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Characteristics of Mother with Neonatal Jaundice at Wangaya Regional Hospital Denpasar in the Period January - December 2022

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ABSTRACT

Introduction: Maternal and child health problems are issues that need more attention because they have a major impact on development in the health sector and improve the quality of human resources. Although jaundice is not the highest cause of Infant Mortality Rate (IMR), jaundice is one of the contributors to infant morbidity in Indonesia because it can cause the baby's body to become weak and unwilling to suck, increased muscle tone, stiff neck, muscle spasms, seizures, sensory disturbances, mental retardation, disability, even death.
Methods: This study is a descriptive design of all maternal patients who have jaundice babies. This research was conducted by collecting data from patient registers and electronic medical records at the Pediatric Polyclinic and Child Care Ward at Wangaya Regional Hospital Denpasar for the period January until December 2022.
Results: There were 77 mothers with neonatal jaundice in this study. Researchers compared the characteristics of the mother with neonatal jaundice based on the mother's age, gestational age, parity, education level, and the delivery method.
Conclusion: Majority of mothers with neonatal jaundice are in the age group of 20-35 years, high school graduates, multigravida parity, gestational age 37-41 weeks and the method of delivery is sectio caesarea.

Keywords: Jaundice, neonatal, risk factor, mother, icterus

INTRODUCTION

Maternal and child health problems are issues that need more attention because they have a major impact on development in the health sector and improve the quality of human resources[1]. One indicator of public health is the Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR). The higher the maternal and infant mortality rates in a country, it can be ascertained that the country's health status is poor[2].

Based on the preliminary results of the 2015 Inter-Census Population Survey, the infant mortality rate (IMR) in Indonesia reached 22 per 1000 live births and the Under-five Mortality Rate (U5MR) reached 26 per 1000 live births. Indonesia has the highest number of IMR compared to other ASEAN countries. IMR in Indonesia is caused by neonatal jaundice (37%), prematurity (34%), sepsis (12%), hypothermia (7%), jaundice (5%), post term (3%), and congenital abnormalities (1%)[3]. Although jaundice is not the highest cause of IMR, jaundice is one of the contributors to infant morbidity in Indonesia because it can cause the baby's body to become weak and unwilling to suck, increased muscle tone, stiff neck, muscle spasms, seizures, sensory

disturbances, mental retardation, disability, even death[4].

Neonatal jaundice is a condition in which the neonatal mucosa turns yellow after 24 hours of birth due to unconjugated bilirubin entering the circulation[5], whereas according to Mendri neonatal jaundice or jaundice is a common condition in neonates which refers to the yellow color of the skin and sclera caused by too much bilirubin in the blood[6]. Clinical jaundice will begin to appear in newborns when blood bilirubin levels are 5-7 mg/dL[7].

MATERIALS & METHODS

This study is a descriptive design of all maternal patients who have jaundice babies. This research is a non-experimental research because it does not control and manipulate the research variables. Subjects in this study were taken by total sampling, in which all subjects who met the selection criteria were included in the study. This research was conducted by collecting data from patient registers and electronic medical records at the Pediatric Polyclinic and Child Care Ward at Wangaya Regional Hospital Denpasar for the period January until December 2022.

RESULT

In this study, there were 77 mothers with neonatal jaundice with each distribution as follows. Based on table 1 below, it can be concluded that of the 77 mothers with neonatal jaundice, there were 3 mothers aged <20 years (4%), 60 mothers aged 20-35 years (78%) and 14 mothers aged > 35 years (18%).

Table 1. Characteristics of mothers with neonatal jaundice based on mother's age

AGE	TOTAL	PRECENTAGE
<20 years	3	4%
20-35 years	60	78%
>35 years	14	18%
TOTAL	**77**	**100%**

Based on table 2 below, it can be concluded that of the 77 mothers with neonatal jaundice, there were 30 mothers with gestational age <36 weeks (39%) and 47 mothers with gestational age 37-41 weeks (61%).

Table 2. Characteristics of mothers with neonatal jaundice based on gestational age

GESTATIONAL AGE	TOTAL	PERCENTAGE
<36 weeks	30	39%
37-41 weeks	47	61%
>42 weeks	0	0%
TOTAL	**77**	**100%**

Based on table 3 below, it can be concluded that of the 77 mothers with neonatal jaundice, there were 28 mothers with Primigravida (36%) and 49 mothers with Multigravida (64%).

Table 3. Characteristics of mothers with neonatal jaundice based on parity

PARITY	TOTAL	PERCENTAGE
Primigravida	28	36%
Multigravida	49	64%
TOTAL	**77**	**100%**

Based on table 4 below, it can be concluded that of the 77 mothers with neonatal jaundice, there were 73 mothers with high school graduates (95%) and 4 mothers with bachelor degrees (5%).

Table 4. Characteristics of mothers with neonatal jaundice based on education level

EDUCATION LEVEL	TOTAL	PERCENTAGE
High School	73	95%
Bachelor Degrees	4	5%
TOTAL	**77**	**100%**

Based on table 5 below, it can be concluded that of the 77 mothers with neonatal jaundice, there were 59 mothers with the cesarean section method (77%) and 18 mothers with the spontaneous vaginal delivery (23%).

Table 5. Characteristics of Mothers with neonatal jaundice based on Delivery Method

DELIVERY METHOD	TOTAL	PERCENTAGE
Cesarean Section	59	77%
Spontaneous Vaginal Delivery	18	23%
TOTAL	**77**	**100%**

DISCUSSION

According to Olusanya, et al, 2015 the factors that cause neonatal jaundice can be caused by maternal, perinatal and neonatal factors. Maternal factors include maternal age, rhesus, ABO incompatibility, family

history, place of delivery, parity, and socioeconomic conditions. Perinatal factors include the type of delivery, birth trauma, complications (asphyxia, sepsis), and neonatal factors including gender, gestational age, birth weight, and G6PD (*Glucose-6-phosphate dehydrogenase*) deficiency[8].

Based on secondary medical record data, it was found that at the Wangaya Hospital in Denpasar City for the period January 2022-December 2022 Multigravida was found to have a higher incidence rate of 64%. This research is in line with research conducted by Kurniawati which explained that multiparous women (>4 children) have a greater risk than primiparous women because the higher the mother's parity, the higher the risk of pregnancy. The dangers of a multigravid pregnancy are anemia, malnutrition, and a flaccid abdominal wall, which can cause uterine muscle weakness and can cause weak uterine contractions that can cause bleeding before or after delivery. Effects of high risk pregnancy, namely miscarriage, premature birth, low birth weight, neonatal complications including jaundice[9].

In this study it was also found that mothers with the Sectio caesarea method had a higher incidence rate of 77%. This study is in line with the research of Sumelung et al., which stated that sectio caesarea is the birth of a fetus through the abdominal wall (laparotomy) and uterine wall. if there are problems that are impossible to do in a normal delivery process and can threaten the life of the mother and baby, delivery by sectio caesarean can be done. Factors that support sectio caesarea include fetal distress, closed placental birth canal (total placenta previa), obstructed labor, mothers with hypertension or eclampsia, breech or transverse position of the baby, narrow pelvis and bleeding before delivery. By doing sectio caesarea can help save the mother and baby[10]. With complications from these pregnancies, the rate of cesarean section is high.

However, there are several results in this study that are different from previous studies, including maternal age, gestational age, and level of education. Judging from the mother's age, in this study mothers aged 20-35 years had a higher incidence of neonatal jaundice, namely 78%. This is not in accordance with research conducted by Sulistiarini and Berliana of 48,336 births from January 2010 - June 2013 which stated that mothers aged less than 20 years, had lower education than elementary school, and lived in rural areas were at higher risk of giving birth to premature babies and cause neonatal jaundice[11]. According to Prawirohardjo, age at the time of pregnancy will affects the mother's readiness to accept responsibility as a mother so that readiness and self-confidence increase, this ensures the health of the next generation. Likewise, pregnancy at an old age (over 35 years) will increase anxiety about pregnancy and the preparation and reproductive organs of women who are too old to get pregnant[12]. The difference in the results of this study may be due to the less varied number of research samples, lack of knowledge and information about health.

In this study, it was found that gestational age 37-41 weeks (term) had a higher incidence rate of 61%. This study is different from researchers conducted by Madistuti who stated that preterm pregnancies are related to low birth weight and of course affect the immune system of babies who are not ready to accept and adapt to the environment outside the womb, causing various complications, one of which is neonatal jaundice, which can cause high bilirubin[13]. Sulistiarini et al., also argues that babies who are born prematurely are very at risk of causing neonatal jaundice, this occurs due to incomplete maturation of the liver, causing hypothyroidism and premature babies to experience hyperbilirubinemia more often than full-term babies. This happens due to the maturity factor of the liver which results in the conjugation of indirect bilirubin to direct bilirubin not being perfect. This creates a

buildup of bilirubin so that the surface of the baby's skin becomes yellow. According to researchers, gestational age greatly determines the quality of growth and development of babies born prematurely and with low birth weight who have the potential to experience various complications that impact into adulthood[14]. A different thing was also found at the level of education, where in this study it was shown that high school graduates had a higher incidence rate of 95%. According to Walyani, (2015) education is very influential in everyday life, both in acting and looking for causes and solutions in his life and usually people who have higher education will think rationally. In social life, socializing and interacting with the environment is a natural thing to do, so that the influence of the selected and controlled environment can obtain, experience the maximum development of social abilities, and individual abilities[15]. In this study the level of education encountered was high school and undergraduate education levels, this is often encountered in big cities which have a higher level of education than in villages, thus requiring education/knowledge related to health according to Ida Nursanti's research (2013) , the risk of neonatal jaundice is influenced by health education so that health education to mothers immediately after giving birth must be given in order to increase knowledge and abilities or skills of mothers in understanding the causes, prevention, early detection and appropriate treatment of neonatal jaundice[16]. Another study conducted by Liu et al, it is known that health education can also change mothers' beliefs to abandon old habits and engage in new behaviors that they previously considered taboo[17]. Provision of clear information (health education) by health workers is the right way out to change the wrong understanding that mothers have.

CONCLUSION

Based on the results of this study it can be concluded that the majority of mothers with neonatal jaundice are in the age group of 20-35 years, high school graduates, multigravida parity, gestational age 37-41 weeks and the method of delivery is sectio caesarea.

Declaration by Authors

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