Factors influencing anxiety in mothers of low birth weight infants

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Abstract

Low birth weight (LBW) infants pose a challenge for developing countries. Mothers of LBW are thus at risk of psychological stress and postpartum depression. This study was to identify the correlation between mothers' characteristics and their anxiety about having hospitalized low birth weight infants. This study used a descriptive correlation design and involved 90 respondents who met the inclusion criteria. The result of this study indicated that most of the mothers were categorized in non-risk age, unemployed or housewife, and having secondary education. Overall, the respondents showed mild anxiety and no significant correlation between mothers' characteristics and their anxiety (P>0.05). However, there was a significant correlation between her income and mother's level of anxiety (P<0.05). The conclusion could be use as the basic data for developing the program related to health promotion in overcoming the anxiety in LBW infant's mothers.

Introduction

Low birth weight (LBW) infants pose a challenge for developing countries due to their incidence rate, which ranged from 5% to 33% with an average of 16.5%.[1] In Indonesia, the average birth rate of LBW infants is 10%.[2] LBW infants are treated separately from their parents, which limits contact between mother and baby, and triggers the mothers' anxiety. Mothers of LBW are thus at risk of psychological stress and postpartum depression. These psychological symptoms might be reduced if the infants remained with their mothers instead.[3]

Some psychological problems commonly experienced by mothers of LBW infants include depression, anxiety, stress, and a sense of losing control of their baby's health care.[4] Yelland et al. reported that 12.7% of 4,366 puerperal mothers in Australia exhibited anxiety. In general, the mothers stated that they experienced stress during the first six months postpartum.[5] The mothers' anxiety could be influenced by emotional, cognitive, and psychological factors.[6] The mothers' social-cultural background could also contribute to anxiety. Parents may experience anxiety when they feel threatened by helplessness, losing control, feelings of worthless, fear of failing to survive, fear of infant death, and feelings of isolation.

Ezpezel and Canam stated that the interaction among the nurses, parents, and baby would change in accordance with the baby's condition. Critical condition will cause the nurses to focus on instrumental and assessment support for the baby so that they will engage in shorter communications with the mother. Factual information is still given, but the implementation of care will focus on the use of medical devices. Continuing to provide information is important to help parents feel supported, calm, and well.[7] Therefore, this study aimed to identify other factors that influence the LBW infant mothers' anxiety.

Materials and Methods

This analytical study, conducted from May to June 2018, used a quantitative method and a cross-sectional research approach in a hospital in Jakarta. Respondents were selected by using purposive sampling because there are diverse samples in this study;[8] the selection process yielded 90 respondents who were willing to participate and who met the inclusion criteria: postpartum mothers who gave birth to LBW infants who were hospitalized in the perinatology ward. This research has obtained ethical approval from the Research Ethics Committee of the Faculty of Nursing Universitas Indonesia by number 172/UN.F12.D/HKP.02.04/2018.

The instruments used were the questionnaires of respondent characteristic and the Hamilton Anxiety Rating Scale (HARS), these tool is known to be valid and reliable with Cronbach's alpha of 0.793, where the reliability of the questionnaires was considered to be good if the Cronbach's alpha was >0.60. The independent variables of this study were the mothers' characteristics, namely age, education, income, occupation, gestational age, type of birth, source of support, and hospital payment method. The dependent variable was the level of anxiety, which was categorized as mild, moderate to severe. Subsequently, the data was analyzed using the Chi-Square test.

Results

The data of respondent characteristics is presented in Table 1. Table 1 shows that most of the mothers were considered non-risk in terms of age (20-35 years) (77.8%), and had passed secondary education (53.5%). Most of the respondents were unemployed or housewives (84.4%), with monthly family income above the regional minimum wage (90%). In this study, when the respondent hospitalization, they received much support from family members (94.4%) rather than hospital staff. In general, the distribution of anxiety level was categorized as mild (65.6%).

In this study, a bivariate analysis was conducted to measure the correlation between the respondents' characteristics and their anxiety level, as presented in Table 2. Table 2 showed that mothers with earned income below the regional minimum wage exhibited a higher rate of moderate-severe anxiety. The statistical analysis yielded a weak, positive correlation (r= 0.220) and a statistically significant correlation (P< 0.05) between income level and level of anxiety.

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However, the other characteristics did not make any significant difference to the anxiety levels of LBW mothers.

Discussion

Preterm birth and care in the NICU are considered to be bad experiences that could affect a mother's emotional condition.[9] Parents are likely to experience higher levels of anxiety that are influenced by the severity of the disease, the ward condition, and the psychosocial feeling of separation.[10] Most of the mothers in this study were categorized as non-risk in terms of age (20-35 years).

The results indicated that of the nine characteristics examined in the study, only income significantly influenced the level of anxiety (P=0.032). This finding was in line with the research conducted by Said, Kanine, and Bidjuni, who found a correlation between family income and anxiety on primigravida mothers in the Community Health Center (CHC) in Tuminting with

Table 1. Distribution of respondents based on the characteristics of mothers who gave birth to LBW Infants in hospital, May-June 2018 (n=90).

Variable	Category	Total (n=90)	Percentage (%)
Age	At risk (<20 or >35 years)	20	22.2
	Non-risk (20-35 years)	70	77.8
Education	Primary (≤SD)	2	2.2
	Secondary (SMP-SMA)	484	53.4
	Tertiary (>SMA)	0	44.4
Occupation	Employed	14	15.6
	Unemployed	76	84.4
Income	<Regional Minimum Wage		
	>Regional Minimum Wage	981	1090
Gestational age	<24-30 weeks	13	14.4
	31-35 weeks	48	53.4
	36-42 weeks	29	32.2
Type of birth	Normal		
	C-section	3753	41.158.9
Parity	Primipara	31	34.4
	Multipara	59	65.6
Source of support	Family	85	94.4
	Hospital Staffs	5	5.6
Hospital payment method	Personal	6	6.7
	Insurance	4	4.48
	BPJS	80	8.9
Level of anxiety	Mild	59	65.63
	Moderate-Severe	31	4.4

Table 2. The correlation of respondent characteristics to LBW infants mothers' level of anxiety (n=90).

Variable	Category	Level of anxiety		r	95%CI	P-value
		Mild	Moderate-severe			
Age	At risk	10	10	0.172	0.429 (0.155-1.182)	0.097
	Non-risk	49	21			
Education	Primary	30	21	0.160	0.493 (0.198-1.223)	0.124
	Secondary-Tertiary	29	10			
Occupation	Employed	10	4	0.053	1.378 (0.394-4.813)	0.615
	Unemployed	49	27			
Income	<RMW	3	6	0.220	0.223 (0.052-0.965)	0.032
	>RMW	56	25			
Gestational age	<28-37 weeks	42	19	0.100	1.560 (0.624-3.901)	0.340
	36-42 weeks	17	12			
Type of birth	Normal	21	16	0.153	0.518 (0.214-1.235)	0.142
	C-Section	38	15			
Parity	Primipara	23	8	0.131	1.837 (0.704-4.796	0.211
	Multipara	36	23			
Source of support	Family	57	28	0.139	3.054 (0.482-19.33)	0.216
	Hospital Staffs	2	3			
Payment method	Personal	4	2	0.06	1.055 (0.182-6.105)	0.953
	Insurance & BPJS	55	29			

P=0.001.[11] It was also in line with Bener, who explained that lower monthly income significantly resulted in higher levels of anxiety for mothers of preterm babies compared to mothers of full-term babies.[12]

Differences in gestational age did not result in significant differences in anxiety levels in this study. The results showed that most of the respondents who had preterm babies experienced only mild anxiety. This finding was not in line with the research conducted by Bener, who explained that mothers of preterm baby exhibited higher anxiety than mothers with babies of normal gestational age (P<0.001).[12]

In addition, the results showed no significant correlation between education and level of anxiety. Parents with a higher level of education indirectly want to know more about the diseases of their baby, and the more information they receive from the doctors and nurses, the more anxious they will be.[13] This was inversely proportional to the study conducted by Damarwati, who stated that parents with a lower level of education would experience more stress compared to those who had a higher level of education.[14]

The results showed no significant correlation between mothers' occupation and their anxiety level. It was in line with Said, Kanine, and Bidjuni, who stated there is no correlation between occupation and anxiety in primigravida mothers in CHC Tuminting.[11] A study conducted by Abdelsalam also explained that there is no significant correlation between being employed and the level of anxiety in mothers of preterm babies.[15]

Conclusions

Income earned by parents of low birth weight babies could significantly influence mothers' anxiety. Mothers who have an income lower than the regional minimum wage will experience more moderate-severe anxiety compared to mothers who have an income higher than the regional minimum wage. Therefore, it is important to pay more attention to mothers with low incomes in order to prevent anxiety and improve maternal and child health conditions.

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