FACTORS ASSOCIATED WITH THE INCIDENCE OF EARLY PREMATURE RUPTURE OF MEMBRANES

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ABSTRACT
Maternal mortality is of international concern, the World Health Organization (WHO) estimates that around the world more than 585,000 thousand women die each year during pregnancy and childbirth, one of which is premature rupture of membranes (PROM). Premature rupture of membranes is a condition where the membranes rupture before delivery. Premature rupture of membranes is the rupture of the membranes before it is time to give birth / before infarction, at an opening < 4 cm. Premature rupture of membranes is the rupture of the membranes before there are signs of labor starting and waiting for one hour has not occurred in labor. The purpose of this study was to determine the factors associated with the incidence of premature rupture of membranes. Methods: The research design used analytic descriptive research with a cross-sectional sampling approach using a total sampling of 70 respondents. Based on the results of the independent variables, it is known that a small proportion of respondents have good knowledge of 29 people (41.4%), the majority of mothers' gestational age is < 9 months as many as 37 people (52.9%), the majority of mothers are aged < 20 years and > 35 years as many as 39 people (55.7%), most of the mothers were Multipara as many as 36 people (51.4%), while the results of the dependent variable most of the mothers had experienced KPD as many as 38 people (54.3%), test results chi square obtained a p value of 0.009 <0.05, the most significant is gestational age. The results of the analysis also obtained an OR value of 4.136. There is a relationship between knowledge, gestational age, parity, maternal age and the incidence of premature rupture of membranes.

Keywords: Knowledge, gestational age, parity, PROM

INTRODUCTION

According to WHO (World Health Organization) in 2008 in the world every minute a woman dies due to complications related to pregnancy and childbirth. In other words, 1400 women die every day or more than 500,000 women die every year due to pregnancy and childbirth. The infant mortality rate in the world is estimated at 4,030,000 in 2010.1

Based on WHO research around the world there are 500,000 maternal deaths per year and 10,000,000 perinatal deaths per year. These maternal and infant deaths, especially in developing countries, are 99%. WHO and UNICEF efforts held a congress in Alma Ata 1978, Soviet Union, and sparked the idea of Primary Health Care (Primary Health Services). With the goal of improving public health towards Health for all by The year 2000, in which case WHO and UNICEF emphasize more on services to patients with the aim of health care for the community from year to year.

In the Southeast Asia region, it is estimated that as many as 37 million births occur each year, while the total deaths of mothers and newborns in this region are estimated to be 170 thousand and

1.3 million per year, respectively. As much as 98% of all maternal and child deaths in this region occur in India, Bangladesh, Indonesia, Nepal and Myanmar.

Maternal mortality is of international concern, the World Health Organization (WHO) estimates that around the world more than 585,000 thousand women die each year during pregnancy and childbirth, one of which is premature rupture of membranes (PROM). In 2011 there were 23 (4%) preterm deliveries out of 580 normal deliveries, due to premature rupture of membranes there were 93 (39%), while in 2012 there were 32 (6%) preterm deliveries out of 541 normal deliveries due to premature rupture of membranes there were 12 (37.5 %).1

The Maternal Mortality Rate (MMR) in Indonesia in 2007 was 228/100,000 KH and the Infant Mortality Rate (IMR) was 34/1000 KH. Whereas in 2010 the maternal mortality rate was 226/100,000 KH and the infant mortality rate was 22/1000 KH. These figures show a decrease from the 2007 period to the 2010 period, although not too significant. 3

The incidence of premature rupture of membranes in Indonesia in 2011 globally was 80% of maternal deaths. The pattern of direct causes is bleeding as much as 25% usually postpartum hemorrhage, sepsis 15% hypertension in pregnancy 12%, obstructed labor 8% unsafe abortion complications 13% premature rupture of membranes 4% and other causes 8%.

In 2008 MMR and IMR in DKI Bogor area were still relatively high, namely 41/100,000 KH and 13/1000 KH. When compared to 2010, the Maternal Mortality Rate has increased, namely 125/100,000 KH and the Infant Mortality Rate is 16/1000 KH. This figure shows a quite drastic increase from 2008 to 2010. The Bogor DKI government will continue to suppress MMR and IMR.4

According to data in Bogor City in 2011 there were 167 people, of which 32 women (5%) gave birth with premature rupture of membranes (PROM). In 2012, 215 mothers gave birth to 11 women (19%) with premature rupture of membranes (PROM). In 2013 mothers gave birth to 201 people, the number of premature rupture of membranes (KPD) was 4 people (50%) while in 2014 from January to June mothers gave birth to 32 people and the number of premature rupture of membranes (KPD) were 6 people (5 %).4

The maternal mortality rate can be categorized into direct and indirect causes. The cause of maternal death directly caused by obstetric complications is 84% during pregnancy which is dominated by 3 main causes, namely bleeding (46.7%), pre-eclampsia and eclampsia (14.5%), premature rupture of membranes (8-10%). %) and infections (8%), maternal deaths that are not directly caused by diseases that are not obstetric complications

The incidence of premature rupture of membranes is 8-10% in all pregnancies. The incidence of PROM (Premature Rupture of Membrane) is 6-19%, whereas in preterm pregnancies the incidence is 2% of all pregnancies, around 30-40% of preterm labor is preceded by rupture of the membranes. These complications are a significant factor in the likelihood of preterm labor and delivery. When the membranes rupture, 50% of mothers will experience spontaneous labor within 24 hours 80% will experience labor within 48 hours.

According to the results of a 2012 Tahir study which showed that the proportion of mothers with KPD was greater in mothers with parities ≤ 1 and ≥ 3, namely 99 people (78%) compared to mothers with parities of 2-3, namely 28 people (22%). So the number of parity is a risk factor for KPD. Although not statistically significant. However, there is a tendency for the risk of KPD to be

1.5 times greater in mothers who have a high-risk parity compared to mothers who have a low-risk parity.

Premature rupture of membranes (PROM) is the rupture of the amniotic membranes before there are signs of labour. The incidence of PROM is 12% of all pregnancies. The cause of KPD is still unclear, so preventive measures cannot be taken, except in an effort to suppress infection. Although the membranes often rupture spontaneously before delivery, the longer the membranes rupture before birth, the greater the risk of infection to the fetus and mother

Premature rupture of membranes can cause complications for the mother and the fetus she contains. These complications include, the fetus shows symptoms of infection, premature labor, hypoxia and asphyxia, fetal deformity syndrome. And complications for the mother because the road has been opened, intrapartal infection can occur, especially if you check in too often. Apart from that, you can also find puerperal (postpartum) infections, peritonitis and septicemia and dry labor, even infections, both chorioamnionitis, endometritis, sepsis. The mother will feel tired because she is bedridden, parturition will take a long time, her temperature will rise, her pulse will be rapid and signs of infection will appear. This will increase maternal mortality and morbidity.

According to the theory of the Ministry of Health-FKM UI, 2009, age is very influential on the reproductive process at the mother's age. Age that is considered optimal for pregnancy is 20-35 years, while age under 20 years and over 35 years is a high risk age for pregnancy and childbirth. Maternal gestational age generally lasts 40 weeks or 280 days. Maternal gestational age is the time limit for pregnant women which is calculated starting from the first day of the last menstruation. Premature rupture of the membranes (PROM) is the rupture of the amniotic membranes before there are signs of labor. Most premature rupture of membranes occurs above 37 weeks of gestation, while less than 36 weeks below. Parity is the number of children born alive or dead. Parity can be grouped into three, namely Primipara (1 child),

From research conducted earlier by Ratna Mintarsih (2008) the relationship between the incidence of premature rupture of membranes and maternal education was obtained by 48 mothers and 35 people with high education (72.9%) and 40 mothers with low education were 24 people (60 %). Knowledge is the result of knowing, and this occurs after people sense certain objects. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste and touch. Most of human knowledge is obtained through the eyes and ears.17

Work is a daily activity carried out by mothers to meet their needs and one of the factors that influence a person's perception of being more receptive to new ideas and technology. Multiple pregnancy is a pregnancy with two or more fetuses. This is a factor causing premature rupture of the membranes because it causes tension in the uterus. Malpresentation is the lowest part of the fetus that is in the lower uterine segment, not the back of the head.

Position is the location of the fetus in the uterus in late pregnancy (8-9 months) the head is on the right or left in the mother's womb. A baby with a transverse position cannot be born through the normal birth canal, because the fetal body axis is transverse to the baby's body axis. The baby needs the help of a cesarean section, and a fetus that is in a breech position is an abnormal position of the fetus in the uterus in an old pregnancy (8-9 months pregnant), with the head up and the buttocks or feet down. A baby with a breech position is more difficult to be born because the head is born last. In

breech babies, there is no lower part that covers the pelvic inlet (PAP) which can block pressure on the lower membrane.

Government policy on maternal and child health programs is a top priority for health development in Indonesia. This program is responsible for health services for pregnant women, women giving birth and neonatal babies. One of the goals of this program is to reduce mortality and illness among mothers. Several activities have been attempted to accelerate efforts to reduce MMR, including through the quality of midwifery services in the field. Complications in childbirth cannot be predicted or predicted, the main causes of maternal and child mortality are usually bleeding, PROM (premature rupture of membranes) infection, explosion, parturition and complications.

Health development aims to increase awareness of progress and the ability to live a healthy life for everyone, so that an optimal degree of public health is realized, health is a state of well-being physically, mentally and socially and which allows everyone to live productively socially and economically if people are aware of the importance of health. then they will be able to improve welfare so that it will be able to reduce MMR and IMR.2

The management of KPD is still a controversial issue in midwifery. At preterm (<37 weeks) the incidence is 2-4% of single pregnancies and 7-10% of twin pregnancies. PROM less than <32 weeks of treatment includes antibiotics for cervicovaginal culture (+), limiting activity monitoring of infection, direct examination of the fetus legular, regular ultrasound examination (USG) 3-4 weeks, litmus test (nitracin test) red litmus turns blue indicating the presence of amniotic fluid (alkaline). PROM 32-34 weeks observation procedures include administering antibiotics to prolong the latency of antenatal corticosteroid treatment. PROM > 34 weeks. determination of fetal lung maturation. KPD at term (> 37 weeks) incidence of 8-10% of full-term pregnancies procedures for KPD at term:

Data from the Central Bogor Health Center, the incidence of premature rupture of membranes in 2021 reached 118 cases out of a total of 2980 deliveries (4.23%) and in 2022 it reached 114 cases out of a total of 2365 deliveries (4.82%).

Based on the background mentioned above, the researcher is interested in researching "Factors Associated with the Premature Rupture of the Membranes.

Based on the results of the preliminary study conducted interviews with 15 respondents, it was found that 7 respondents (46.6%) had sufficient knowledge about KPD, 4 of whom were aged between 33-36 years and had a gestational age below 36 weeks, 3 other respondents were aged 22-25 years and had gestational age around 35 weeks, 3 respondents (20%) had good knowledge of KPD and were over 37 years old with a gestational age of around 26 weeks, 2 of them already had 2 children, 1 of them had experienced KPD in their second pregnancy, 4 respondents (33.3%) had little knowledge about KPD and had experienced multiple pregnancies, 3 of them were aged 24-26 years, 1 mother was 38 years old and already had 3 children, 1 respondent (6.6%) had experienced KPD in her first child.

RESEARCH METHODS

The design of this research is descriptive quantitative analytic with cross sectional design. The population in this study were pregnant women at the Central Bogor Health Center with a total of 70

people. Sampling technique with a total sampling of 70 respondents. The tool used is a questionnaire or questionnaire. Data analysis used univariate and bivariate tests (Chi Square).

RESEARCH RESULT

Univariate Analysis Results

Table 1 Knowledge frequency distribution

Knowledge level	Frequency	Percentage (%)
Good	29	41,4
Enough	41	58.5
Total	70	100.0

Based on table 1 above, it can be seen that a small proportion of respondents had good knowledge, as many as 29 people (41.4%), and most had sufficient knowledge, as many as 41 people (58.5%).

Table 2. Distribution of Gestational Age

Gestational Age	Frequency	Percentage (%)
PRETERM < 9 Months	37	52,9
ATERM > 9 Months	33	47,1
Total	70	100.0

Based on table 2 above, it can be seen that the gestational age of the mother was mostly < 9 months as many as 37 people (52.9%), and a small proportion < 9 months as many as 33 people (47.1%).

Table 3. Frequency Distribution of Mother's Age

Mother's Age	Frequency	Percentage (%)
< 20 Years and > 35 Years	39	55,7
20 – 35 Years	31	44,3
Total	70	100.0

Based on table 3 above, it can be seen that the majority of mothers are aged <20 years and > 35 years as many as 39 people (55.7%), and a small proportion are aged 20-35 years as many as 31 people (44.3%).

Table 4. Parity Frequency Distribution

Parity	Frequency	Percentage (%)
Primipara	34	48,6
Multipara/grandemultipara	36	51,4
Total	70	100.0

Based on table 4 above, it can be seen that most of the mothers are multiparas, as many as 36 people (51.4%), and a small proportion are primiparas, as many as 34 people (48.6%)

Table 5. KPD Frequency Distribution

Premature rupture of membranes	Frequency	Percentage (%)
KPD	38	54,3
Not KPD	32	45,7
Total	70	100.0

Based on table 5 above, it can be seen that most of the mothers had experienced KPD, as many as 38 people (54.3%), and a small proportion did not have KPD, as many as 32 people (45.7%).

Table 6. Relationship between knowledge level and the incidence of premature rupture of membranes (PROM)

Pengetahuan	KPD				Jumlah (n)	%	*OR*	*P Value*
	KPD		Tidak KPD					
	n	%	n	%	n			
Baik	11	15,7	18	25,7	29	41,4	0,317 (0,118-0,852)	0,039
Cukup	27	38,5	14	20	41	58,5		
Total	38	54,2	32	45,7	70	100		

Based on the results of the analysis of the relationship between the level of knowledge and KPD, it was found that out of 70 respondents, 29 (41.4%) respondents had good knowledge and experienced KPD as many as 11 respondents (15.7%), who did not experience KPD as many as 18 respondents (25, 7%), while out of 41 (58.5%) respondents who had sufficient knowledge and experienced KPD there were 27 (38.5%) respondents, who did not have KPD as many as 14 (20%) respondents.

The results of the Chi Square test obtained a p value = 0.039, which means that the p value is <0.05, so Ho is rejected, meaning that there is a relationship between knowledge and the incidence of premature rupture of membranes (PROM) at the Central Bogor Health Center. The results of the analysis also obtained an OR value of 0.317, meaning that a sufficient level of knowledge will have the opportunity to influence KPD 0.317 times compared to good knowledge.

Table 7 Relationship between gestational age and premature rupture of membranes (PROM)

Usia Kehamilan	KPD				Jumlah (n)	%	*OR*	*P Value*
	KPD		Tidak KPD					
	n	%	N	%	n			
< 9 bulan	26	37,1	11	15,7	37	52,8	4,136	
≥ 9 bulan	12	17,1	21	30	33	47,1	(1,522-11,244)	0,009
Total	38	54,2	32	45,7	70	100		

Based on the results of the analysis of the relationship betweengestational age with KPD, it was known that from 70 respondents 37 (52.8%) respondents had gestational age < 9 months and 26 (37.1%) experienced KPD, 11 respondents (15.7%) did not experience KPD. Meanwhile, of the 33 respondents (47.1%) who had a gestational age ≥ 9 months and experienced KPD as many as 12 respondents (17.1%), 30 respondents (33%) did not.

Test results*chi Square*obtained a p value = 0.009, which means a p value <0.05, then Ho is rejected, meaning there is a relationship between gestational age and the incidence of premature rupture of membranes (PROM). The results of the analysis also obtained an OR value of 4.136 meaning that gestational age < 9 months will have the opportunity to influence PMS 4.13 times compared to gestational age ≥ 9 months.

Table 8. Relationship between Maternal Age and Premature Rupture of Membrane (PROM)

Usia Ibu	KPD				Jumlah (n)	%	*OR*	*P Value*
	KPD		Tidak KPD					
	N	%	N	%	N			
< 20 dan > 35 Tahun	26	37,1	13	18,5	39	55,7	3,167	
20-35 Tahun	12	17,1	19	27,1	31	44,2	(1,185-8,460)	0,037
Total	38	54,2	32	45,7	70	100		

Based on the results of the analysis of the relationship between maternal age and KPD, it was found that from 70 respondents 39 (55.7%) respondents were aged <20 and > 35 years, with 26 (37.1%) having KPD, and not having KPD 13 (18.5%)), while of 31 (44.2%) mothers aged 20-35 years, 12 (17.1%) had KPD, of which 19 (27.1%) did not. The results of the Chi Square test obtained a p value = 0.037, which means that the p value is <0.05, so Ho is rejected, meaning there is a relationship between maternal age and PROM. The results of the analysis also obtained an OR value of 3.167, meaning that a good mother's age will have the opportunity to influence KPD 3.16 times compared to a bad mother's age.

Table 9. Relationship between parity and the incidence of premature rupture of membranes (PROM)

Paritas	KPD				Jumlah (n)	%	*OR*	*P Value*
	KPD		Tidak KPD					
	N	%	n	%	n			
Primipara	24	34,2	10	14,2	34	48,5	3,771 (1,392-10,217)	0,015
Multipara	14	20	22	31,4	36	51,4		
Total	38	54,2	32	45,7	70	100		

Based on the results of the analysis of the relationship between parity and KPD, it was found that out of 70 respondents, 34 (48.5%) of respondents were primiparas, 24 (34.2%) had KPD, 10 (14.2%) did not, while of 36 (51) .4%) of respondents were multipara, 14 (20%) had KPD, 22 (31.4) did not have KPD.

Test results*chi Square*obtained p value = 0.015, which means p value <0.05, then Ho is rejected, meaning there is a relationship between parity and KPD. The results of the analysis also obtained an OR value of 3.771 meaning that the level of the number of good children will have the opportunity to influence KPD as much as 3.77 times compared to the number of bad children.

DISCUSSION

a. Knowledge level

Based on the results of the frequency distribution of knowledge levels, the results are obtainedmost of the respondents had sufficient knowledge as many as 41 people (58.5%).

In line with the results of Nuraini's research, (2012) regarding factors related to the incidence of premature rupture of membranes, the results showed that most of the 70 respondents had good knowledge, 32 (45.7%), while 20 respondents (28.5%) had sufficient knowledge , 18 respondents (25.7%) have poor knowledge.

The level of knowledge sufficient to enter into the cognitive domain of the respondent enters the domain of analysis, namely an ability to describe material or an object into components, but

still within the organizational structure, and still related to one another. This analytical ability can be seen from the use of verbs, such as being able to describe, differentiate, separate, classify and so on. According to Notoatmodjo there are several factors that can affect knowledge, namely age, education, occupation and sources of information.

In line with the results of the study which stated that respondents who were sufficiently knowledgeable about the statements as listed in the questionnaire, one of which was a statement regarding swelling in the limbs and face or accompanied by severe headaches is one of the dangers of pregnancy. Many respondents who were able to analyze the statement were true.

Based on the description above, the researchers concluded that the level of knowledge about the incidence of PROM in theory is inversely proportional to the facts of the study because the level of knowledge cannot be used as a reason for whether or not a mother can experience premature rupture of membranes when giving birth.

b. Gestational Age

Based on the results of the frequency distribution of gestational age, the results were obtainedmost of the respondents had a gestational age < 9 months as many as 37 people (52.9%).

Based on the results of Mintarsih's research, (2008) regarding the factors associated with the incidence of premature rupture of membranes, the results obtained from 56 respondents 18 (10.08%) of mothers who had gestational age under 9 months experienced KPD.

Premature rupture of the membranes (PROM) is the rupture of the amniotic membranes before there are signs of labour. Most of the premature rupture of membranes occurs above 37 weeks of pregnancy, while below 36 weeks there are not too many

Complications arising from premature rupture of membranes depend on gestational age. Maternal or neonatal infection may occur, premature delivery, hypoxia due to compression of the umbilical cord, fetal deformity, increased incidence of Sectio Caesaria, or failure of vaginal delivery.

Based on the description above, the researchers concluded that the results of the study were inversely proportional to the theory where the gestational age of most premature rupture of membranes occurred above 37 weeks of gestation, while below 36 weeks there were not too many even though KPD could occur.

c. Mother's Age

Based on the results of the frequency distribution of maternal age, the results are obtainedmost of the mothers were aged <20 years and >35 years as many as 39 people (55.7%).

Based on the results of Sari's research, (2010) regarding the factors associated with the incidence of KPD in Tangerang Hospital, the results obtained from 143 respondents, 43 (76.7%) were aged less than 20 years and more than 35 years and had KPD. This is because the mother's reproductive age lasts between 20 to 35 years.

This is in accordance with Manuaba, 2010, which states that pregnancy at the age of less than 20 years or more than 35 years can be dangerous during pregnancy and increase the danger to the baby, because the fertile period lasts 20 to 35 years.The age of an individual is calculated from

the time of birth until the birthday. The more mature, the level of maturity and strength of a person will be more mature in thinking and working. With increasing age a person's maturity in thinking is getting better so that they will be motivated in pregnancy checks to prevent complications during childbirth.

Manuaba, 2010, stated that pregnancy at the age of less than 20 years or more than 35 years can be dangerous during pregnancy and increase the danger to the baby, because the fertile period lasts 20 to 35 years.

Based on the description above, the researchers concluded that the results of the study were in line with the theory that the reproductive organs of mothers under 20 years of age are not so perfect and above 35 years of age and often give birth, the function of the reproductive organs experiences setbacks for postpartum complications, especially premature rupture of membranes.

d. Parity

Based on the results of the frequency distribution, the results are obtainedthat most of the mothers are multipara as many as 36 people (51.4%).

Based on the results of Purnama's research, (2010) regarding factors related to KDP in Tangerang Hospital, the results obtained from 143 respondents 44 (30.76%) respondents experienced parity, 32 of whom had KPD.

Parity is the number of children born alive or dead. Parity can be grouped into three, namely Primipara (1 child), multipara (2-4 children) and grande multipara (> 5 children).9 Parity 2-3 is the safest parity in terms of mortality, parity 1 and high (more than 3) have a higher maternal mortality rate, the risk at parity 1 can be treated with better obstetric care, while the risk at high parity can be reduced/prevented by family planning. 15

*Multigravidity*or high priority is one of the causes of cases of premature rupture of membranes. Parity 2 - 3 is the safest parity in terms of death. Parity 1 and high parity (more than 3) have higher maternal mortality rates, risks at parity 1 can be handled with better obstetric care, while risks at high parity can be reduced/prevented with family planning.

Based on the description above, the researchers concluded that the results of the study were inversely proportional to the theory where the risk level of death often occurs at parity 1 or higher, more than 3, where parity 1 can still be handled with obstetric care and high parity can be prevented by using family planning.

e. Premature rupture of membranes (PROM)

Based on the results of the frequency distribution, the results are obtainedIt is known that most mothers have experienced KPD as many as 38 people (54.3%).

Based on the results of Purnama's 2010 study regarding the factors that influence KPD, the results obtained from 143 respondents, 32 respondents experienced KPD because they had a gestational age of less than 37 weeks.

Premature rupture of membranes is a condition where the membranes rupture before delivery. Premature rupture of membranes is the rupture of the membranes before it is time to give birth or before in labor, at an opening < 4 cm. Premature rupture of membranes is the rupture of the

membranes before there are signs of labor starting and waiting for one hour has not occurred in labor.

Premature rupture of membranes is the rupture of the membranes before it is time to give birth or before parturition, at an opening of <4 cm (latent phase) which can occur at the end of pregnancy or long before it is time to give birth.

Premature rupture of membranes (PROM) is defined as the rupture of the membranes before the time of delivery. This can occur at the end of pregnancy or long before the time of delivery. Preterm KPD is KPD before 37 weeks of gestation. Prolonged KPD is KPD that occurs more than 12 hours before it's time to give birth.

Based on the description above, the researchers concluded that the results of the study were inversely proportional to the theory which stated that KPD occurs before the time of delivery, but KPD usually occurs before 37 weeks of gestation.

f. Knowledge level relationship with KPD

Based on the results of the analysis of the relationship between the level of knowledge and KPD, it was found that out of 70 respondents, 41 (58.5%) had sufficient knowledge as many as 27 people (38.5%) and experienced KPD, 14 people (20%) did not experience KPD .

In line with the results of Nuraini's research, (2012) regarding factors related to the incidence of premature rupture of membranes, the results showed that most of the 70 respondents had good knowledge, 32 (45.7%), while 20 respondents (28.5%) had sufficient knowledge , 18 respondents (25.7%) have poor knowledge

It is said that it is sufficient for the cognitive domain of the respondent to enter into the domain of analysis, namely an ability to describe material or an object into components, but still within the organizational structure, and still related to one another. This analytical ability can be seen from the use of verbs, such as being able to describe, differentiate, separate, classify and so on. According to Notoatmodjo there are several factors that can affect knowledge, namely age, education, occupation and sources of information.

Based on the description of the relationship between knowledge and KPD, the researchers concluded that the level of knowledge with the incidence of KPD in theory is inversely proportional to the research facts because the level of knowledge cannot be used as a reason for a mother whether or not she can experience premature rupture of membranes when giving birth. From the results of the study, the OR value was 0.317 where the level of knowledge had a 0.317 chance of the occurrence of KPD.

g. Relationship between gestational age and KPD

Based on the analysis of the relationship between gestational age and KPD, it was found that out of 70 respondents 33 (47.1) had gestational age ≥ 9 months, 12 (17.1) had KPD, 30 (33%) did not.

Based on the results of Mintarsih's research, (2008) regarding the factors associated with the incidence of premature rupture of membranes, the results obtained from 56 respondents 18 (10.08%) of mothers who had gestational age under 9 months experienced KPD.

In the medical world, a pregnancy that has passed the normal time limit is called a prolonged or postterm pregnancy. In general, a normal or term pregnancy lasts 38-41 weeks. Whereas pregnancies that exceed 42 weeks are included in the postterm category or overdue.

Based on the description of gestational age with KPD, the researchers concluded that the results of the study were inversely proportional to the theory that the gestational age of most premature rupture of membranes occurs above 37 weeks of gestation, while below 36 weeks there are not too many, although KPD can occur. From the results of the study, the OR value was 4.136 where gestational age had a 4.136 times chance of the occurrence of KPD.

h. The relationship between maternal age and KPD

Based on the results of an analysis of the relationship between maternal age and KPD, it was found that from 70 respondents 31 (44.2%) mothers aged 20-35 years, 12 (17.1%) had KPD, 19 (27.1%) did not.

Based on the results of Sari's research, (2010) regarding the factors associated with the incidence of KPD in Tangerang Hospital, the results obtained from 143 respondents, 43 (76.7%) were aged less than 20 years and more than 35 years and had KPD. This is because the mother's reproductive age lasts between 20 to 35 years.

Mother's age at delivery is under 20 years and above 35 years is at risk for giving birth to unhealthy children. Age under 20 years of reproductive organs are not so perfect to accept the condition of the fetus, while the age of more than 35 years and often give birth, the function of the reproductive organs declines, the possibility of postpartum complications, especially premature rupture of membranes. 2

Based on the description of the age of the mother with the incidence of PROM, the researchers concluded that the results of the study were in line with the theory that the reproductive organs of women under 20 years of age are not so perfect and above 35 years of age and often give birth, the function of the reproductive organs experiences setbacks for the occurrence of postpartum complications, especially premature rupture of membranes. From the results of the study, the OR value was 3.167 where age had a 3.167 times chance of the occurrence of KPD.

i. The relationship between parity and KPD

Based on the analysis of the relationship between parity and KPD, it was found that out of 70 respondents, 36 (51.4%) mothers were multiparous, 14 (20%) had KPD, 22 (31.4) did not.

Based on the results of Purnama's research, (2010) regarding factors related to KDP in Tangerang Hospital, the results obtained from 143 respondents 44 (30.76%) respondents experienced parity, 32 of whom had KPD.

Parity is the number of children born alive or dead. Parity can be grouped into three, namely Primipara (1 child), multipara (2-4 children) and grande multipara (> 5 children).9

Parity 2-3 is the safest parity in terms of mortality, parity 1 and high (more than 3) have a higher maternal mortality rate, the risk at parity 1 can be treated with better obstetric care, while the risk at high parity can be reduced/prevented by family planning. 15

Based on the description of parity with the incidence of PROM, the researchers concluded that the results of the study were inversely proportional to the theory where the risk level of death often occurs at parity 1 or higher, more than 3, where parity 1 can still be treated with obstetric care and high parity can be prevented by using family planning. family planning. From the results of the study, the OR value was 3.771 where parity had a 3.771 chance of the occurrence of KPD.

CONCLUSION

There is a relationship between knowledge, gestational age, parity, maternal age and the incidence of premature rupture of membranes.

SUGGESTION

a. For Science
   The results of the research can provide input and serve as literature in the development of health sciences, especially regarding factors related to the incidence of premature rupture of membranes.
b. For Research Sites
   The results of this study are expected to be input in increasing knowledge about the factors associated with the incidence of premature rupture of membranes.

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