International Journal of Research in Nursing 1 (1): 25-28, 2010
ISSN 1949-0194

The Relationship between Demographic Factors and Low Birth Weight Infants

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Abstract: Problem statement: To identify demography factor relation that is study, education storey; level, mother age and also social economics status to occurrence of LBW in RSCM Jakarta. **Approach:** Type this studied is analytic survey with cross sectional design. Population in this studied is all noted mothers bear during year 2006 counted 2.755 with sample equal to 125 mothers. This studied is started in January with intake of sample by random sampling. The data were collected in this studied are secondary data, that is seen data and noted from medical record of RSCM Jakarta Year 2006. Appliance used at this studied is sheet of check list. Data analysis conducted by univariat and bivariate. **Results:** Statistical test from variable studied that is, study, education, mother age and social economics status, known by that there is relation having a meaning among study of mother, mother age and social economics status with occurrence of heavy baby born to lower in RSCM Jakarta. **Conclusion:** LBW in RSCM Year equal to 4.54% from 125 mother sample bear.

Key words: Mother, baby, heavy born to lower, economic social

INTRODUCTION

An evaluation study to identify demography factor relation that is study, education storey level, mother age and also social economics status to occurrence of LBW in Cipto Mangunkusumo (RSCM) Hospital Jakarta.

Infants born at less than 2500 g are usually termed as Low Birth Weight (LBW) infants. Traditionally this group of infants were termed as high risk group infants in terms of neonatal mortality and morbidity. However in the current day scenario of modern neonatology, the at risk group of babies are actually the Very Low Birth Weight (VLBW) and Extremely Low Birth Weight (ELBW) infants who are less than 1500 g and less than 1000 g respectively (Hack *et al*., 1991).

More than 20 million infants worldwide, representing 15.5% of all births, are born with low birth-weight, 95.6% of them in developing countries. The level of low birth-weight in developing countries (16.5%) is more than double the level in developed regions (7%). Half of all low birth-weight babies are born in South-central Asia, where more than a quarter (27%) of all infants weigh less than 2,500 g at birth. Low birth-weight levels in sub-Saharan Africa are around 15%. Central and South America have, on average, much lower rates (10%), while in the Caribbean the level (14%) is almost as high as in sub-Saharan Africa. About 10% of births in Oceania are low birth-weight births.

Few population-based studies have examined the relation between infant health and family poverty. One study of a representative sample reported infant morbidity without analyzing the family's socioeconomic status (Spencer and Coe, 2000; Braveman and Barclay, 2009). Others focused only on the links between the mother's characteristics and the health of the child (Chen *et al*., 2007; Marmot and Wilkinson, 2001). Studies that have considered the impact of poverty or socioeconomic status on health during the first year of life dealt more often with infant mortality than with morbidity (DiLiberti, 2000; Galobardes *et al*., 2004). Several studies concerning infant morbidity have recognized the link between poverty and health, but they examined poverty or socioeconomic status as a confounding, not an explanatory, factor. This research attempted to identify the relationship between demographic factors with low birth-weight infants in RSCM Jakarta. In addition, the purpose of this study is to recognize some factors related to the knowledge of child-bearing mothers about low birth-weight infants.

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MATERIALS AND METHODS

The type of this study is an analytic survey with cross-sectional design. The population in this study is 2,755 child-bearing mothers during 2006 and the sample comprises of 125 mothers. This research started in January-December, 2006 by establishing samples with random sampling.

Data used in this studied are secondary data, taken from 2006 medical record of RSCM Jakarta. This research used a check list. Data analysis was conducted in univariat and bivariate. The factors consists of mother's characteristics such as age, occupation, weight, height, illnesses during pregnancy and the knowledge about low birth-weight infant. A child-bearing mother's comprehension about low birth-weight infant involves the definition, the causes, the symptoms, the prevention, the effects, the nutrition's and other items. These items were listed in a list of questions and the answers were counted and categorized in an ordinal scale.

The instrument to measure the child-bearing mothers' knowledge about low birth-weight infant was a list of questions. The list of questions had been established and modified according to the variables of low birth-weight infant knowledge. The indicators were the definition, the causes, the symptoms, the prevention and the effect. The questions in the list are 30 closed questions with 4 choices. A right answer was given 1 as the score while a wrong was given 0 as the score. The collected data then were counted and categorized into an ordinal scale. The scales are Good (76-100%), Adequate (56-75%) and Insufficient (40-55%)

RESULTS

Sample characteristics: The study observed that majoring of the women in the experimental group were aged <20 (23.2%), between 20-35 years (68.8%) and >35 years (8.0%). Majoring of women in experimental (68.0%) uneducated and (60.8%) were housewives.

The respondents' knowledge about low birth-weight infants: The study observed majoring of the women in the experimental about low birth weight infants inadequate (67.2%), satisfactory (24.8%) and good (8.0%).

DISCUSSION

The data of low birth-weight infant in RSCM are presented in Fig. 1. The graph shows that the percentage of the low birth-weight infant was 4.54% out of 2,755 infants delivered in January to December 2006. The frequency of the low birth-weight infant in developing countries is 3.6-10.8% where in the developing countries it is 10-43%. So, the ratio of the frequency in the developed countries to that in the developing countries is 1:4. This means that the frequency of the low birth-weight infants in RSCM is lower than that in other developing countries (10-43%). Generally, Indonesian does not have the national frequency of low birth-weight infect, calculated from a national survey. The frequency was determined by an estimation, from 7-14% in 1999-2000 period. If the proportion of child-bearing mothers is 2.5% of the total population, there will be 355,000-710,000 low birth-weight infants out of 5 million newborn infants (Henderson *et al*., 2005).

Sample characteristics: The descriptive data are presented in Table 1. Table 1 show demographic descriptions such as education, age, occupation, spouse occupations. Table 1 shows sample characteristics of child-bearing mothers with low birth-weight infant. The mothers whose age is under 20 years old have 23.2% of low birth-weight infants; the mothers whose age is in the range of 20-35 years old have 68.8% of low birth-weight infants while the mothers whose age above 35 years old have 8% of low birth-weight infants.

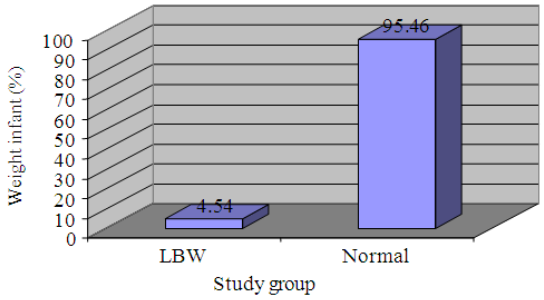

Fig. 1: The frequency distribution of low birth-weight infants

Table 1: Demographic data consisting of age, education, occupations, spouse occupations

Data	Frequency	Percentage
Age (Year)		
<20	29	23.2
20-35	86	68.8
>35	10	8.0
Education		
Uneducated	85	68.0
Primary	19	15.2
Secondary	20	16.0
High	1	0.8
Occupation		
Housewife	76	60.8
Entrepreneurs	25	20.0
Employees	24	19.2
Spouse occupations		
Blue collars	77	61.6
Entrepreneurs	42	33.6
Employees	6	4.8

Table 2: The distribution of the respondents' knowledge

Knowledge level	N	Percentage
Good	10	8.00
Satisfactory	31	24.80
Inadequate	84	67.20
Total	125	100.00

Based on education, the percentages of low-education mothers (they did not get any formal education or elementary schools graduates) with low birth-weight infants are 68 and 15.2% respectively, higher than that of secondary-school education mothers which is 16% and of high education mothers which is 0.8%. Education level seems to affect significantly the occurrence of low birth-weight infants. Most of the respondents did not get any formal education or graduated from elementary schools. Being housewives also affects the occurrence of low birth-weight infants, compared to being entrepreneurs and employees. Most low birth-weight infants were born from housewife (60.8%) while the percentage from entrepreneur is 20% and that from entrepreneur is 19.2%.

The child-bearing mothers whose spouse's occupation is blue collars work have the percentage of low birth-weight infants of 61.6%, higher than those whose spouse's occupation is entrepreneur (33.6%) and those whose spouse's occupation is employee (4.8%). Perhaps lower social economic status increases the occurrence of premature births.

The respondents' knowledge about low birth-weight infants: The respondents' knowledge level about low birth-weight infants is evaluated from a list of questions. The respondents are all population and research subjects who were willing to participate in this research. To avoid some technical problems related data gathering and meticulousness in giving the answers, the researchers provided guidance in filling out the list of questions and were willing to explain again in case the respondents became confused with the questions. For the illiterate respondents, the researchers interviewed them based on the list of questions and with the help of enumerators. To make the interviews easier, the researchers were assisted by 2 enumerators with D3 as their educational background. They had been trained to fill out the list of questions. Table 2 shows the distribution of the child-bearing mothers about low birth-weight infants.

Table 2 shows that the distribution of respondents' knowledge about low birth-weight infants is 8.0% for good category, 24.8% for satisfactory category and 67.2% for inadequate category. The knowledge will form the notion which becomes the foundation for the development and opinion on specific objects. Based on the interview, most of the respondents stated their ignorance about low birth-weight infants. Some of them said that they had heard about it but did not understand it. Based on the respondents' distribution, most of them (67.2%) do not really understand low birth-weight infants, 24.8% of the respondents have satisfactory level of knowledge and 8.0% of them have good level of knowledge. This distribution may be due to the social economic factor.

One of the best ways to prevent low-birth-weight babies is through the utilization of prenatal care. In fact, the chances of having a low-birth-weight baby are substantially higher for women who do not receive prenatal care. Studies have found that even after adjusting for other differences like socioeconomic status and maternal age, infants born to mothers who received no prenatal care weighed considerably less, on average, than those whose mothers received prenatal care (Kelly *et al*., 2001).

The incidence of prematurity is highest among women from low socioeconomic circumstances, with poor nutrition and a lack of prenatal care the main factors contributing to prematurity. The incidence of premature labor increases in inverse proportion to maternal age, weight and economic status (Liu and Roth, 2008; Galobardes *et al*., 2004; Chen *et al*., 2007).

Our findings suggest that it is not enough to prevent babies from being born prematurely or from having low birth weights, nor is it enough to closely follow these infants to ensure the health of those raised in underprivileged families. It is important to monitor children from poor families as well as those being raised by mothers who are single or are poorly educated. In addition, future research is required to study the utilization of hospital services for babies of very poor families, to better understand the factors associated with the low admission rates in this group.

CONCLUSION

This research found that in 2006 the percentage low birth-weight infants born in RSCM Jakarta 4.54% out of 2,755 infants. There is a relation between occupations, age, social economics as well as knowledge of low birth-weight infants and the occurrence of low birth-weight infants.

Limitations: The study was limited to only one hospital of RSCM, Jakarta, so the generalizability of the study is limited to the sample. The observation and recording were limited to certain time period.

AKCNOWLEDGEMENT

Our gratitude to Dr. Dini Widiarni W, Sp. THT., M. Epid., from Research Department Ciptimangunkusumo Hospital, Jakarta who permitted us to do a research in RSCM, Jakata.

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