariate analysis there are 4 variables that related, namely education with p value = 0.38 PR = 1.935; Knowledge with p value = 0.001 PR = 2.993; Attitude with P value = 0.31 PR = 1.909; Husband's support with p value = 0.021 PR 1.988. Meanwhile, 4 variables that are not related are age, occupation, economic level and support of officers. The results of the bivariate selection obtained 6 variables that can be included in the multivariate analysis, which are age, education, knowledge, attitudes, occupation and husband's support. while the other 2 variables, economic level and officers support, did not include in the multivariate. Variables that related based on the multivariate analysis are education, knowledge, occupation, attitudes and husband's support. Knowledge is the most dominant variable related to Kangaroo Care Behavior, with the highest OR value of 4.859

Keywords: Method Care, Kangaroo, Low Birth Introduction.

1. INTRODUCTION

Maternal Mortality Rate (MMR) is the number of deaths of women during pregnancy or deaths within 42 days of termination of pregnancy regardless of length of pregnancy or place of delivery, MMR is the death caused by pregnancy or its management, but not due to other causes per 100,000 live births. In the RPJMN of 2015-2019, the government is targeting a reduction of the initial status MMR 346 per 100,000 live births to 306 per 100,000 live births [7].

Infant Mortality Rate (IMR) shows the number of infant deaths aged 0 years from every 1000 live births in a certain year or it can also be said as the probability of babies dying before reaching one year of age which is stated by per 1000 live births. The infant mortality rate is an important indicator to reflect the state of health status in a society, because newborn babies are very sensitive to the conditions of the environment in which the baby's parents live and are closely related to the social status of the baby's parents. In the RPJMN of 2015-2019, the government is targeting a reduction of IMR from 32 per 1,000 live births to 24 per 1,000 live births [7].

The results of the Indonesian Demographic and Health Survey (IDHS) show that IMR has decreased significantly by 35 percent from 68 deaths per 1,000

live births in 1991 to 24 deaths per 1,000 live births in 2017. This figure already meet the government's target to improve the public health status of RPJMN 2015-2019. Maternal knowledge about pregnancy and child care during pregnancy is an important factor in reducing infant mortality. This indicator will be considered as getting better if the realization is smaller or lower than the target [4].

From these figures, it shows that the incidence of death in health care units is our priority. How to improve health quality not only in hospitals, but also at the primary level. One of the indicators of a nation's welfare is measured by maternal mortality.

The health sector has a big responsibility in this regard. Furthermore, to strengthen the health system in an effort to reduce maternal and newborn mortality rates, Director General Kirana explained the health concept framework, including the availability of quality health services, increasing the use of services, and the use of JKN by the community. Another addition in this effort is the implementation of PIS PK and community support in implementing healthy living community movement (Germas). The outcome of this effort is the optimal health status [8].

The Millennium Development Goals (MDGs) have ended with the end of 2015. Of the 8 (eight)

targets, Indonesia's achievements are still not optimal. One example is the target of improving maternal health, the indicator of which is to reduce the Maternal Mortality Rate (MMR) to 102 per 100,000 live births. For this reason, both the government and other elements of society continue to strive to achieve these targets. One is through collaboration and synergy between government and civil society organizations to accelerate the decline of MMR [4].

The kangaroo method was first discovered by Rey and Martines in Bogata in 1983, which is a newborn care method by placing the baby between the mother's breasts so that there is direct contact between the mother's skin and the baby [10].

The Kangaroo Method is a method of early treatment by touching the skin between the mother and newborn in the kangaroo position. The implementation of the kangaroo care method is carried out for all babies, there are two ways, namely intermittent PMK (Kangaroo Method Care), which is the treatment of babies who are still on infusion, oxygen and are still in incubator care for 1-2 hours, while continuous PMK (continuous for 24 hours / day) is performed on babies who are stable without infusion, oxygen and active babies, have good suction reflexes and support mothers to do PMK [6].

The warmth of the mother's body turned out to be an effective source of heat for both term babies and LBW. This occurs when there is direct contact between the mother's skin and the baby's skin. This principle is known as the skin to skin contact or the kangaroo care method. This method is a simple way that is useful for increasing the survival of infants both for a moment and in the long term, especially LBW weighing 1200-2000 grams [8].

The main objective kangaroo care method (FMD) is to warm the baby and increase the body temperature. This method is used to treat babies with low birth weight or premature babies, bringing the mother's skin directly to the baby's skin or skin-to-skin contact. Its main purpose is to warm the baby and increase his body temperature [3].

Babies born with low birth weight (LBW) is one of the risk factors that contribute to infant mortality, especially in the perinatal period. LBW has a long impact on children's growth and development in the future. The impact of these low birth weight babies is that their growth will be slow, the tendency to have a lower intellectual appearance than babies of normal birth weight. In addition, LBW babies can experience mental and physical disorders at the next developmental age so that it requires high maintenance costs [2].

Based on the data obtained, 254 babies with LBW in 2018, of which 20 people [7.9%] died and in 2019 as many as 301 people, of whom 24 people [8%] died. Meanwhile, from January to March 2020 as many as

34 babies, of which 5 people [14.7%] died. It can be seen that the number of infant deaths with LBW is quite high. According to the information obtained, the cause of death of these infants is mostly influenced by asphyxia or the inability to breathe spontaneously and regularly and sepsis or the presence of systemic inflammation.

They are already applying this kangaroo method of care. This is adjusted to the hospital SOP which is strengthened by the care of the kangaroo method where every mother who has a baby with LBW is expected to treat the kangaroo method.

The efforts made to mothers who have LBW are by providing adequate education and training related to kangaroo method care. Education and training for the care of the kangaroo method are carried out using various methods, both by lecturing, presenting in audio-visual form and by simulation. This is so that mothers who have low birth weight gain sufficient knowledge to then be willing and able to carry out the care of the kangaroo method properly and correctly. Based on the problems that have been described, it is necessary to conduct research on Kangaroo Care Methods for Mothers with LBW Babies

2. RESEARCH METHOD

The subject is a part taken from the whole object under study and is considered to represent the entire population [1].

This research is a quantitative study using cross sectional study approach, which is a study that examined the dependent variable and independent variables in the same time. This research aims to study the dynamics of the relationship between risk factors (age, education, knowledge, attitudes, occupation, economic level, husband's support and support from health workers) and health problems (Kangaroo Care Behavior Method).

Population is the whole object of research and the object under study. The population in this study are all mothers with LBW in RS X in 2019 as many as 301 mothers and in January to March 2020 as many as 34 mothers. So the total population is 335 mothers who have babies with LBW. The number of subjects taken in this study were 100 mothers who had babies with LBW [9].

Sample The sample is a portion taken from the entire object under study and is considered to represent the entire population. The number of samples in this study was calculated using the following

formula:

$$n = \frac{Z^2_{1-\alpha/2} P(1-P)}{d^2}$$

Information

n= Sample size

$Z^2_{1-\alpha/2}$ = Z value on the degree of significance (95%=1,96)

P= Proportion of cases (7% or = 0,07)

d^2 = Degree of deviation (10% =0,10)

From the formula above, the number of samples needed is:

$$n = \frac{1,96^2 \times 0,07 \times (1-0,07)}{0,05^2}$$

$$n = \frac{0,25008816}{0,01} = 100,03526$$

So the number of samples in this study were 100 mothers who had babies with LBW.

3. RESULT AND DISCUSSION

3.1 Univariate Variable

Univariate results showed that most of them showed good PMK behavior (65%), almost twice as large as respondents with bad behavior, age ≥ 35 years (54.0%) than respondents with age <35 years (40%), low education (53%) almost equal to respondents

who are highly educated (47%), The percentage of subjects with less knowledge about kangaroo method care is almost the same (53.0%) with respondents with good knowledge (47%), positive attitudes towards kangaroo method care (56%) compared to respondents with negative attitudes (44%), working (52 %) compared to respondents with unemployed respondents (48%), low economic level (56%) compared to respondents with high economic levels (44%), husbands support (57%) than respondents who stated their husbands were less supportive (43%), Health workers support (56.0%) compared to respondents who stated that health workers were less supportive, namely (44%) Respondents according to age, education, knowledge, attitude, occupation, economic level, husband's support, support from health workers The results of the univariate analysis show that the characteristics of the subject more than 50% have a low level of education, knowledge and economic status. In addition, more than 50% of the subjects also have good, PMK attitudes, husband supports also have good FMD, PMK attitude, husband support & health worker support

3.2 Bivariate Variable

TABLE 1. Bivariate Results

Variable	Category	Kangaroo Method Care Behavior						P Value	PR 95% CI
		Not good	%	Well	%	Total	%		
Age	<35 Age	21	45,7	25	54,3	46	100,0	0,064	1.761 1.016 – 3.052
	≥ 35 Age	14	25,9	40	74,1	54	100,0		
Total		35	35,0	65	65,0	100	100,0		
Education	Low (<SMA)	24	45,3	29	54,7	53	100,0	0,038	1,935 (1,066-3,511)
	High (\geq SMA)	11	23,4	36	76,6	47	100,0		
Total		35	35,0	65	65,0	100	100,0		
Knowledge	Less	27	50,9	26	49,1	53	100,0	0,001	2,993 (1,510-5,933)
	Well	8	17,0	39	83,0	47	100,0		
Total		35	35,0	65	65,0	100	100,0		
Attitude	Negative	21	47,7	23	52,3	44	100,0	0,031	1,909 (1,103-3,306)
	Positive	14	25,0	42	75,0	56	100,0		
Total		35	35,0	65	65,0	100	100,0		
Profession	Work	22	43,1	30	57,7	52	100,0	0,166	1,562 (0,890-2,741)
	Does not work	13	27,1	35	72,9	48	100,0		

Total		35	35,0	65	65,0	100	100,0		
Economic level	Low	22	39,3	34	60,7	56	100,0	0,422	1,330 (0,759-2,329)
	High	13	29,5	31	70,5	44	100,0		
Total		35	35,0	65	65,0	100	100,0		
Husband's Support	Less Support	21	48,8	22	51,2	43	100,0	0,021	1988 (1,149-3,440)
	Support	14	24,6	43	75,4	57	100,0		
Total		35	35,0	65	65,0	100	100,0		
Health Officer Support	Less Support	16	36,4	28	63,6	44	100,0	0,966	1,072 (0,628-1,830)
	Support	19	33,9	37	66,1	56	100,0		
Total		35	35,0	65	65,0	100	100,0		

From the results of the bivariate analysis in the table above, there are 4 (four) variables that are significantly related to the Kangaroo Method for mothers who have LBW babies. There is a significant relationship between education and kangaroo method care behavior in mothers who have LBW babies with a PR value of 1.935 (1.066-3.511), which means that mothers with low education have 1.9 times the chance to behave poorly in treating the kangaroo method compared to highly educated mothers.

There is a significant relationship between knowledge and kangaroo method care behavior in mothers who have LBW babies with a PR value of 2,993 (1,510-5,933), which means that less knowledgeable mothers have 2.9 times the chance to behave poorly in treating the kangaroo method compared to good knowledgeable mothers.

There is a significant relationship between attitudes and kangaroo method care behavior in mothers who have LBW babies with a PR value of 1.909 (1.103-3.306), which means that mothers who have negative attitudes are 1.9 times more likely to behave poorly in treating the kangaroo

method compared to mothers who has a positive attitude.

There is a significant relationship between husband's support and kangaroo method care behavior in mothers who have LBW babies with a PR value of 1.988 (1.149-3.440), which means that mothers who do not receive support from their husbands have 1.9 times the chance to behave badly in carrying out treatment kangaroos methods compared to mothers who get support from their husbands, variable which is significantly related : Education, Knowledge, Attitude, Husband's support.

3.3 Multivariate Analysis

Bivariate selection test showed that out of eight variables there are only 6 variables resulting p value <0.25 ie Age, Education, Knowledge, Attitude, Employment and the support of a husband or family. Meanwhile, there are 2 variables that produce a p value > 0.25 and are not included in the multivariate category, namely the Economic Level and Health Officer Support. The next step is to do multivariate modeling.

TABLE 2. Final Modeling

Variable	P Value	OR
Knowledge	0.020	4.859
Attitude	0.336	1.748
Husband's Support	0.413	1.524
Education	0.465	0.584

Based on the multivariate analysis, it shows that the variables related to the Kangaroo Method Care Behavior are knowledge, work attitudes, husband support and education. However, only the Knowledge variable had a significant relationship with the Kangaroo Care Method ($p = 0.020$) with OR = 4.859. From the OR results with the Nagelkerke R Square value = 0.195, it can be concluded that mothers with

less knowledge have the opportunity to behave poorly in treating the kangaroo method by 4.8 times compared to mothers with good knowledge, after controlling for attitudes education variables and husband's support. The most dominant variable related to the kangaroo method care behavior is the knowledge after being controlled by 3 other variables: education, attitude and husband support.

4. CONCLUSION

Kangaroo Method Treatment (PMK), which has been carried out in the peristery room of RSUD X, can be used as a routine procedure for premature babies if the baby's condition allows PMK. It is better if this room has a special room for doing PMK, and has a halfway house for mothers who have premature babies who are still being treated in this room, so that it is easier for mothers to visit their treated babies. For mothers who have premature babies can still do PMK even though the baby has been treated at home. This research can be used as a study material for health workers about the benefits of PMK, so that in the end it can be implemented in providing nursing care to babies. Further research is needed with a larger sample size, research procedures with a more strict physiological function observation time before, during and after PMK.

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REFERENCES

- [1] Arikunto, S. (2010). P. research . E. R. . Y. R. C. (2010). Research Procedure.
- [2] Dhillon, D. A., & Eldarita Fitri. (2019). Effect of Kangaroo Treatment Method on Weight Gain in Low Birth Weight Infants (LBW) in Kampar District Hospital in 2018. *Journal of Doppler Universitas Pahlawan Tuanku Tambusai University*, 3 (1), 15–22.
- [3] Dinda Dinda Silviana Dewi. (2020). Know the ways and benefits of Kangaroo Care Method for babies - Tirto.ID. <https://tirto.id/what-how-and-benefits-care-method-kangaroo-for-babies-es3l>
- [4] Director General of Public Health. (2018). Policy to reduce MMR and IMR (pp. 1–27).
- [5] Directorate General of Public Health, Ministry of Health RI. (2017). GERMAS (Healthy Living Community Movement). In *Warta Kesmas* (Vol. 1, Issue 1, p. 27 pages). <https://doi.org/0216-633X>
- [6] Hj. Nurlaila1), Rahmawati Shoufiah3), S. H. (2015). The Relationship between Kangaroo Treatment (Pmk) Method and Hypothermic Incidence in Low Birth Weight Infants (Bblr). *III* (9), 466–472.
- [7] Indonesian Ministry of Health. (2011). Ministry of Health's strategic plan for 2015-2019. In the strategic plan of the ministry of health for 2015-2019. Ministry of Health.
- [8] Latief, S., & Apriyani, S. (2017). Kangaroo Care Method for Mothers Who Have Low Birth Weight Babies (Bblr). 6.
- [9] Notoatmodjo, S. (Ed.). (2010). *Health Research Methodology*. Jakarta: PT. Rineka Cipta.
- [10] Suradi, R., Yanuarso, PB, Kunci, K.,-kangaroo method-incubator, B., Lecturer of the Perinatology Subdivision of the Department of Child Health, FKUI-RSCM Jakarta Rulina Suradi, S., Program for Specialist in Pediatric Medicine FKUI, P. , & Jl Salemba No, S. (2000). The method of kangaroo as a substitute for the incubator for low birth weight babies corresponds to addresses. *Sari Pediatrics*, 2 (1), 29–35. <http://saripediatri.idai.or.id/pdf/2-1-5.pdf>.