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Description of the Characteristics of Mothers Who Give Birth to Low Birth Weight (LBW) Babies at Bhayangkara Hospital Makassar

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Abstract

Problems with LBW that often occur are disorders of the respiratory system, central nervous system, cardiovascular, hematology, gastrointestinal, kidney and thermoregulation. Based on WHO data, it is estimated that 17 million LBW babies are born every year. Of this number, around 80% were born in Asia. In Indonesia, based on further analysis of the SDKI, the incidence of LBW is around 7.5%. The aim of the research is to find out the characteristics of mothers who give birth to low birth weight (LBW) babies at Bhayangkara Hospital Makassar. This type of research is descriptive with survey / observational methods. The population in this study were all mothers who delivered Low Birth Weight (LBW) babies who were treated at Bhayangkara Hospital Makassar in May 2016 using purposive sampling techniques, data collection from May 26 to June 26 2016 using a form provided by the researcher. . The results of the study showed that the highest number of mothers who experienced LBW births at Bhayangkara Hospital Makassar were > 35 years old, namely 13 people (20.0%). Based on gestational age, the majority were mothers with gestational age < 37 weeks, namely 22 people (84.6%). Based on parity, the majority of mothers were grandemultipara, namely 14 people (53.8%). Meanwhile, based on the distance between pregnancy/birth, the most was < 2 years, namely 20 people (76.9%). Based on the research results, it was concluded that maternal age, gestational age, number of parities and abnormal pregnancy/birth spacing can increase the risk of LBW. It is recommended that patients always check their pregnancy with health care workers so that complications in pregnancy can be identified early.

Keywords: LBW, Maternal Age, Gestational Age, Parity, Pregnancy/Birth Distance

Introduction

Low birth weight (LBW) babies are a complication in babies which, if not treated properly, can cause death. The causes of low birth weight babies are currently unknown, but most are due to maternal illness, maternal activity, and maternal social status, including complications in pregnant women (Deslidel, 2014).

LBW problems, especially in premature births, occur due to immaturity of the baby's organ systems. Low birth weight babies have a tendency towards increased incidence of infections and are susceptible to complications. Problems with LBW that often occur are disorders of the respiratory system, central nervous system, cardiovascular, hematology, gastrointestinal, kidney and thermoregulation (Ministry of Health of the Republic of Indonesia, 2015).

Babies with Low Birth Weight (LBW) are one of the results of pregnant women who suffer from chronic energy deficiency and will have poor nutritional status. The problem of LBW babies is still the main cause of perinatal morbidity and mortality and has a serious impact on the quality of future generations, slowing down children's growth and mental development, decreasing intelligence (Amiruddin, Hasmi, 2014).

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Efforts to maintain children's health are carried out from the time the fetus is in the womb, at birth, after birth, and until the age of 18 years. Efforts are aimed at preparing a healthy, intelligent and qualified generation in the future. Apart from that, it is hoped that child health efforts will, among other things, reduce child mortality. Indicators of mortality rates related to children are Neonatal Mortality Rate (AKN), Infant Mortality Rate (IMR), and Under-five Mortality Rate (AKABA). Attention to efforts to reduce the neonatal mortality rate (0-28 days) is important because neonatal deaths contribute to 59% of infant deaths (Ministry of Health of the Republic of Indonesia, 2015).

The Millennium Development Goals (MDGs) ended at the end of 2015. The next agenda is the Sustainable Development Goals (SDGs), which have 17 achievement agendas until 2030. All SDG achievement agendas are in accordance with the National Medium Term Development Plan (RPJMN) . Because the design of the RPJMN coincides with the formulation of the SDGs. The SDGs target is to eradicate poverty. However, Indonesia will use three indicators related to the SDGs document, namely human development which includes education and health, small scale environment or social economic development and large environment or environmental development in the form of the availability of good quality environment and natural resources (Republic of Indonesia Ministry of Health, 2015).

Babies with Low Birth Weight (LBW) are one of the risk factors that contribute to infant mortality, especially during the perinatal period. LBW is also an indicator of the level of maternal and child health. Throughout the world, the prevalence of Low Birth Weight (LBW) Babies in 2013 is estimated at 15% of all births in the world with a limit of 3.3% - 38% and the death rate is 35 times higher than for babies with normal birth weight babies (Amiruddin, Hasmi, 2014).

Until now, LBW is still a health problem. The incidence of LBW is around 15-17% of the live birth rate (Aeda Ernawati, 2014). According to the World Health Organization (WHO), it is estimated that 17 million LBW babies are born every year. Of this number, around 80% were born in Asia. Causes of LBW include nutritional deficiencies, low weight gain and low height (Amiruddin R & Hasmi, 2014).

In Indonesia, the incidence of LBW varies greatly from one region to another, ranging from 9% - 30%. The results of studies in 7 multicenter areas obtained LBW rates ranging from 2.1% - 17.2%. Nationally, based on further analysis of the IDHS, the incidence of LBW is around 7.5%. (Proverawati, Sulistyorini, 2010).

Based on Riskesdas data (2013), there are still 10.2% of babies with low birth weight (LBW), namely less than 2,500 grams. The percentage of babies with short birth length (<48 cm) is quite high, namely 20.2 percent. If you combine LBW and short birth length, then there are 4.3 percent of toddlers who are LBW and also have short birth length and the highest prevalence is in Papua (7.6%), while the lowest is in Maluku (0.8%) (Republic of Indonesia Ministry of Health, 2013).

Based on data obtained from the Public Health Development Division, the number of babies born with Low Birth Weight (LBW) in 2013 was 611 out of 24,576 live births or around 2.48% (Makassar City Government Health Office, 2014).

The causes of LBW are generally multifactorial, so it is sometimes difficult to take preventive measures. Babies with Low Birth Weight (LBW) are related to the mother's health condition during pregnancy. Birth weight is a reflection of complications and nutrition during pregnancy as well as the antenatal care received by the mother. LBW babies cause congenital

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defects, can also cause brain growth retardation, anemia in newborns, and are susceptible to infection (Amiruddin R & Hasmi, 2014).

Low Birth Weight (LBW) babies may be premature, they may also be full term and LBW babies are very susceptible to hypothermia and infection, so when a mother gives birth to a LBW baby they need serious treatment. Parents and health workers must know and understand how to handle it (Amiruddin R & Hasmi, 2014)

Methods

This type of research is descriptive with survey / observational methods. This research was carried out at Bhayangkara Hospital Makassar. The population in this study were all mothers who gave birth and were treated at Bhayangkara Hospital Makassar from May to June 2016, namely 216 people. Sampling in this research used a nonprobability sampling method with purposive sampling technique. The number of samples in this study was 26 mothers who delivered Low Birth Weight (LBW) Babies. To obtain the desired information, researchers used a format/filling sheet as a data collection instrument.

Results and Discussion

This research was carried out at Bhayangkara Hospital Makassar, from 26 May to 26 June 2016. This type of research was descriptive with survey / observational methods. The number of samples in this study was 26 mothers who delivered Low Birth Weight (LBW) Babies, using a purposive sampling technique. From the results of the data processing that has been carried out, the data is then presented in the form of a frequency distribution which can be seen in the following explanation:

Response Characteristics

Mother's Education

Table 1. Characteristics of Respondents Based on Mother's Education at Bhayangkara Hospital Makassar in 2016 Conclusion

Mother's Education	n	%
elementary school	3	11,5
JUNIOR HIGH SCHOOL	4	15,4
SENIOR HIGH SCHOOL	17	65,4
College	2	7,7
Total	**26**	**100,0**

Source: Primary Data, 2016

Based on the table 1, it shows that the majority of respondents had a high school education, namely 17 people (65.5%), elementary school as many as 3 people (11.5%), junior high school as many as 4 people (15.5%), PT as many as 2 people (7.7%).

Mother's Job

Table 2. Characteristics of Respondents Based on Mother's Occupation at Bhayangkara Hospital Makassar in 2016

Mother's Job	N	%
Housewife	16	61,5
Civil servants	1	3,8
Private sector employee	4	15,4

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Self-employed	5	19,2
Total	**26**	**100,0**

Source: Primary Data, 2016

Based on the table 2, it shows that the majority of mothers are housewives, namely 16 people (61.5%), 1 civil servant (3.8%), 4 private employees (15.4%), and 5 self-employed people. (19.2%).

Variables Studied

Mother's Age

Table 3. Distribution of LBW incidents based on maternal age at Bhayangkara Hospital Makassar in 2016

Mother's Age (Years)	N	%
< 20	7	26,9
20-35	6	23,1
> 35	13	50,0
Total	**26**	**100,0**

Source: Primary Data, 2016

Based on the table 3, it shows that the most respondents were aged > 35 years with a total of 13 people (20.0%), aged < 20 years as many as 7 people (26.9%), and the least were aged 20-35 years, namely as many as 6 people (23.1%).

Gestational Age

Table 4. Distribution of LBW incidents based on gestational age at Bhayangkara Hospital Makassar in 2016

Gestational Age (Weeks)	N	%
< 37	22	84,6
37-42	4	15,4
Total	**26**	**100,0**

Source: Primary Data, 2016

Based on the table 4, it shows that the most respondents were mothers with a gestational age of <37 weeks with a total of 22 people (84.6%), and the fewest were mothers with a gestational age of 37-42 weeks, namely 4 people (15.4%).

Maternal Parity

Table 5. Distribution of LBW incidents based on maternal parity at Bhayangkara Hospital Makassar in 2016

Maternal Parity	N	%
Primipara	8	30,8
Multiparous	4	15,4
Grandemultiparous	14	53,8
Total	**26**	**100,0**

Source: Primary Data, 2016

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Based on the table 5, it shows that the highest parity of mothers is grandemultipara with a total of 14 people (53.8%), primipara with a total of 8 people (30.8%), and the least is multipara with a total of 4 people (15.4%)

Pregnancy/Birth Distance

Table 6. Distribution of LBW Incidences Based on Pregnancy/Birth Distance at Bhayangkara Hospital Makassar in 2016

Pregnancy/Birth Interval (Years)	**N**	**%**
< 2	20	76,9
≥ 2	6	23,1
Total	**26**	**100,0**

Source: Primary Data, 2016

Based on the table 6, it shows that the most respondents were mothers with a pregnancy/birth interval of < 2 years with a total of 20 people (76.9%), and the fewest were mothers with a pregnancy/birth interval of ≥ 2 years, namely 6 people (23 .1%).

Birth Weight

Table 7. Distribution of Babies Based on Birth Weight at Bhayangkara Hospital Makassar in 2016

BBL (Gram)	**N**	**%**
< 1.500	3	11,5
1.500-2.500	23	88,5
Total	26	100,0

Source: Primary Data, 2016

Based on the table 7, it shows that there were 23 babies born with a weight between 1,500-2,500 grams (88.5%), and 3 babies born with a weight <1,500 grams (11.5%).

General Description of Respondents

The results showed that the majority of respondents had a high school education, namely 17 people (65.5%), 3 people from elementary school (11.5%), 4 people from junior high school (15.5%), and at least 2 people from tertiary education. (7.7%). A person's education can influence their knowledge so that the higher a person's education, the better the knowledge they have. If someone has insufficient knowledge about maintaining health, they will be vulnerable to experiencing health problems. The level of education will determine attitudes and actions in dealing with various problems including food arrangements for pregnant women as well as mothers' awareness of having their pregnancies checked to prevent pregnancy complications that result in the fetus, one of which is the incidence of low birth weight babies (LBW).

Meanwhile, based on occupation, the majority of respondents were domestic workers, namely 16 people (61.5%), entrepreneurs, 5 people (19.2%), private employees, 4 people (15.4%), and at least 1 civil servant (PNS). 3.8%). Work greatly influences the socio-

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economic level of the family, this will cause mothers not to have routine pregnancy checks due to limited funds so that complications that occur in the mother and fetus during pregnancy cannot be prevented as early as possible.

Description of the Age of Mothers Who Have LBW Births at Bhayangkara Hospital Makassar

Age or age is a unit of time that measures the time of existence of an object or creature, both living and dead, for example; A human's age is said to be fifteen years, measured from the time he is born until the time that age is calculated.

The research results showed that the majority of respondents were > 35 years old with 13 people (20.0%), and 7 people aged < 20 years (26.9%). This is because at the age of < 20 years the reproductive system is not ready to accept pregnancy and at the age of > 35 years the function of the reproductive organs has decreased which will affect the pregnancy. Meanwhile, the fewest respondents were aged 20-35 years, namely 6 people (23.1%). This can be caused because the incidence of LBW births in mothers of healthy reproductive age is also influenced by various other factors such as: the presence of pregnancy complications such as; ante-partum hemorrhage anemia, hypertension, severe preeclampsia, eclampsia.

This is in line with the theory that the mother's age during pregnancy greatly influences the development of the fetus in her womb. In the healthy reproductive period, the safe age for pregnancy and childbirth is between 20-35 years. Pregnancies that are too young (less than 20 years) or too old or more than 35 years have a greater risk of having an unhealthy birth. Pregnancy at a young age is often associated with frequent complications such as low birth weight, prenatal mortality, poisoning, pregnancy, nutritional anemia and so on (Wiknjosastro, 2010).

According to the Indonesian Ministry of Health, high-risk pregnancies can occur in four situations (too young, too old, too many, too close). The age group at risk is < 20 years > 35 years and the age group not at risk or mild risk is 20 years to 35 years. In pregnancies at the young age of 35 years, you will experience health problems such as hypertension.

Wirakusumah, (2011) who said that in teenage mothers who are still growing, if pregnancy occurs it will affect the fetus. This is because the mother still needs a large amount of calories for growth, with pregnancy, it means that the calories that come in must be shared again with the fetus. , this causes the fetus to lack nutrition and its growth is less than optimal, whereas in older pregnant women there is a decrease in the body's physiological processes, because this will affect the condition of the uterus and vascularization in the area.

A similar thing was also stated by Amiruddin R. & Hasmi (2014) who said that a healthy and safe reproductive age is 20-35 years. In pregnancies aged less than 20 years, physically and psychologically there is still a lack of attention, for example in meeting nutritional needs during pregnancy. Meanwhile, being over 35 years old is associated with deterioration and decreased endurance as well as various diseases that often occur at an early age. Women older than 35 years are at higher risk of obstetric complications as well as perinatal morbidity and mortality. Women over 35 years of age show problems in hypertension, diabetes, placental abruption, premature labor, stillbirth and placenta previa.

The results of this research are in line with research conducted by Kalsum (2012), whose research was entitled "Characteristics of LBW Birth Events in Daya Makassar Regional Hospital" with the results of the research showing that the age characteristics of mothers at risk were seen in 25 respondents (83.3 %), while there were 5 respondents who

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were not at risk (16.7%). This can be seen in several theories, including that LBW births are also influenced by the mother's age, namely under 20 years and over 35 years.

The researcher's assumption regarding the pregnancy of a mother under the age of 20 years is that the physical condition of the uterus and pelvis has not developed optimally, which can result in the risk of morbidity and death in pregnancy, childbirth and the baby. Meanwhile, at age over 35 years, the mother's physical health condition declines, the quality of egg cells decreases, and medical complications in pregnancy and childbirth increase..

Description of the Pregnancy Age of Mothers Who Experienced LBW Birth at Bhayangkara Hospital Makassar

Maternal gestational age is the time limit for a mother to conceive, which is calculated from the first day of her last menstrual period (HPHT). The research results showed that the majority of respondents were mothers with a gestational age of <37 weeks, namely 22 people (84.6%). This is because less than a month's gestational age causes fetal growth to be hampered so that babies born at abnormal gestational ages cause the baby's weight to be abnormal. Meanwhile, the fewest respondents were mothers with a gestational age of 37-42 weeks, namely 4 people (15.4%). This can be caused by the incidence of births with LBW, which can also be caused by the mother's young age or less than 20 years and over 35 years, which can cause complications during childbirth.

This is in line with the theory put forward (Amiruddin R & Hasmi (2014), that the mother's gestational age generally lasts 40 weeks or 280 days. The mother's gestational age is the time limit for the mother to conceive, which is calculated starting from the first day of the last menstruation (HPHT). Age Normal pregnancy is 40 weeks or 280 days, as is common practice, 9 months 10 days. What is called mature or full term is the range of 37-42 weeks, if it is 42 weeks it is called post-mature or serotinus.

The shorter the gestational age, the more imperfect the growth of the fetus is, both the reproductive organs and respiratory organs therefore have difficulty living outside the mother's uterus. Beck and Roshental's theory states that a baby's weight increases according to the period of pregnancy. If a baby is born at a short gestational age, the baby's weight will not reach normal weight and its growth will not be complete (Amiruddin R & Hasmi, 2014).

The researcher's assumption regarding gestational age is that if the baby is born at a short gestational age, the baby's weight has not yet reached normal weight and its growth is not yet complete.

Description of the Parity of Mothers Who Have LBW Births at Bhayangkara Hospital Makassar

Parity is the number of babies born to a mother either alive or stillborn.The results of the study showed that the highest parity of mothers was grandemultipara with 14 people (53.8%), primipara with 8 people (30.8%), and the least was multipara with 4 people (15.4%). This can be caused by high parity which will make pregnancy and childbirth difficult which can disrupt the transport of O2 from mother to fetus which will cause asphyxia. Mothers who are pregnant for the first time have a tense uterus, while mothers with more than 4 pregnancies have a more flexible uterus so that the condition of the fetus in the uterus becomes disturbed and can cause asphyxia. Meanwhile, mothers with 2-4 pregnancies are still in good condition to get pregnant so the condition of the baby in the womb is better.

This is in line with the theory put forward by Wiknjosastro (2010), that parity 2-3 is the safest parity from a maternal perspective. Parity 1 and high parity (more than 3) have

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higher maternal mortality rates. Higher parity, higher maternal mortality. The risk at parity 1 can be handled with better obstetric care, while the risk at high parity can be reduced or prevented through family planning. Some pregnancies at high parity are unplanned.

The number of parities is one of the predisposing factors for premature birth because the number of parities can affect the mother's health condition during pregnancy. Canosa (1998), said that the first and fourth pregnancies or more than four are high risk groups for giving birth to babies with LBW. Hirve and Ganatra (1994), stated that mothers who give birth for the first time have a 1.32 times risk of giving birth to premature babies compared to mothers who give birth to their second and third children (Amiruddin R & Hasmi, 2014).

The same thing was also stated by Norma D. N. & Dewi. S. M (2013) that parity is the number of pregnancies that end with the birth of a fetus that meets the requirements to continue life. Parity may be at risk if you are pregnant and give birth ≥ 3 times.

In general, the incidence of low birth weight or prematurity can increase with increasing maternal parity. The second and third births are generally safest for women, but in the fourth birth the incidence of maternal death, child death and other birth complications increases and continues to increase with increasing parity. Damage to the blood vessels of the uterine wall thus affecting the circulation of nutrients to the fetus where the amount of nutrients will decrease. This situation causes fetal growth disorders which will result in the baby being born with a low birth weight or prematurely (Manurung, 2011).

The results of this research are in line with research conducted by Kalsum (2012), whose research was entitled "Characteristics of LBW Birth Events in Daya Makassar Regional Hospital" with the results of the research showing that the characteristics of the number of parities showed that the majority of the number of parieties at risk were seen in respondents with a number of 25 people (83.3%), while 5 people (16.7%) were respondents who were not at risk.

The researcher's assumption of high parity provides an illustration of the level of multiple pregnancies that can cause pregnancy risks, the more births experienced by the mother, the higher the risk of experiencing complications..

Description of the Pregnancy/Birth Distance for LBW Births at Bhayangkara Hospital Makassar

Pregnancy interval is the period of time between the end of a previous pregnancy and the next pregnancy. The research results showed that the majority of respondents were mothers with a pregnancy/birth interval < 2 years, namely 20 people (76.9%). This could be because the distance between pregnancies/births will affect the growth and weight of the baby born. Meanwhile, the fewest were mothers with a pregnancy/birth interval of ≥ 2 years, namely 6 people (23.1%). This can be caused by the incidence of LBW births which can also be caused by the mother's age, mother's parity and other factors such as the presence of an illness suffered by the mother.

This is in line with the theory put forward (Amiruddin R & Hasmi (2014), that the distance between pregnant women's pregnancies greatly influences the weight of the babies born. A mother who has a distance between her pregnancies is said to be at risk if she becomes pregnant for less than two years and this clearly causes growth disorders. As a result of conception, immaturity, prematurity, birth defects, or a fetus with a low birth weight often occur. This situation is caused by a lack of blood supply of nutrients and oxygen to the placenta which will affect the function of the placenta for the fetus.

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A short pregnancy interval will result in a mother not having enough time to recover her body condition after the previous birth. Pregnant women who are in an unhealthy body condition are one of the factors causing the death of mothers and babies who are born as well as the risk of disruption to the reproductive system. A disturbed reproductive system will inhibit the growth and development of the fetus it contains, thereby affecting birth weight. Pregnant women whose pregnancies are less than two years apart, their physical health and the condition of their uterus still need adequate rest.

Pregnant women with a pregnancy distance of less than 2 years from their youngest child will increase the risk of LBW. Pregnancies that are too close apart cause the mother to have a short time to recover the condition of her uterus so that it can return to its previous condition. It is important to pay attention to a good birth spacing or pregnancy spacing of at least two years so that the mother's body is ready to accept the fetus again without having to use up its iron reserves. Pregnancy interval has a strong relationship to the incidence of LBW, where mothers with a pregnancy interval < 2 years have a risk factor of 1.91 times giving birth to a LBW baby compared to mothers with a pregnancy interval > 2 years (Amiruddin R & Hasmi, 2014).

Researchers' assumptions about pregnancy/birth spacing greatly influence the condition of the fetus being born because a short birth spacing will result in a mother not having enough time to recover her body condition after the previous birth.

Conclusion

Based on the results and objectives of the research regarding the description of the characteristics of Low Birth Weight (LBW) Babies at Bhayangkara Hospital Makassar, research conclusions can be drawn including the following; (1) The highest age of mothers who experienced LBW deliveries at Bhayangkara Hospital Makassar was > 35 years old, namely 13 people (20.0%); (2) The highest number of women who experienced LBW births at Bhayangkara Hospital Makassar were mothers with a gestational age < 37 weeks, namely 22 people (84.6%); (3) The highest parity of mothers who experienced LBW births at Bhayangkara Hospital Makassar was grandemultipara, namely 14 people (53.8%); (4) Mothers who experienced LBW births at Bhayangkara Hospital Makassar with the most pregnancy/birth interval being < 2 years, namely 20 people (76.9%).

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