

## RISK FACTORS FOR THE INCIDENCE OF UNPROGRESSED LABOUR

**Yulia Ernida<sup>1</sup>, Zulfa Hanun<sup>2</sup>, Yuswita<sup>3</sup>, Liananiar<sup>4</sup>**

<sup>1 2 3 4</sup>Universitas Almuslim, Aceh, Indonesia

E-mail: [yuliaernida749@gmail.com](mailto:yuliaernida749@gmail.com)

[zulfahanum89@gmail.com](mailto:zulfahanum89@gmail.com)

[yuswita.05@gmail.com](mailto:yuswita.05@gmail.com)

[liananiar@gmail.com](mailto:liananiar@gmail.com)

### ABSTRACT

This study aims to analyse the risk factors for the incidence of unprogressed labour in RSUD Datu Beru Takengon in 2023. This type of research is case control. The study sample was 36 mothers with undeveloped labour (case) and 36 mothers with normal labour (control). Data were analysed with Chi-Square test and multiple linear regression. The results of the study using the Chi-Square test showed that: variable age with a p-value of 0.005, height with a p-value of 0.001, cephalopelvic disproportion with a p-value of 0.033, location abnormality with a p-value of 0.05, his abnormality with a p-value of 0.031, and premature rupture of membranes with a p-value of 0.018. These results conclude that there is an association between the factors of age, height, cephalopelvic disproportion, abnormality of location, abnormality of his, and premature rupture of membranes to the incidence of non-progressing labour. The results of multiple linear regression test showed that the most influential variables were: height with Exp (B) value 26.271, infant weight with Exp (B) value 12.173, age with Exp (B) value 7.883, and abnormality with Exp (B) value 4.776. In conclusion, of the 9 risk factors for induced labour, the variables of age, height, abnormality and baby weight were influential. Parity, cephalopelvic disproportion, his abnormality, labour process, and premature rupture of membranes were not influential. It is recommended for health workers to implement labour screening, recognise high-risk deliveries, and increase the number of deliveries.

**Keywords:** risk factors, unprogressed labour.

### 1. INTRODUCTION

The human development index is a comparative measurement of life expectancy, literacy, education and living standards for all countries around the world. The human development index is used to classify whether a country is developed, developing, or underdeveloped and also to measure the effect of economic policies on quality of life. The human development index explains how the population can access the results of development in terms of income, health, education, and so on. The human development index can determine the rank or level of development of a region/country.<sup>1</sup> Health development is an effort carried out by all components of the nation in order to increase awareness, willingness, and ability to live healthy for everyone in order to realise the highest degree of public health. To achieve this goal, health efforts are endeavoured to be comprehensive, integrated, equitable, acceptable and affordable, by all levels of society. These health efforts are in accordance with Chapter IV Article 47 of Law Number 36 of 2009 concerning health, including disease prevention (preventive), health improvement (promotive), disease healing (curative), and health recovery (rehabilitative).<sup>2</sup>

Disease prevention is an attempt to direct a number of activities to protect clients from potential health threats. In other words, disease prevention is an effort to curb the development of disease, and protect the body from the continuation of more harmful influences. Improving maternal well-being and reducing child morbidity are the main tasks of a midwife. Previously, we must first know what are the obstacles to maternal welfare and the causes of child morbidity and even the causes of infant/child mortality.<sup>3</sup> Maternal Mortality Rate (MMR) is an indicator of the success of development in the health sector. MMR refers to the number of maternal deaths starting from pregnancy. Based on a 2009 report from the Ministry of Health, the MMR in Indonesia was 359/100,000 live births. The causes of maternal mortality are divided into direct and indirect causes. Direct causes of maternal mortality are due to complications of pregnancy, childbirth, the postpartum period, and improper handling of these complications. Indirect causes of maternal mortality are the result of pre-existing diseases or diseases that arise when the mother is pregnant,

such as malaria, anaemia, HIV/AIDS, cardiovascular disease. Globally, 80% of maternal deaths are classified as direct causes of maternal death, including haemorrhage (25%), usually postpartum haemorrhage, sepsis (15%), hypertension in pregnancy (12%), unprogressed labour (8%), complications of unsafe abortion (13%), and other causes (7%).<sup>4</sup>

Intervention is the act of intervening by an institution in a problem that occurs in society, the problem can be detrimental to all parties, both families, communities and countries. Obstetric complications are illnesses in pregnant women, pregnant women, postpartum women, or fetuses in the womb, both direct and indirect, including infectious and non-infectious that can threaten the life of the mother and or fetus. Prevention and management of obstetric complications is a service to mothers with obstetric complications to get protection and definitive or standardised treatment by competent health workers at the basic and referral service levels.<sup>5</sup>

Non-advanced labour is a labour with adequate hysteresis that does not show progress in cervical opening, head down and pax rotation during the last 2 hours. Non-advanced labour is his that is abnormal in strength or nature causing the birth canal obstacles that are common in every labour to be obstructed or killed. Non-advanced labour is characterised by complication that occurs at an opening of more than 4 cm or the active phase of the first stage, cervical opening does not progress in opening and there is no descent of the head during the last 2 hours with adequate hiss.

## **2. LITERATURE REVIEW**

The World Health Organization (WHO) states that as many as 99% of maternal deaths due to labour or birth problems occur in developing countries. On average, prolonged labour in the world causes maternal mortality of 8% and in Indonesia 9%.<sup>4</sup> Cases of undeveloped labour are referral cases from village midwives and private midwives (BPS) in Aceh Tengah district and surrounding areas. In order to know that the mother is experiencing an undeveloped labour, the midwife or helper must really know the cause of the labour. The tool for labour monitoring is called a partograph. Records during the labour phase include fetal heart rate (DJJ) checked every ½ hour, frequency and duration of uterine contractions checked every ½ hour, pulse checked every ½ hour, cervical opening checked every 4 hours, descent checked every 4 hours, blood pressure and body temperature checked every 4 hours, and urine production, acetone, and urine protein checked every 2 to 4 hours. The educational qualification of the midwife or helper determines how she responds to cases of undeveloped labour by looking at the partograph records. Some of the criteria for referral are a history of cesarean section, vaginal bleeding, low labour, rupture of membranes accompanied by meconium rupture, rupture of membranes earlier than 24 hours, rupture of membranes in low labour, jaundice, severe anaemia, signs/symptoms of infection, pre-eclampsia, high blood pressure, and high blood pressure.

Low education makes many women in rural areas marry young. They do not know the impact that will occur when they will become pregnant and give birth. The relatively young age will cause complications during labour, one of which is undeveloped labour, because the diameter of the mother's pelvis is not yet optimal for the baby's head to pass through.

Based on the phenomenon that occurs in the community, many mothers experience marriage at a young age, so that the reproductive system is also immature to prepare for pregnancy and childbirth. Judging from the low level of education and employment, it requires mothers to also go down to the fields to help their husbands meet household needs. This is also an anxiety felt by the mother because giving birth by surgery requires a lot of money for postpartum care.

## **3. METHODS**

This type of research is an analytical survey with a case-control design. The study was conducted with (a study based on medical records, searching/reviewing backwards to the time the event occurred in the past) which aims to determine the relationship of risk factors: age, height, parity, cephalopelvic disproportion, fetal location abnormalities, baby weight, his abnormalities, the

process of childbirth, and premature rupture of membranes with the dependent variable of the incidence of unprogressed labour at Datu Beru Takengon General Hospital, Central Aceh Regency.

Data collection techniques were carried out through (a) primary data collection obtained directly from the results of medi records of village midwives or private practice midwives who referred patients to Datu Beru Takengon General Hospital. (b) Secondary data were obtained by conducting documentation studies in the form of descriptive data at the research location, such as hospital medical records, and medical records of midwives who referred patients. (c) Tertiary data obtained by conducting literature studies by looking at journals, text books and other electronic sources. The data processing process in this study includes several stages of activity. According to Iman<sup>16</sup> the data collected is then processed computerised with the steps (a) Collecting, collecting data from questionnaires, questionnaires and observations. (b) Checking, carried out by checking the completeness of the answers to the questionnaire or observation sheet with the aim that the data is processed correctly so that the data processing gives a good result. (c) Coding, in this step the author codes the variables under study, for example the respondent's name is changed to numbers 1, 2, 3, ..., 42. (d) Entering, data entry, namely the answers of each respondent who is still in code form (numbers or letters) are entered into the computer used by the researcher, namely SPSS. (e) Processing, all data that has been input into the computer application will be processed according to the needs of the researcher.

#### **4. RESULTS AND DISCUSSION**

The development of hospitals in the region is currently growing rapidly, this growth is motivated by the existence of regional autonomy so that the improvement of services, equipment, staffing to increase bed capacity has also experienced the same thing. For service development is closely related to aspects of education, economy, population, socio-culture. The higher the type of hospital, the greater the need for facilities, infrastructure and equipment which will certainly involve professionals from various disciplines. The results of this study are as follows.

##### ***Relationship between Age and Incidence of Non-advanced Labour***

Based on the results of bivariate analysis using the Chi-Square test, it shows that there is a relationship between age and the incidence of undeveloped labour at Datu Beru Takengon General Hospital with a P-value of  $0.005 < 0.05$ . Analysis of the relationship between age and undeveloped labour with an OR value of 4.021 (95% CI).

The results of research in the field show that 64% of mothers are at risk of experiencing undeveloped labour. In accordance with the theory that states that age  $< 20$  years and  $> 35$  years are at risk of undeveloped labour. The age of pregnant women who are less than 20 years old does not mean that the mother is abnormal, but the mother is classified as experiencing risks in pregnancy and childbirth. Giving birth at a young age will certainly have a big impact on the mother's future. The reproductive organs are not yet mature to accept pregnancy. The psychological readiness to live a married life will also affect young mothers. There is a possibility for the mother to experience normal labour, but it must be under close supervision. Some pregnant women over the age of 35 need to understand that the older the woman, the quality of reproductive organs also decreases. So the risk of giving birth with complications is very large. In addition, there are still several other risks that may be caused such as multiple pregnancies, suffering from gestational diabetes so that the baby born has a large weight, high blood pressure, the risk of babies being born with chromosomal abnormalities and the possibility of miscarriage in early pregnancy.

Age is a unit of time that measures the time of existence of a living or dead creature. For example, human age is said to be 20 years measured from the time he was born until the time the age was calculated. Biological age is an age calculation based on the biological maturity of a

Biological maturity greatly affects the process of pregnancy to childbirth of a woman, so that women who experience the process of pregnancy and childbirth who have not entered the age of biological maturity will experience complications, such as the occurrence of undeveloped labour.<sup>14</sup>

Based on the findings of the study, age is associated with the incidence of unprogressed labour. Mothers aged < 20 years or > 35 years are expected not to experience pregnancy and childbirth because it can cause complications during childbirth. For this reason, efforts and cooperation between the community, health workers and the Central Aceh District Health Office are needed to provide counseling for women of childbearing age about the risks of pregnancy and childbirth before entering the period of pregnancy and childbirth.

The results of this study are not in line with Yuli Kusumawati's research with the title of risk factors affecting childbirth with action, showing that there is no relationship between age and the incidence of undeveloped labour with a p value = 0.29 with OR = 0.52 which means that mothers aged < 20 years and > 35 years have a 0.52 times chance of experiencing undeveloped labour compared to mothers aged 20-35 years.<sup>20</sup>

### ***Relationship between Height and Incidence of Indolent Labour***

Based on the results of bivariate analysis using the Chi-Square test, there is a relationship between height and the incidence of undeveloped labour at Datu Beru General Hospital Takengon with a P-value of 0.001 < 0.05. Analysis of the relationship between age and undue labour with an OR value of 10.818 (95% CI).

Height, in addition to being determined by genetic factors, is also determined by nutritional status during childhood, which means that nutritional disorders during childhood have a far-reaching effect on the reproductive period. (JNPKKR) Measurement of height of pregnant women should be carried out early in pregnancy to avoid errors due to changes in posture. Changes in posture can reduce height measurements by 1 cm (Institute of Medicine).<sup>10</sup>

The results of research in the field show that as many as 39% of mothers with height < 145 cm, in accordance with the theory that states that a person's height affects the shape of the pelvis. Height less than 145 cm is at risk of a narrow pelvis. The pelvis is the birth canal for the baby. The baby can be born smoothly if there are no obstacles in the birth canal. If the birth canal is narrow and does not match the size of the baby, then it is certain that the baby cannot be born normally. However, not all pregnant women with a height < 145 cm are required to have a Caesarean section. It all depends on the suitability between the shape of the pelvis and the size of the baby's weight.

Based on the findings of the study, height was not associated with the incidence of unprogressed labour, this was due to the large number of case and control groups with height > 145 cm. However, height is one of the indicators to assess whether the mother is classified as high-risk labour or not. Height > 145 cm.

The results of this study are not in line with Isti Mulyati's research with the title of factors associated with cesarean section delivery at YAKKSI Gemulong Islamic Hospital, Sragen Regency in 2010, showing that there is no relationship between height and the incidence of unprogressed labour with a p value of =1,000.<sup>21</sup>

### ***Relationship between Parity and the Incidence of Non-advanced Labour***

Based on the results of bivariate analysis using the Chi-Square test, there is no relationship between parity and the incidence of unprogressed labour at Datu Beru Takengon General Hospital with a P-value of 0.098 > 0.05.

Parity is the number that ends with the birth of a foetus that is eligible for life (28 weeks or 1000 grams). It is said that there is a tendency for low-parity mothers to have better health than

high-parity ones. The relationship between parity > 3 have complications during labour.<sup>15</sup>

The results of the field study showed that only 6% of mothers were at risk of undeveloped labour in the case and there was no risky parity in the control group. In accordance with the theory, a safe delivery for the mother is the second delivery, because delivery > 3 will dramatically increase maternal morbidity and mortality. Parity levels have attracted the attention of several researchers in maternal and child health relationships.

Based on the research findings, parity has no relationship with the incidence of undeveloped labour, this is because the number of respondents at risk of undeveloped labour in the case group is 64% and the control group is 44%. The family planning programme should be implemented intensively to reduce the fertility rate and cultivate the norm of a happy and prosperous small family (NKKBS). One of the NKKBS programmes is about the number of children that two children should be enough. The programme is in line with the government's demands regarding the welfare of society and the quality of life of children.

The results of this study are in line with the research of Yuli Kusumawati with the title of risk factors affecting childbirth with action, showing that there is no relationship between parity and the incidence of undeveloped labour with a p value = 0.58 with OR = 1.19 which means that mothers with mothers with parity > 6 have a chance of 1.19 times to experience undeveloped labour compared to mothers with parity < 6.<sup>20</sup>

#### ***Association between Cephalopelvic Disproportion and the Incidence of Indolent Labour***

Based on the results of bivariate analysis using the Chi-Square test, there is a relationship between cephalopelvic disproportion and the incidence of non-progressing labour at Datu Beru Takengon General Hospital with a P-value of 0.033 < 0.05. Analysis of the relationship between parity and undeveloped labour with an OR value of 2.800 (95% CI).

Cephalopelvic disproportion is a condition that describes an imbalance between the fetal head and the mother's pelvis so that the fetus cannot pass through the vagina. Cephalopelvic disproportion is caused by a narrow pelvis, a large foetus or both. The medical diagnosis is used when the baby's head is determined to be too large to pass through the mother's pelvis.<sup>14</sup>

The results of field research showed that 58% of mothers at risk of cephalopelvic disproportion in the case group, and 33% of mothers at risk of cephalopelvic disproportion in the control group. This is in line with the results of the study of maternal height factor, that the height of the mother is very influential on the growth of the pelvic cavity. With the condition of mothers who have a history of cephalopelvic disproportion, they will experience difficulties in the process of childbirth in Stage II. The fetal head cannot pass through the mother's pelvis so that the length of kala II exceeds the normal time in both primigravida and multigravida mothers.

The results of this study are in line with the research of Yeni Wulandari with the title of the relationship of several medical factors with the type of delivery at RSUD Dr. Soehadi Rjonagoro Sragen in 2011. The results showed the relationship of medical factors such as cephalopelvic disproportion with P-value 0.00 and OR 30.412, PEB with P-value 0.00 and OR 23.222, premature rupture of membranes with P-value 0.00 and OR 9.333, macrosomia with P-value 0, 000 and OR 155, 167, fetal abnormality with P-value 0.00 and OR 21.000, twins with P-value 0.00 and OR 49.611 and birth canal obstruction with P-value 0.00 and OR 11.455 with cesarean section delivery in RSUD Sragen in 2011.<sup>22</sup>

#### ***Relationship between Location Abnormalities and the Incidence of Non-advanced Labour***

Based on the results of bivariate analysis using the Chi-Square test, it shows that there is a relationship between location abnormalities and the incidence of non-progressing labour at Datu Beru Takengon General Hospital with a P-value of 0.05 < 0.05. Analysis of the relationship between parity and undeveloped labour with an OR value of 2.477 (95% CI).

Abnormalities in labour are divided into several components. Firstly, breech presentation. Breech presentation is a location where the baby's buttocks are the lowest part of the fetus, a situation where the fetus lies lengthwise with the head in the fundus uteri and the buttocks are below the uterine cavity. Second, latitudinal presentation. Transverse presentation is the location of the fetus across the uterus with the head on one side and the buttocks on the other. Third, face presentation. In face presentation, the head is in a position of hyperextension so that the occiput is against the baby's back and the chin is the lowest part of the foetus. Fourth, double presentation. Double presentation is where one scrotum falls on the side of the lowest part of the foetus and both parts are in the pelvis at the same time. Fifth, forehead presentation. This presentation is in principle the same as the face presentation. Forehead presentation is unstable and will change into face presentation. All of these presentations are problems in labour.<sup>9</sup>

Based on the findings in the field, there were 64% of mothers at risk of undeveloped labour in the case group and 42% of mothers at risk with abnormality in the control group. This is due to the abnormality of position during labour, which prolonged the duration of the second stage of labour. The duration of labour in primigravida mothers in the field was 1.5 hours, while in multigravida mothers it was 0.5 hours. In cases of abnormality, the duration of labour in primigravida is approximately 2-2.5 hours and multigravida is 1.5 hours. This increases the morbidity rate in mothers.

The research is in line with the research of aprina anita puri with the title of factors associated with cesarean section delivery at RSUD Dr. H. Abdul Moeloek Lampung Province in 2015. With the results of statistical tests there is a relationship between fetal position abnormalities with cesarean section with a P-value of 0.00 with OR = 3.996.<sup>7</sup>

### ***Relationship between Infant Weight and the Incidence of Non-advanced Labour***

Based on the results of bivariate analysis using the Chi-Square test, there is no relationship between baby weight and the incidence of non-progressing labour at Datu Beru Takengon General Hospital with a P-value of  $0.074 > 0.05$ . Analysis of the relationship between parity and undeveloped labour with an OR value of 3.077 (95% CI).

Weight is an indicator of newborn health. The average normal infant weight (37-41 weeks gestation) is 3000-3600 grams. Weight depends on the race, economic status, size of the parents, and parity of the mother. In general, low birth weight and overweight babies are at greater risk of problems during pregnancy and labour. Birth weight is the result of the interaction of various factors through a process that takes place while in the womb.<sup>13</sup>

Based on the findings in the field, 28% of the baby's weight was at risk for the incidence of unprogressed labour in the case group, and 11% of the baby's weight was at risk in the control group. In accordance with the theory which states that a large baby or macrosomia is a baby born weighing more than 4000 grams. The causes of large babies are caused by several things, including genetic factors, excessive maternal consumption (obesity during pregnancy) or babies born over time. the risk of birth trauma is high if the baby is larger than the mother's pelvis, namely intracranial hemorrhage, shoulder dystocia, uterine rupture, cervix, vagina, perineal tears and limb fractures are some of the complications that may occur.

This study is not in line with Linda Meliati's research with the title Differences in the weight of babies born with the incidence of long partus at stage II in the VK Teratai Room of the NTB Hospital. Where the results of the statistical analysis of the T test test found that the average weight of babies born with prolonged partus at time II was 3173.81 grams and the standard deviation was 247.238, while the average weight of babies born with no prolonged partus at time II was 3015.56 grams and the standard deviation was 245.371, the p value of the leveni test was 0.863 (equal variance or equal and p value >  $\alpha$  0.05). The t test value of 0.004 means that there is a significant

difference in the average birth weight of babies born in long partus at stage II.<sup>23</sup>

### ***Relationship between His Abnormality and the Incidence of Indolent Labour***

Based on the results of bivariate analysis using the Chi-Square test, there is a relationship between his abnormality and the incidence of non-progressing labour at Datu Beru Takengon General Hospital with a P-value of  $0.031 < 0.05$ . Analysis of the relationship of his abnormality with undeveloped labour with OR value is 2.906 (95% CI).

Any delay or difficulty in labour is called dystocia. Dystocia adversely affects both the mother and foetus. Early recognition and appropriate treatment will determine the prognosis of the mother and foetus. When one or more signs are missing or inappropriate, the condition is called his disorder/abnormality. His abnormalities can be categorised into three. Firstly, inertia uteri. Inertia uteri is the fundus contracting stronger and earlier than other parts, the role of the fundus remains prominent. The abnormality lies in the fact that uterine contractions are safer, shorter and less frequent than usual. Secondly, his is too strong (hypertonic uterine contraction). His is too strong and too efficient causing labour to be completed in a very short time. Third, incoordinate uterine action. The lack of coordination between upper, middle and lower contractions causes his to be inefficient in holding the opening.<sup>12</sup>

The field findings showed that 53% of his abnormalities were at risk of non-progressing labour in the case group, and 28% of his abnormalities were at risk in the control group. Based on data obtained from several respondents said that there were no contractions during labour, the mother did not experience pain during the delivery process. In accordance with the theory stating that his abnormalities are mainly found in primigravida, especially old primigravida. Hereditary factors play a role in his abnormalities. Excessive uterine compression in multiple pregnancies or hydration can also be the cause of pure uterine inertia.

This study is in line with the research of Tri Anasari with the research title of the relationship between parity and anemia with the incidence of uterine inertia in maternity mothers at Prof. Dr. Margono Soekarjo Purwokerto Hospital in 2011. Based on the results of the Chi-Square statistical test, there is a relationship between parity of maternity mothers with the incidence of uterine inertia with a P-value of 0.017, OR 5.023, phi 0.194.<sup>24</sup>

### ***Relationship between the Labour Process and the Incidence of Non-advanced Labour***

Based on the results of bivariate analysis using the Chi-Square test, there is no relationship between the process of childbirth and the incidence of undeveloped labour at Datu Beru Takengon General Hospital with a P-value of  $0.814 > 0.05$ . Analysis of the relationship between the process of childbirth with undeveloped labour with an OR value of 1.118 (95% CI).

Normal delivery is the process of expelling a viable fetus from the uterus and out through the vagina spontaneously at full term pregnancy without the aid of instruments and without complications to the mother or fetus with a head back presentation taking place in less than 24 hours.<sup>25</sup>

Based on the findings in the field, 50% of the labour process was at risk of non-progressed labour in the case group, and 50% was at risk in the control group. The labour process only reached the stage of preparing the mother and family to assist the leader in the normal labour care (APN) process. Preparation for the delivery of the baby did not occur because the head did not successfully open the vulva with a diameter of 4-5 cm. This may occur due to cephalopelvic disproportion, large foetus, impaired his, and so on.

This study is not in line with Budi Hastuti's research with the title of the effect of husband's support on the duration of labour during stage II of primiparous mothers. Based on the results of the Chi-Square test, there is a significant relationship between husband support and the duration of labour with a p-value of 0.004 ( $p < 0.05$ ).<sup>8</sup>

### ***Relationship between premature rupture of membranes and the incidence of non-progressed labour***

Based on the results of bivariate analysis using the Chi-Square test, there is a relationship between premature rupture of membranes and the incidence of non-progressing labour at Datu Beru Takengon General Hospital with a P-value of  $0.018 < 0.05$ . Analysis of the relationship between premature rupture of membranes with undeveloped labour with OR value is 3.182 (95% CI).

Premature rupture of membranes is the rupture of membranes before there are signs of labour starting and an hour wait has not occurred. Most premature rupture of membranes occurs in aterm pregnancies of more than 37 weeks while less than 36 weeks is not very common. Factors affecting premature rupture of membranes include age, socioeconomic status (income), parity, anaemia, smoking behaviour, history of COPD, and incompetent cervix.<sup>26</sup>

There were 58% of premature rupture of membranes at risk of non-progressed labour in the case group, and 31% at risk in the control group. Based on medical data, premature rupture of membranes occurred at 36-37 weeks. Excessive maternal activity and lack of nutritional intake caused the membranes to rupture before entering labour. Complications that occur in premature rupture of membranes are increased neonatal morbidity, complications during labour and birth and the risk of infection in both mother and fetus.

This study is not in line with Isti Mulyawati's research entitled factors associated with cesarean section delivery at Yakssi Gemolong Islamic Hospital, Seragen Regency in 2010. Where there is no relationship between the act of cesarean section with premature rupture of membranes with a P-value of 1.00. While this study is in line with the research of Yona Desni Sagita with the title of the relationship between premature rupture of membranes and cesarean section delivery with the incidence of aspxia in newborns. Based on the results of the analysis of the relationship between premature rupture of membranes and cesarean section delivery through Chi-Square obtained a p-value of 0.037 ( $p < 0.05$ ).<sup>6</sup>

### ***Influence of Age on the Incidence of Indolent Labour***

Based on the results of multivariate statistical tests using multiple logistic regression tests, it was found that the age factor influenced the incidence of undeveloped labour at Datu Beru Takengon General Hospital in 2017 with a probability value ( $p$ ) = 0.005. Analysis of the relationship between the age factor and the incidence of undeveloped labour with an Exp (B) value of 5.475. This means that mothers aged  $< 20$  years and  $> 35$  years have a chance of 5.475 times experiencing the incidence of undeveloped labour.

Pregnancy under the age of 20 carries risks that are no less severe. The mother is emotionally unstable and easily tense. While birth defects can arise due to tension in the womb, there is a sense of emotional rejection when the mother carries her baby. The reproductive organs for women under the age of 20 are not yet ready for sexual intercourse or pregnancy. The condition of eggs in girls under 20 years old is not perfect, so it is feared that the baby born will have physical defects.<sup>11</sup>

One of the high risks of pregnancy under the age of 20 is prolonged and difficult labour. This labour is accompanied by maternal and fetal complications. The cause of prolonged labour itself is influenced by abnormalities in the location of the fetus, pelvic abnormalities, abnormalities in the strength of hiss and straining and the wrong delivery leader. Mothers who become pregnant at a young age usually lack nutritional knowledge, which will result in a lack of various nutrients needed during growth. This will result in higher morbidity and mortality rates for both mothers and babies.<sup>9</sup>

The physical condition of pregnant women over the age of 35 will determine the birth process. This also affects the condition of the foetus. Uterine contractions are also strongly



Physical conditions that have decreased, especially in primipara (first pregnant women aged > 40 years), then this situation must be really wary. Pregnant women at the age of 35 years are more at risk of becoming pregnant than when pregnant at a normal age, which usually occurs around 21-30 years. Old age increases the risk of developing age-related diseases. It is the combination of old age diseases and pregnancy that causes the risk of death or disability in the baby or maternal complications to increase.

According to researchers, gestational age < 20 years and > 35 years have a major impact on pregnancy and childbirth. In pregnancies < 20 years, the mother's readiness must be considered in accepting the status of being a young mother. In this case, what a young mother should pay attention to is the fulfilment of nutrition, how to look after the baby in the absence of previous experience, providing educational care and quality life. Mothers who give birth > 35 years also have negative effects on themselves and their families, coupled with parity > 4 children. One of the negative effects on a mother is the occurrence of undeveloped labour due to the power factor.

The results of this study are in line with the research of Firdausi Rizkiviawinanda with the title of the relationship between age and parity with the incidence of breech delivery at Ulin Banjarmasin Hospital 2013. Data analysis using Chi-Square with a p-value of 0.040, because the p-value < 0.05, it was concluded that there was a relationship between age and the incidence of breech labour. Then the analysis test was continued with the calculation of the prevalence odds ratio (POR) and obtained a POR value of 2.066 so that it can be said that maternity mothers who have age < 20 and > 35 years are at twice the risk of experiencing breech delivery than mothers who have an age that is not at risk.<sup>27</sup>

## 5. CONCLUSION

Based on the results of research and discussion, it can be concluded that the results of multiple linear regression tests show that the most influential variables are: height Exp (B) value 26.271, baby weight factor Exp (B) value 12.173, age factor Exp (B) value 7.883, and location abnormality factor Exp (B) value 4.776. In conclusion, of the 9 risk factors for induced labour, the variables of age, height, abnormality and infant weight were influential. Parity, cephalopelvic disproportion, his abnormality, labour process, and premature rupture of membranes were not influential. It is recommended for health workers to implement delivery screening, recognise high-risk deliveries, and improve midwives' ability to use partographs.

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