



Discharge readiness of Indonesian mother with preterm infant in NICU[☆]



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Abstract

Objective: This study aimed to describe Indonesian mother readiness for discharge with Low Birth Weight (LBW) infant.

Method: This paper is part of larger study and using quantitative study. Sampling method was used in this study was convenience sampling to 139 mothers with LBW infant in public hospital in Makassar City, Indonesia. Respondents were given self-assessed questionnaire about their readiness for discharge within 24 h before they go home.

Results: Majority (94.5%) of mothers reported that they were ready to go home and 90.6% perceived that their LBW infants were ready for hospital discharge as assessed by the dichotomous answer (i.e. Yes vs. No). The mothers mean overall score of the RHDS was 199 (29.752) which maximum total score 290. The scores on an item of the RHDS was 6.86 (3.164) which maximum item score 10.

Conclusion: Indonesian mother's readiness had lower readiness than other countries. The discharge education program was needed to enhance mother's knowledge of readiness for hospital discharge.

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Introduction

2030 Sustainable Development Goals (SDGs) targets to reduce neonatal mortality to less than 12 per 1000 live births. The causes of neonatal deaths in the world and Indonesia are prematurity and low birth weight babies (LBW) ranging from 36.7%.¹ Most premature require support care from the Neonate Intensive Care Unit (NICU) at the beginning of their lives and three-quarters of babies can be saved with NICU care given.¹ Caring of infants in the NICU would impact on parents, possibly included fear of the baby condition, doubts, and mother's lack of confidence.² The birth of LBW and infants admission at the NICU make the mothers get difficult transition experience than the mother who delivery of a healthy baby.² At the beginning of treatment, the mother experiences fear, getting stress and experience coping difficulty which were impacted by NICU environment adaptation, lack of transition preparation to parenthood, sadness, feeling isolated and lack of certainty about the future condition of their baby.^{3,4} In addition, the long period of NICU treatment makes the mother feel insecure in caring for her baby.² All the obstacles were experienced by the mothers of LBW impacted on the achievement of the role as a mother and affect the readiness to go home.⁵

Maternal readiness is an important component that is considered before the baby is discharged from the NICU to home. This mother's readiness is defined as the feeling of parents that she and her child are ready to go home and ready to care for her child at the time of discharge from the hospital.^{3,6} Mothers who are not ready to discharge their babies will experience a number of problems, including discharge delayed, parental coping difficulties after discharge,^{7,8} family anxiety enhanced, increased use of health services after discharge and lack of adherence to medical measure,³ infant readmission.^{6,9} In the end, parents' stress, anxiety and fear also continues when the baby has returned from the NICU especially in the initial days after NICU discharge.¹⁰ Studies about mother readiness for discharge have been conducted in several developed countries that have advanced health care and have discharge planning guidelines to prepare preterm infant mothers on caring their babies at home.^{11,12} Result of these studies showed that mother are more prepared to go home and ready to take care of their babies at home because mothers were provided with discharge planning guidelines.¹² Meanwhile, Indonesia as one of the developing countries has not yet have those guidelines, even though the regulation of the Minister of Health of the Republic of Indonesia number 10 of 2015 has designated parenting education services as one indicator of neonatal services.¹³ In addition, Indonesia has wide cultural variations and beliefs from the various tribes that impact on the new mothers' daily life and health.¹⁴ This descriptive study reported readiness for NICU discharge of Indonesian mothers with preterm infant.

Method

Aim of this study was to describe perception of mothers with preterm infants about their readiness for hospital discharge. This study used a descriptive study. A convenience sample and not a random sample was used to select 139 mothers

with LBW infants from seven NICU in Hospital in Makassar on September 2018 to January 2019. Mothers of all LBW infants were recruited after accepted the decision for hospital discharge. The inclusion criteria for the study were the following: (1) mother age 17 years old and above; (2) primary caregiver of the premature infant after discharge; (3) hospitalization at the NICU (level, I, II, III or infection isolation room) at least for three days, (4) mother with infants that alive during hospitalization in the NICU.

We abstracted medical records for completed the demographic data of mothers and infants. Demographic data included mothers characteristics (i.e. age, education level, occupation, and parity and mode of delivery), preterm infant characteristics (i.e. birth weight, weight of discharge, gestational age, and length of hospital stay). Within 24h before discharge or after accepted the discharge decision from neonatologist, respondent were given the Readiness for Hospital Discharge Scale (RHDS)¹⁵ in a study package to be completed before discharge. Descriptive analysis was performed to explore mother demographic characteristic, infant demographic characteristic and status mothers of preterm infant readiness for hospital discharge.

The RHDS was used to evaluate parents' perception of readiness for hospital discharge. The instruments were consisting of 29 items. The readiness of this instrument was described in five domains which are child personal status (5 items), parent personal status (8 items), knowledge (9 items), coping activity (3 items) and expected support (4 items). The Likert scale was used with an 11-point scaling format with anchors located at the 0 (i.e. not at all) and 10 (i.e. totally) ends of the scale. The score of the RHDS is from 0 to 290. A higher score of the parents indicated greater parental readiness for discharge¹⁵. The Indonesian version of RHDS was no available. Therefore this scale was translated into an Indonesian version based on cross-cultural health care research.¹⁶ The RHDS Indonesian version was tested in 30 eligible respondents. The Cronbach's α coefficients of this instrument were 0.86 of the total score. This study obtained ethic approval from institutional review board (IRB) with admission number is 356/H4.8.4.5.31/PP36-KOMETIK/2017. Respondents signed informed consent forms after being explained the purpose of the study¹⁷ and there is no event that inducing any consequences related to this study. All the data of this study were coded and no name were given. All materials were only used for this study.

Results

Table 1 shows demographic characteristic where a total of 139 mothers of LBW infants completed of this study. Most of the respondents 66.9% ($n=93$) were in the range of age 20–35 years old. Education background of the mothers were dominated of high school which were around 44.6% (62%). 74.8% ($n=104$) occupation of the respondents in this study were housewives. Among this 139 respondents 54% ($n=75$) were multipara and 46% ($n=64$) were primipara; 57.6% ($n=80$) respondents were vaginal type of delivery and 42.4% ($n=59$) were cesarean. For the LBW infant, the mean of infants gestational age were 34.6 week (± 3.053), with a mean of birth weight of 1835.9 gram and average of weight

Table 1 Demographic characteristic of the respondents.

Mothers demographic characteristic	Sample <i>n</i> = 139	
	<i>n</i>	%
Age (years)		
≤19	13	9.4
20–35	93	66.9
≥36	33	23.7
Education		
Less than high school	37	26.5
High school	62	44.6
Partial college (≥ 1 year)	9	6.5
University	31	22.3
Occupation		
Housewives	104	74.8
Employee	35	25.2
Parity		
Primipara	64	46
Multipara	75	54
Type of delivery		
Vaginal	80	57.6
Cesarean	59	42.4
Infant demographic characteristics		
	Mean	SD
Gestational age (week)	34.6	3.053
Birth weight (gram)	1835.9	424.416
Weight at discharge (gram)	1981	368.262
Length of hospital stay (day)	16.07	12.934

Table 2 Readiness for hospital discharge.

Readiness for hospital discharge	Ready		Not Ready	
	<i>n</i>	%	<i>n</i>	%
Mothers discharge readiness	131	9.2	8	5.8%
Infant discharge readiness	126	90.6%	13	9.4%

at discharge were 1981 gram. The length of hospital stay was on average 16.07 days.

Table 2 shows the majority 94.2% (*n* = 131) mothers of LBW infants reported feeling ready for their infants discharge and 90.6% (*n* = 126) of them perceived that their LBW infants were ready for hospital discharge. The score on an item of the RHDS was 6.86 (3.164) which was on the moderate score for maximum item score of 10.

The mothers mean (SD) overall score of the RHDS was 199 (29.752), with the mean score in every domains of RHDS can be seen in Table 3.

Discussion

Mother's readiness for hospital discharge is defined as the readiness of parents to care for their infant.¹⁸ It is also interpreted as parents feeling that they and their infant are ready to go home at the time of discharge from the hospital.⁶ Parents will feel ready for the hospital discharge if they are able to improve their ability to resolving the

Table 3 Readiness for Hospital Discharge Scale (RHDS).

	Min	Max	Mean	SD
An item score of RHDS	0	10	6.86	3.164
Total score of RHDS	29	253	199	29.752
Domain of RHDS				
Parent personal status	7	61	37.68	8.565
Child personal status	0	10	8.04	2.479
Knowledge	9	90	69.06	15.207
Coping ability	3	30	23.99	4.576
Expected support	0	40	29.84	7.985

problem and reduce all impacts that can occur on their families.¹⁹ The mother's perceptions about their own and their infant's readiness for hospital discharge were measured on 24h before hospital discharge. Most of them 94.2% thought that they and their infants are ready to go home after NICU admission and 90.6% (*N* = 126) of them perceived that their LBW infants were ready for hospital discharge. This result was higher when compared to other studies that used RHDS conducted in developed countries such as China which reported that the parents readiness were 90.5%¹¹ and another study in USA that used other scale which described that the parents readiness were 88%.³ In Indonesia, majority of family living in extended family where mothers will get help their extended family after delivery or discharge from NICU including received the important support at home from their parents,²⁰ which can strongly affect LBW parents confidence for caring their infant at home. The majority of NICU in Indonesia do not limit for parents to entering NICU since first day the infant admission in NICU, which can enhance bonding attachment of mother and infant.

The inconsistency result between mothers perception of hospital discharge readiness by dichotomous question (i.e. yes vs no) and the self-assessment by 29 questions in RHDS which was on the moderate score for maximum item score of 10, can occur because mothers did not get optimal discharge preparation education from NICU staff to enhance their coping ability, perceived readiness and their ability for caring the LBW infant at home. This study, in line with other studies in Indonesia which was reported mother knowledge about caring of LBW infant showed that 75.56% lack of knowledge about maintaining infant temperature and 44.5% lack of knowledge about infection prevention after hospital discharge.²¹

The moderate score of readiness for LBW infant hospital discharge and all of RHDS domains (i.e. infant personal status, mother personal status, knowledge, coping ability and expected support) were revealed by the mothers. All these finding were lower than previous study in developed countries.^{11,22} Previous studies found that discharge planning, discharge teaching, empowerment program were a significant intervention to build up mother's readiness.^{11,23} Discharge teaching and discharge planning improvement will strengthen maternal readiness for hospital discharge LBW infant, which reduce maternal coping difficulties after discharge.⁹ Indonesia as one of the developing countries does not yet have those guidelines, even though the regulation of the Minister of Health of the Republic of Indonesia

number 10 of 2015 has designated parenting education services as one indicator of neonatal services but no specific to discharge planning guidelines.¹³ Almost of all hospitals in Indonesia do not have a discharge education program for parents of LBW infant and from the observation of the researcher that staff NICU overloaded with invasive intervention because of the disproportion in the number of staff and patients. This could be a reason of lack of discharge education provided by NICU staff, which contributed to reducing mother's knowledge readiness.

Conclusion

Mothers of LBW infants revealed perceived ready to hospital discharge with LBW infant. The mother's readiness perceptions and its five domains (i.e. Infant personal status, mother personal status, knowledge, coping ability and expected support) described a moderate level of hospital discharge readiness.

Conflict of interest

The authors declare no conflict of interest.

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