

Research Article



Maternity Behavior and Infant Care of Coastal Communities on the Prevention of Neonatal Mortality

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ABSTRACT

Background: Infant mortality is one of the targets of health problems in sustainable development. The vast majority of infant deaths are preventable, with high-quality, evidence-based interventions in the form of data. Based on the results of the Indonesian Demographic and Health Survey (SDKI) infant mortality in 2017 was 24/1,000 KH with neonatal mortality of 15/1,000. There was a decrease in the infant mortality rate (IMR) in 2017, compared to the IMR in 2012 which amounted to 32/1,000 KH and 19/1,000 KH neonatal. This study aims to analyze the behavior of childbirth and infant care through the behavior of local wisdom so as to prevent neonatal death.

Methods: This study uses a quantitative observational method through a Case Control Study Design approach. The population in this study were all mothers in the coastal area of the Konawe Islands Regency.

Results: Birth behavior and baby care at risk provide opportunities for neonatal events. Health agencies need to increase education to the public about risk factors, causes of neonatal death and efforts to prevent neonatal death to mothers and expectant mothers and their families to pay attention to pregnant and postpartum women.

Conclusion: For the community, it is necessary to regulate the age of marriage with efforts to control it from the local government

Keywords: Neonatal, Maternity, Infant care, Mortality, Coastal

INTRODUCTION

Newborns in medical terms are called the neonatal period. The neonatal period is calculated from birth until the baby is 28 days old (1). The majority of all neonatal deaths (75%) occur during the first week of life, and approximately 1 million newborns die within the first 24 hours, including preterm birth, intrapartum-related complications (birth with asphyxia or respiratory failure), and infectious defects. birth, this is what causes the majority of neonatal deaths (2). In 2020 the number of neonatal deaths is 82% and in 2021 neonatal deaths are 87%(3). Around 20 million more newborns, an estimated 14.6% of all babies born globally in that year, suffer from low birth weight (LBW)(4).

In 2017, the Indonesian Demographic Health Survey (IDHS) explains that the neonatal mortality rate (AKN) in Indonesia has decreased. In 2012, NMR in Indonesia reached 19 cases of death for every 1000 births. And in 2017 it decreased to 15 cases of death for every 1000 births(5). Even though statistically it has decreased, the neonatal mortality in Indonesia is still relatively high compared to other countries, especially at the ASEAN level.

Neonatal Mortality in Southeast Sulawesi Province in 2020 is 80 per 1000 live births (6). The prevalence of the neonatal death rate in Konawe Islands Regency in 2019 is 22 per 1000 live births, in 2020 it is 26.2 per 1000 live births and has experienced a significant increase in 2021 to 34.9 per 1000 live births (7)

Social determinants of health and behavior affect mortality and morbidity in a community. The relationship between social determinants of health and behavior on mortality is very interesting to discuss

because mortality is one of the three demographic components besides fertility and migration, which affect the number, structure and composition of the population(8). Social and behavioral determinants that develop in society are influenced by the government as a service provider, the community, and the health service facility itself.(9)

There are many beliefs, habits and also customs or culture that are related to the pattern of care even to the behavior of childbirth in the community. Each ethnic group and region has its own ways in terms of culture and also in terms of behavior that are considered good for the health of the community, as well as behavior and care for postpartum mothers and new born babies.

Risk factors for infant death are associated with factors from the baby, mother and pregnancy. One of the factors from the mother that can cause neonatal death is the place of delivery. The better the place where someone gives birth, the better the success rate of the delivery. This is because in good places for delivery, such as deliveries in hospitals, there are specialist health workers such as obstetrics-gynecology doctors and pediatricians, as well as supporting facilities such as qualified health facilities(10).

The problem of maternal and infant mortality is a health and social problem, health aspects are handled by health professionals at all levels of service. However, the socio-economic aspects still need very high attention and monitoring. In addition to these factors, a number of knowledge and cultural behaviors with local wisdom were found which were considered not in accordance with health principles according to medical science, or even had

health impacts. unfavorable for both mother and baby.

Identification of neonatal mortality factors through the theory of neonatal mortality determinants based on the context of local wisdom of coastal communities makes an important contribution to improving the health status of coastal communities so that this study is aimed at analyzing the behavior of childbirth and infant care through this local wisdom behavior so as to prevent neonatal death.

METHODS

This study uses a quantitative observational method through a Case Control Study Design approach. The population in this study, namely all mothers in the work area of Konawe Islands Regency in the last 3 (three) years who experienced neonatal deaths totaling 48 people with 24 samples. This study's tool was a questionnaire on demographic information and community behavior addressing the prevention of neonatal mortality

RESULTS

Data analysis using descriptive analysis and inferential analysis. Inferential analysis used the odds ratio test to analyze the risk factors for neonatal death in the Kab. Konawe Islands, Southeast Sulawesi Province.

Table 1. Distribution of Respondents Based on Respondent Characteristics (N = 48) in the Konawe Islands Coastal Area

Characteristics	Case		Control	
	n	%	n	%
Age (Year)				
17-25	10	41,7	9	37,5
26-34	8	33,3	10	41,7
>34	6	25	5	20,8
Education				
Junior High School	5	20,8	5	20,8
Senior High School	11	45,8	11	45,8
Bachelor	8	33,3	8	33,3
Work				
civil servant	5	20,8	7	29,2
Self-employed	10	41,7	11	45,8
Housewife	9	37,5	6	25

Table 1 shows that of the 24 pregnant case respondents, the highest age category was at the age of 17-25 years with a total of 10 (41.7%) respondents and the lowest was in the age group >34 years with a total of 6 (25%). For the control group, the highest maternal age was at the age of 26-34 years with a total of 10 (41.7%) respondents and the lowest was in the age group >34 years with a total of 5 (20.8%) respondents. The mother's education category (matching) was higher in high school education with a total of 11 (45.8%) respondents and the lowest was in junior high school education with a total of 5 (20.8%) respondents. The highest number of respondents who worked as entrepreneurs (10 (41.7%) of respondents and the lowest among respondents who worked as civil servants with 5 (20.8%). While in the control

category, there are more respondents who work as entrepreneurs with a total of 11 (45.8%) and lower in respondents who work as housewives with a total of 6 (25%) respondents.

Table 2
 Characteristics of Mothers on neonatal mortality in the Konawe Island Coastal Area

Mothers Characteristic	Neonatal Mortality				Total		Statistical Test Results
	Case		Control		n	%	
	n	%	n	%			
Mother's Age							OR = 7,286
During Pregnancy							
risky	18	75,0	7	29,2	25	52,1	LL = 2,034
No Risk	6	25,0	9	70,8	23	47,9	UL = 26,102
Parity							OR = 3,215
risky	19	79,2	13	54,2	32	66,7	LL = 0,902
No Risk	5	20,8	11	45,8	16	33,3	UL = 11,460
Disease History							OR = 6,000
risky	18	75,0	8	33,3	26	54,2	LL = 1,711
No Risk	6	25,0	16	66,7	22	45,8	UL = 21,038
BMI							OR = 4,200
risky	18	75,0	10	41,7	28	58,3	LL = 1,228
No Risk	6	25,0	14	58,3	20	41,7	UL = 14,365

Table 2 for the variable age of the mother, shows that of the 48 samples, there were 25 (52.1%) respondents who were at risk during pregnancy and 23 (47.9%) were not at risk of the 25 respondents who were at risk during pregnancy, there were 18 (75.0 %) of respondents who experienced neonatal death and 7 (29.2%) of respondents who did not experience neonatal death. Of the 23 respondents, there were 6 respondents (25.0%) and 9 (70.8%) who did not experience neonatal death. Parity shows that out of 48 samples, there are 32 (66.7%) respondents who have parity at risk and 16 (33%) are not at risk. Of the 32 (66.7%) respondents who had parity at risk, there were 19 (79.2%) who experienced neonatal death and 13 (54.2%) who did not experience neonatal death. Medical history showed that out of 48 samples, there were 26 (54.2%) respondents who had a history of at-risk disease and 22 (45.8%) were not at risk. Of the 26 respondents who were at risk, there were 18 (75.0%) who experienced neonatal death and 8 (33.3%) who did not experience neonatal death. Body Mass Index shows that out of 48 samples, there are 28 (58.3%) respondents who have a BMI at risk and 20 (41.7%) are not at risk. Of the 28 respondents who had a risky BMI, there were 18 (75.0%) who experienced neonatal death and 10 (41.7%) who did not experience neonatal death). Of the 20 respondents who were not at risk, there were 6 (25.0%) who experienced neonatal death and 14 (58.3%) who did not experience neonatal death.

Table 3
 Infant care behavior towards neonatal mortality in the Konawe Island Coastal Area

Baby Care Behavior	Neonatal Mortality				Total		Statistical Test Results
	Case		Control		n	%	
	n	%	n	%			
Baby Care							OR = 3,800
risky	19	79,2	12	50,0	31	64,6	LL = 1,068
No Risk	5	20,8	12	50,0	17	35,4	UL = 13,520
Baby's Weight							OR = 1,400
risky	12	50,0	10	41,7	22	45,8	LL = 0,448
No Risk	12	50,0	14	58,3	26	58,3	UL = 4,376
Birth Distance							OR = 2,364
risky	16	66,7	11	45,8	27	56,2	LL = 0,735
No Risk	8	33,3	13	54,2	21	43,8	UL = 7,603

Based on Table 3, the baby care variable shows that out of 48 samples, there were 31 (64.6%) respondents whose baby care was at risk and 17 (35.4%) were not at risk. Of the 31 respondents who took care of at-risk babies, there were 19 (79.2%) who experienced neonatal death and 12 (50%) who did not experience neonatal death. Of the 17 respondents who were not at risk, there were 5 (20.8%) who experienced neonatal death and 12 (50%) who did not experience neonatal death. The baby's weight showed that out of 48 samples, there were 26 (58.3%) respondents whose baby's weight was not at risk and 22 (45.8%) were at risk. Of the 22 respondents whose babies had a risky weight, there were 12 (50%) who experienced neonatal death and 10 (41.7%) who did not experience neonatal death. Spacing of births shows that out of 48 samples, there are 27 (56.2%) respondents who have birth spacing at risk and 21 (43.8%) not at risk. Of the 27 respondents who were at risk of birth spacing, there were 16 (66.7%) who experienced neonatal death and 11 (45.8%) who did not experience neonatal death.

Table 4
 Maternity Behavior towards neonatal mortality in the Konawe Island Coastal Area

Maternity Behaviour	Neonatal Mortality				Total		Statistical Test Results
	Case		Control		N	%	
	N	%	N	%			
Childbirth Assistance							OR = 3,215
risky	19	79,2	13	54,2	32	66,7	LL = 0,902
No Risk	5	20,8	11	45,8	16	33,3	UL = 11,460
Labor Method							OR = 3,215
risky	19	79,2	13	54,2	32	66,7	LL = 0,902
No Risk	5	20,8	11	45,8	16	33,3	UL = 11,460
Delivery Place							OR = 2,800
risky	16	66,7	10	41,7	26	54,2	LL = 0,865
No Risk	8	33,3	14	58,3	22	45,8	UL = 9,060

Based on Table 4, the variables of delivery assistance show that out of 48 samples, there were 32 (66.7%) respondents whose delivery assistance was at risk and 16 (33.3%) were not at risk. Of the 32 respondents whose delivery assistance was at risk, there were 19 (79.2%) who experienced neonatal death and 13 (54.2%) who did not experience neonatal death. Of the 16 respondents who were not at risk, there were 5 (20.8%) respondents who experienced neonatal death and 11 (33.3%) who did not experience neonatal death. The method of delivery showed that out of 48 samples, there were 32 (66.7%) respondents who had a risky delivery method and 16 (33.3%) were not at risk. Of the 32 respondents whose delivery method was at risk, there were 19

(79.2%) who experienced neonatal death and 13 (54.2%) who did not experience neonatal death. Of the 16 respondents who were not at risk, there were 5 (20.8%) respondents who experienced neonatal death and 11 (33.3%) who did not experience neonatal death. The place of delivery showed that out of 48 samples, there were 26 (54.2%) respondents whose place of delivery was at risk and 22 (45.8%) were not at risk. Of the 26 respondents whose place of delivery was at risk, there were 16 (66.7%) who experienced neonatal death and 10 (41.7%) who did not experience neonatal death. Of the 22 respondents who were not at risk, there were 8 (3.33%) who experienced neonatal death and 14 (58.3%) who did not experience neonatal death.

DISCUSSION

Maternal Characteristics Of Neonatal Mortality

Mother's age also determines maternal health and is very closely related to the conditions of pregnancy, childbirth, postpartum and babies (11). The age of pregnant women who are too young (≤ 20 years) or too old (≥ 35 years) is a factor complicating pregnancy because the body condition of pregnant women who are too young is not ready to face pregnancy, childbirth and postpartum and to care for their babies (12). In contrast to pregnant women who are too old who face the risk of congenital abnormalities and complications at the time of delivery caused by uterine muscle tissue that is not good enough to accept pregnancy (13).

Too much parity can be the cause of problems, especially in relation to health. The occurrence of pregnancy accompanied by continuous labor results in further erosion

of the blood vessels in the uterine wall accompanied by a further loss of tissue elasticity due to stretching during pregnancy until delivery (14). Damage to body tissues allows for abnormalities in the mother's womb which will greatly affect the condition of the fetus or placenta in the mother which can interfere with fetal growth (15). Disruption of the growth of the fetus in the mother's womb causes the mother to give birth to an unhealthy baby (16).

Maternal nutritional status is a major intrauterine environmental factor in fetal development. The greater the mother's weight gain, the better the anthropometric measurements of the babies born (weight, body length, head circumference) (17). Gizi ibu pada masa pra-kehamilan berperan penting sehingga status gizi ibu hamil perlu mendapat perhatian yang besar. Status kekurangan energi kronis (KEK) sebelum hamil mempengaruhi pertumbuhan janin dan menjadi pertimbangan capaian peningkatan berat badan selama kehamilan (18).

Infant Care Behavior On Neonatal Mortality

A basic understanding of comprehensive daily baby care is very important for mothers in caring for babies. Newborn care is very important after the baby is born and is very beneficial for both the mother and the baby, such as the rapid recovery of the mother's organs that experience changes during pregnancy and the fostering of a loving relationship between mother and baby(19). Baby care at risk in this case is when the baby is born at a traditional birth attendant and is not given an injection of Hb0, Vit K and eye ointment at birth so that he is at risk of being infected with diseases, especially infectious diseases. whereas babies born in health centers or hospitals have a low risk of contracting the disease because at birth they have been given an injection of Hb), Vit K and eye ointment and are exclusively breastfed(20).

Follow-up newborn monitoring and care is provided as long as the baby or neonate is brought by the parents to a health facility for the 1st neonatal visit 24 hours - 2 days, the 2nd neonatal between the ages of 3 days - 7 days and the complete neonatal visit is carried out at the age 8 days to 28 days. The 2nd neonatal visit provides care to the baby including checking vitamin K administration, checking HBO immunization, detecting danger signs in infants according to integrated management of young infants (MTBM) and counseling for mothers about baby care at home (keeping warm, breastfeeding, caring for hygiene and recognizing danger signs in infants and providing appropriate care, stimulation of growth and development and immunization). Neonatal health services are very important for providing care for babies, detecting dangers to babies and carrying out effective

treatment so as to facilitate the survival of optimally healthy babies(21).

Health problems during the neonatal period (0-28 days old babies) are the main cause of death in infants. Infant mortality is not only caused by one cause, but many interrelated factors cause infant death, including the problem of LBW(22). The lower the baby's birth weight, the higher the incidence of morbidity and mortality. The birth of LBW babies can be caused by premature birth and growth disorders while in the womb. LBW babies are vulnerable to various health problems, such as hypothermia and infection(23).

Pregnancy spacing has a relationship with pregnancy status. The prediction model used to look for the strongest risk factors and risk factors makes pregnancy spacing have a strong relationship, so it is a risk factor for neonatal death. The risk range in this study is mothers who give birth every year without thinking about the health factors of the baby and mother(24). Spacing of pregnancies is a factor that influences a mother's fertility problems. Women who experience pregnancy again quickly after the previous pregnancy indicates good fertility of a woman(8). Most of the studies that have been conducted show a relationship between birth spacing and the child's ability to survive, namely that mothers who give birth within two years after giving birth to the last one have a greater risk of giving birth to children with less survival skills and ending in death. . Other studies have found the opposite, where the risk of infant death can also occur in babies who are prone to short births(25).

Delivery Care Of Neonatal Mortality

Delivery assistance is a way or delivery assistance that is usually carried out

by health workers using medical methods such as episiotomy (a fairly simple surgical procedure), amniotomy (breaking the amniotic sac), induction of labor and others(19). Research conducted in several Southeast Asian countries shows that there is a significant difference in neonatal mortality in deliveries assisted by health personnel compared to deliveries assisted by traditional birth attendants(26). Other studies have also concluded the same result that deliveries assisted by health personnel have a lower risk of neonatal death compared to deliveries assisted by non-health personnel(27).

Determining the place of delivery is important for pregnant women. Medical reasons are always recommended for pregnant women to carry out the delivery process assisted by health workers (28). Mothers who know the risks of deliveries assisted by unskilled health workers and standards that are lacking from health facilities where delivery will tend to choose a hospital for reasons of convenience so that the safety of mother and baby can be guaranteed(29).

CONCLUSIONS

Birth behavior and baby care at risk provide opportunities for neonatal events. Health agencies need to increase education to the public about risk factors, causes of neonatal death and efforts to prevent neonatal death to mothers and expectant mothers and their families to pay attention to pregnant and postpartum women. For the community, it is necessary to regulate the age of marriage with efforts to control it from the local government.

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