

FACTORS ASSOCIATED WITH INCOMPLETE ABORTION AT H.M. RYACUDU REGIONAL GENERAL HOSPITAL OF KOTABUMI NORTH LAMPUNG REGENCY

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ABSTRAK : FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN KEJADIAN ABORTUS INKOMPLETUS DI RSUD H.M. RYACUDU KOTABUMI KABUPATEN LAMPUNG UTARA

Latar Belakang : Salah satu masalah kehamilan yang banyak terjadi yaitu abortus, dari 46 juta kelahiran pertahun didapatkan 20 juta kasus karena abortus. Abortus menyumbang angka sebesar 5% dari komplikasi kehamilan yang menyebabkan kematian ibu. Tujuan penelitian untuk mengetahui faktor-faktor yang berhubungan dengan kejadian Abortus Inkompletus di Rumah Sakit Umum Daerah H.M Ryacudu Kotabumi Kabupaten Lampung Utara tahun 2020-2022

Metode Penelitian : Jenis penelitian yang digunakan adalah rancangan *cross sectional*. Populasi penelitian ini adalah ibu-ibu hamil yang mengalami Abortus dan dirawat di ruang rawat inap Rumah Sakit H.M Ryacudu Kotabumi Lampung Utara tahun 2020 – 2022 yang berjumlah 167 orang. Sampel dalam penelitian ini berjumlah 167 orang. Variabel Independen Usia ibu, usia kehamilan, paritas dan riwayat abortus. Tehnik sampling total *sampling* Analisa menggunakan uji *Chi Square*.

Hasil penelitian : Didapatkan Kejadian abotrus inkompleteus sebanyak 112 kasus (67,1%). Usia ibu hamil yang mengalami kejadian abotrus >35 tahun sebanyak 89 orang (53,3%). Usia kehamilan ibu hamil yang mengalami kejadian abotrus <12 minggu sebanyak 135 orang (80,8%). Paritas ibu hamil yang mengalami kejadian abotrus < 4 kali sebanyak 125 orang (74,9%) Ibu hamil yang tidak memiliki riwayat abortus sebanyak 118 orang (70,7%). Ada hubungan usia Ibu dengan Kejadian Abortus Inkompletus p-Value 0,025. Ada hubungan usia kehamilan dengan kejadian abortus inkompletus p-Value 0,000. Ada hubungan paritas dengan kejadian abortus inkompletus p-Value 0,000. Ada hubungan riwayat abortus dengan kejadian abortus inkompletus p-Value 0,016.

Kesimpulan : Ada hubungan Usia ibu, Usia Kehamilan, Paritas, Riwayat Abortus dengan kejadian abortus Inkompletus di Rumah Sakit Umum Daerah H.M Ryacudu Kotabumi Kabupaten Lampung Utara tahun 2020-2022.

Saran : Disarankan kepada ibu hamil untuk melakukan ANC secara rutin dan mengatur paritas serta usia kehamilan untuk menghindari kejadian abortus.

Kata kunci : Usia, Usia Kehamilan, Paritas, Riwayat Abortus

ABSTRACT

Background: One of the prevalent issues during pregnancy is abortion, with 20 million cases out of 46 million annual births resulting from abortions. Abortion contributes about 5% of pregnancy complications that lead to maternal death. The research aims to identify factors associated with the incidents of incomplete abortions at H.M. Ryacudu Regional General Hospital, Kotabumi, North Lampung Regency, from 2020 to 2022.

Research Method: The study employed a cross-sectional design. The research population consisted of pregnant mothers who experienced abortion and were admitted to the inpatient ward of H.M. Ryacudu Regional General Hospital in Kotabumi, North Lampung from 2020 to 2022, totaling 167 individuals. The sample for this research was also 167 individuals. Total sampling technique was utilized, and Chi-Square test was employed for analysis.

Research Findings: The study found 112 cases (67.1%) of incomplete abortion incidents. Pregnant mothers aged >35 years accounted for 89 individuals (53.3%). Pregnant mothers with a gestational age of <12 weeks during the abortion incident totaled 135 individuals (80.8%). Pregnant mothers with a parity of <4 accounted for 125 individuals (74.9%). Pregnant mothers without a history of abortion amounted to 118 individuals (70.7%). There is a correlation between Maternal Age and Incomplete Abortion Incident with a p-Value of 0.025. There is a correlation between Gestational Age and Incomplete Abortion Incident with a p-Value of 0.000. There is a correlation between Parity and Incomplete Abortion Incident with a p-Value of 0.000. There is a correlation between Abortion History and Incomplete Abortion Incident with a p-Value of 0.016.

Conclusion: There is a relationship between maternal age, gestational age, parity, history of abortion with the incidence of incomplete abortion at the H.M Ryacudu Kotabumi Regional General Hospital, North Lampung Regency in 2020-2022.

Suggestions : Pregnant mothers are advised to undergo regular antenatal care and manage their parity and gestational age to prevent abortion incidents.

Keywords : Maternal Age, Gestational Age, Parity, Abortion History

INTRODUCTION

Maternal Mortality Rate (MMR) serves as a barometer of maternal healthcare in a country. A high MMR indicates inadequate maternal healthcare services, whereas a low MMR indicates satisfactory maternal healthcare services (Prawirohardjo, 2020). Mortality and morbidity among women during childbirth are significant issues in developing countries. In impoverished nations, approximately 25-50% of deaths among women of childbearing age are related to pregnancy-related causes. Death during childbirth typically stands as the primary factor contributing to mortality among young women during their peak productive years. More than 50% of deaths in developing countries could actually be prevented with available technology and relatively low costs (JNPKKR-POGI, 2018).

Currently in Southeast Asia, Indonesia has the highest Maternal Mortality Rate (MMR). Based on the results of the Indonesian Demographic and Health Survey (IDHS) in 2018, the maternal mortality rate was 359 per 100,000 live births. However, according to data from the World Health Organization (WHO) in 2020, the maternal mortality rate in Indonesia was 211 per 100,000 live births (WHO, 2020). When compared to other countries, Indonesia ranks third among ASEAN countries, following Laos and Myanmar. Furthermore, according to the Ministry of Health data, the number of maternal deaths has shown an increase each year. In 2020, there were 4,627 maternal deaths, and in 2021, this number escalated to 7,389 deaths (Ministry of Health of the Republic of Indonesia, 2022).

When interpreted globally, it is evident that Indonesia is still far from achieving the global SDGs targets. To lower the Maternal Mortality Rate (MMR) to 183 per 100,000 live births by 2024 and less than 70 per 100,000 live births by 2030, according to the action plan of the Public Health Program 2020-2025, more comprehensive and strategic efforts are required. Achieving the MMR target reduction by 2024 necessitates an annual decrease in maternal deaths of at least 5.5% (Ministry of Health of the Republic of Indonesia, 2020). Maternal mortality involves high-risk pregnancy situations and obstetric complications that could endanger the lives of both

mothers and fetuses if not adequately addressed (Manuaba, 2010). Dealing with this issue is complex due to the multifaceted factors underlying maternal and neonatal illnesses or deaths before childbirth (Indrawati, 2016).

In Lampung province, the number of maternal deaths has fluctuated over the past three years: 117 cases in 2020, 187 cases in 2021, and 96 cases in 2022 (Annual Report of the Public Health Department, 2022). Looking at the causes of maternal deaths in Lampung Province in 2020, the highest number of cases were due to hemorrhage (44 cases), hypertension (24 cases), disorders related to the circulatory system (9 cases), infections (2 cases), metabolic disorders (1 case), and other causes (35 cases) (Provincial Health Profile of Lampung, 2020, 2021). In 2021, the leading cause of maternal mortality was Covid-19, accounting for 45%, followed by hemorrhage and pregnancy-related hypertension (Performance Report of the Provincial Health Office of Lampung, 2021, 2022). In 2022, maternal deaths in Lampung Province were attributed to various causes: hemorrhage (25 cases), hypertension (24 cases), heart conditions (11 cases), Covid-19 (2 cases), infections and blood disorders (1 case each), and other causes (32 cases) (Family Health Data of Lampung Province, 2022).

Adapun jumlah kematian ibu di Kabupaten Lampung Utara juga mengalami pasang surut pada tiga tahun terakhir yaitu 10 kasus pada tahun 2020, 12 kasus pada tahun 2021 dan 7 kasus pada tahun 2022 (Laporan Kinerja Dinas Kesehatan Provinsi Lampung Tahun 2021, 2022). Meanwhile, the maternal mortality rate at H.M Ryacudu Kotabumi Regional General Hospital in the obstetrics ward has decreased in the last three years, with 2 cases in 2020, 1 case in 2021, and no maternal deaths recorded in the year 2022 (North Lampung Health Office, 2023).

According to the World Health Organization (WHO), global abortion incidents amount to approximately 21,200,000 with a rate of 16 per 1,000 women aged 15-44 years. In Southeast Asia, the incidence of abortion is about 3,130,000 with a rate of 22 per 1,000 women aged 15-44 years. The frequency of abortion in Indonesia is 10%-15% of 5

million pregnancies annually, which translates to 750,000-1.5 million cases (Asniar, 2022). The incidence of abortion in North Lampung Regency in 2021 was 1,051 cases, and in 2022, there were 1,044 cases. In the North Lampung Regency in 2020, there were 91 cases, 51 cases in 2021, and 22 cases in 2022.

The inpatient records of H.M Ryacudu Regional General Hospital's maternity ward in North Lampung recorded 63 cases of Incomplete Abortion in 2020, followed by cases such as premature rupture of membranes (139 cases), severe preeclampsia (66 cases), postpartum hemorrhage (39 cases), Hyperemesis Gravidarum (HEG) (28 cases), premature labor or contractions (21 cases), cysts (20 cases), placenta previa (18 cases), breech presentation (18 cases), and post-term pregnancies (8 cases) (Inpatient Patient Register Book at H.M Ryacudu Regional General Hospital, 2020).

In 2021, the inpatient records showed 45 cases of Incomplete Abortion, 8 cases of manual aid, 2 cases of perineal rupture, 24 cases of placental disorders, 5 cases of imminent abortion, 50 cases of premature rupture of membranes, 26 cases of severe preeclampsia, 6 cases of Hyperemesis Gravidarum (HEG), 10 cases of hypertension, 10 cases of laparotomy, 2 cases of hysterectomy, 9 cases of cysts, 6 cases of bleeding, 6 cases of contractions, 2 cases of post-date pregnancies, and 2 cases of retained placenta (Inpatient Patient Register Book at H.M Ryacudu Regional General Hospital, 2021).

In 2022, the inpatient records recorded 17 cases of Incomplete Abortion, 1 case of premature delivery, 1 case of perineal rupture, 11 cases of placental disorders, 1 case of imminent abortion, 9 cases of premature rupture of membranes, 2 cases of severe preeclampsia, 3 cases of Hyperemesis Gravidarum (HEG), 1 case of hypertension, 2 cases of laparotomy, 3 cases of cysts, 3 cases of bleeding, 1 case of contractions, 2 cases of post-date pregnancies, and 21 cases of retained placenta (Inpatient Patient Register Book at H.M Ryacudu Regional General Hospital, 2022).

In Indonesia, maternal mortality and morbidity are still significant problems. Direct causes of maternal death in Indonesia, as in other countries, are primarily obstetric complications, with hemorrhage accounting for 30-35%, infections for 20-25%, and gestosis for 15-17% of maternal deaths. Abortion-related deaths are also included within hemorrhage and infection categories. Only around 5% of maternal deaths result from pre-existing diseases aggravated by pregnancy, such as chronic heart disease and infections. The estimated frequency of spontaneous abortion is around 15-20%

of all pregnancies (Prawirohardjo, 2020). Maternal death is influenced by non-technical factors, such as low socioeconomic status, lack of empowerment, and low education level (JNPKKR-POGI, 2018).

Research on maternal mortality indicates that women who experience abortion-related complications, such as hemorrhage, perforation, infection, and shock, are at risk of death. In the case of Incomplete Abortion, severe bleeding can lead to shock, and bleeding will not cease until the remaining conception is expelled. Risk factors for Incomplete Abortion include maternal age and parity (Prawirohardjo, 2020). Over 80% of abortions occur within the first 12 weeks of pregnancy, and the risk of spontaneous abortion increases with parity (frequency of pregnancies) and maternal age. Clinically detected spontaneous abortion rates rise from 12% in women under 20 years to 26% in women over 40 years. Furthermore, the incidence of abortion increases in women pregnant within 3 months after term childbirth (Kenneth et al., 2013).

Similarly, in the province of Lampung, particularly in North Lampung Regency and H.M Ryacudu Regional General Hospital, the leading causes of maternal deaths are still hemorrhage, eclampsia, and infection. The primary cause of maternal death is obstetric complications due to hemorrhage, including infected Incomplete Abortion cases (Sub-district of Family Health Dinkes Lampung Province, 2022, Sub-district of Family Health Dinkes North Lampung Regency, 2022, and Medical Record of H.M Ryacudu Regional General Hospital, 2022).

Based on research data regarding the relationship between a history of abortion in pregnant mothers and abortion incidents conducted by Lismawati Fauzi in 2020, a correlation was found between abortion incidents and other factors influencing their occurrence, such as maternal age, parity, occupation, gestational age, age at marriage, and birth interval. Similarly, a study conducted by Pitriani Risa in 2013 on factors related to Incomplete Abortion at the Arifin Achmad Regional General Hospital in Riau Province showed a cause-and-effect relationship between age, gestational age, birth interval, parity, and Incomplete Abortion incidents.

RESEARCH METHODS

The study was conducted using a Cross-Sectional method, involving the collection of secondary data from a subset of subjects at H.M Ryacudu Regional General Hospital in North Lampung from 2020 to 2022. The study population consisted of pregnant mothers who experienced Incomplete Abortion and were hospitalized in the H.M Ryacudu Regional General Hospital's inpatient

ward between 2020 and 2022, totaling 167 individuals. The sample size was 167 individuals. The research employed a total sampling technique. The Chi-Square test was used for bivariate analysis.

The researcher utilized secondary data from medical records of pregnant mothers who experienced Incomplete Abortion at H.M Ryacudu Regional General Hospital in North Lampung. The data collection involved observing both the independent variables and dependent variables simultaneously.

In this study, the dependent variable is pregnant mothers who experienced Incomplete Abortion, while the influencing factors of Incomplete Abortion incidents are the mother's age, gestational age, parity, and history of abortion.

RESEARCH RESULTS

Univariate Analysis

Table 1

The frequency of Incomplete Abortion incidents at H.M Ryacudu Regional General Hospital in North Lampung Regency in 2020 - 2022

| Variable | Total | Percentage |
|----------|-------|------------|
| Yes | 112 | 67.1 |
| No | 55 | 32.9 |

Based on Table 1, it can be observed that there were 112 cases of Incomplete Abortion incidents (67.1%) and 55 cases of non-Incomplete Abortion incidents (32%).

Table 2

The frequency of maternal age who experienced Incomplete Abortion at H.M Ryacudu Regional General Hospital in North Lampung Regency in 2020 - 2022

| Variable | Total | Percentage |
|----------------|-------|------------|
| ≥ 35 years old | 89 | 53.3 |
| < 35 years old | 78 | 46.7 |

Based on Table 2, it can be observed that among pregnant mothers who experienced abortion, the age of pregnant women who experienced abotrus >35 years was 89 people (53.3%) and <35 years was 78 people (46.7%).

Table 3

The frequency of gestational age among pregnant women who experienced Incomplete Abortion at H.M Ryacudu Regional General Hospital in North Lampung Regency in 2020 -2022

| Variable | Total | Percentage |
|------------|-------|------------|
| <12 weeks | 135 | 80.8 |
| > 12 weeks | 32 | 19.2 |

Based on Table 3, it can be observed that among pregnant mothers who experienced abortion, there were 135 cases (80.8%) with a gestational age of less than 12 weeks and 32 cases (19.2%) with a gestational age of more than 12 weeks.

Table 4

The frequency distribution of parity among pregnant mothers who experienced Incomplete Abortion at H.M Ryacudu Regional General Hospital in North Lampung Regency in 2020 - 2022

| Variable | Total | Percentage |
|-----------|-------|------------|
| ≥ 4 times | 42 | 25.1 |
| < 4 times | 125 | 74.9 |

Based on Table 4, it can be observed that among pregnant mothers who experienced abortion, there were 42 cases (25.1%) with parity of 4 or more pregnancies and 125 cases (74.9%) with parity of less than 4 pregnancies.

Table 5

The frequency distribution of abortion history among pregnant mothers who experienced Incomplete Abortion at H.M Ryacudu Regional General Hospital in North Lampung Regency in 2020 - 2022

| Variable | Total | Percentage |
|----------|-------|------------|
| Yes | 49 | 29.3 |
| No | 118 | 70.7 |

Based on Table 5, it can be observed that among pregnant mothers who experienced Incomplete Abortion, there were 49 cases (29.3%) with a history of abortion and 118 cases (70.7%) without a history of abortion.

Bivariate Analysis

Based on Table 6 above, it can be observed that among the 89 responder over 35 years old and experienced incomplete Abortion, there were 67 individuals (75.3%), while those who did not experience Incomplete Abortion were 22 individuals (24.7%). Among the 78 respondents who were under 35 years old and experienced Incomplete Abortion, there were 45 individuals (57.7%), while those who did not experience Incomplete Abortion

were 33 individuals (42.3%). The statistical test results yielded a p-value of 0.025, indicating a

significant association between age and the occurrence of Incomplete Abortion.

Table 6
The relationship between maternal age and Incomplete Abortion incidents at H.M Ryacudu Regional General Hospital in North Lampung Regency in 2020 - 2022

| Age | Abortus Inkompletus | | | | Total | | p-Value | OR (95% CI) |
|----------------|---------------------|------|----|------|-------|-----|---------|--------------------------|
| | Yes | | No | | n | % | | |
| | n | % | n | % | | | | |
| ≥ 35 years old | 67 | 75,3 | 22 | 24,7 | 89 | 100 | 0,025 | 2,233 (1,156 - 4,315) |
| < 35 years old | 45 | 57,7 | 33 | 42,3 | 78 | 100 | | |

Table 7
The relationship between gestational age and Incomplete Abortion Incidents at H.M Ryacudu Regional General Hospital in North Lampung Regency in 2020 - 2022

| Gestational Age | Abortus Inkompletus | | | | Total | | p-Value | OR (95% CI) |
|-----------------|---------------------|------|----|------|-------|-----|---------|---------------------------|
| | Yes | | No | | n | % | | |
| | n | % | n | % | | | | |
| < 12 weeks | 100 | 74,1 | 35 | 25,9 | 135 | 100 | 0,000 | 4,762 (2,113 - 10,732) |
| ≥ 12 weeks | 12 | 37,5 | 20 | 62,5 | 32 | 100 | | |

Based on Table 7 above, it can be observed that among the 135 respondents with a gestational age of less than 12 weeks who experienced Incomplete Abortion, there were 100 individuals (74.1%), while those who did not experience Incomplete Abortion were 35 individuals (25.9%). Among the 32 respondents with a gestational age of

more than 12 weeks who experienced Incomplete Abortion, there were 12 individuals (37.5%), while those who did not experience Incomplete Abortion were 20 individuals (62.5%). The statistical test results yielded a p-value of 0.000, indicating a highly significant relationship between gestational age and the occurrence of Incomplete Abortion.

Table 8
The Relationship Between Parity and Incomplete Abortion Incidents at H.M Ryacudu Regional General Hospital in North Lampung Regency In 2020-2022

| Parity | Abortus Inkompletus | | | | Total | | p-Value | OR (95% CI) |
|-----------|---------------------|------|----|------|-------|-----|---------|------------------------|
| | Yes | | No | | n | % | | |
| | n | % | n | % | | | | |
| ≥ 4 times | 42 | 85,7 | 7 | 14,3 | 49 | 100 | 0,002 | 4,114 (1,706-9,923) |
| < 4 times | 70 | 59,3 | 48 | 40,7 | 118 | 100 | | |

Based on Table 8 above, it can be observed that among the 49 respondents with parity of more than 4 pregnancies who experienced Incomplete Abortion, there were 42 individuals (85.7%), while those who did not experience Incomplete Abortion were 7 individuals (14.3%). Among the 118 respondents with parity of less than 4 pregnancies

who experienced Incomplete Abortion, there were 70 individuals (59.3%), while those who did not experience Incomplete Abortion were 48 individuals (40.7%). The statistical test results yielded a p-value of 0.0002, indicating a highly significant relationship between parity and the occurrence of Incomplete Abortion.

Tabel 9
The Relationship Between History of Abortion and Incomplete Abortion Incidents at H.M Ryacudu Regional General Hospital in North Lampung Regency In 2020-2022

| History of Abortion | Abortus Inkompletus | | Total | p-Value | OR (95% CI) |
|---------------------|---------------------|----|-------|---------|-------------|
| | Yes | No | | | |

| | n | % | n | % | n | % | | |
|-----|----|------|----|------|-----|-----|-------|-----------------|
| Yes | 40 | 81,6 | 9 | 18,4 | 49 | 100 | 0,016 | 2,840 |
| No | 72 | 61.0 | 46 | 39,0 | 118 | 100 | | (1,260 – 6,397) |

Based on Table 9, it can be observed that among the 49 respondents with a history of abortion who experienced Incomplete Abortion, there were 40 individuals (81.6%), while those who did not experience Incomplete Abortion were 9 individuals (18.4%). Among the 118 respondents with a history of abortion who experienced Incomplete Abortion, there were 72 individuals (61%), while those who did not experience Incomplete Abortion were 46 individuals (39%). The statistical test results yielded a p-value of 0.016, indicating a significant relationship between a history of abortion and the occurrence of Incomplete Abortion.

DISCUSSION

The Relationship Between Maternal Age and the Incidence of Incomplete Abortion

Maternal age seems to play a significant role in the occurrence of abortion. Both very young mothers, below 20 years old, and older mothers have a similar risk, and abortion rates increase for mothers above the age of 35 (Manuaba, 2012). High parity numbers (parities >3) also influence the incidence of abortion. The risk of abortion increases with higher parity numbers. Conversely, low parity (parity 1) can also lead to abortion (Prawirohardjo, 2020).

Factors contributing to abortion include parity at 25%, and age at 12-26% (Fajria, 2013). Other factors contributing to abortion include abortion history, pregnancy interval, fetal factors, genetic factors (5%), anatomical factors (10-15%), endocrine factors (10-20%), infections, immunological factors, such as tuberculosis or karsinomatosis, which rarely lead to abortion. The factors of age at 12-26% and parity at 25% have significant influence. The risk of abortion is higher with increased maternal age and increasing parity (Manuaba & Ida, 2014).

The relationship between maternal age and the occurrence of Incomplete Abortion is supported by several previous studies. A study by Rochayati et al. from Dr. Soetomo Hospital in Surabaya, as cited by Rustam Mochtar (2015), concluded that the frequency of High-Risk Pregnancy criteria was 30.8%, with one of the factors being maternal age of 35 years or older. According to Williams et al. (2015), the risk of abortion increases to 26% for women over 35 years of age (Williams, 2015).

Abortion risks are more frequent in young mothers below 20 years and older mothers above 35 years. Age can influence abortion occurrences; those below 20 years may have immature reproductive

systems for pregnancy, affecting maternal health and fetal growth and development. Meanwhile, abortion in mothers over 35 years is attributed to decreased reproductive function, chromosomal abnormalities, or other illnesses (Manuaba, 2012).

This study is consistent with the research conducted by Muhammad Apriliandy Shariff (2015), "Factors Associated with Abortion Incidence". The results showed that out of 60 sample cases, 61.7% (37 mothers) were aged between 20-35 years, 30% (18 mothers) were over 35 years old, and 4.2% (5 mothers) were below 20 years old.

Research by Risa Pitriani (2022) on "Factors Associated with Incomplete Abortion" found significant associations with low education, short pregnancy intervals, and employment as risk factors for incomplete abortion, while variables like hemoglobin levels and parity were inversely related. Age was a confounding variable related to parity. Sitti Hubaya Matjino (2015) studied "Risk Factors for Abortion Incidence" in Ternate's Dr. Chasan Boesoirie Regional General Hospital. Risk factors for abortion included contraceptive failure, socioeconomic status, abortion history, and parity, while pregnancy outside of marriage was not a risk factor.

Linda Yanti (2018) studied "Determinant Factors of Abortion Incidence in Pregnant Women: A Case-Control Study". The study found a significant relationship between maternal age, gravida, pregnancy age, parity, pregnancy interval, and abortion incidence. The combined effects of maternal age, gravida, pregnancy age, parity, and pregnancy interval significantly influenced abortion incidence in pregnant women.

The findings from the research conducted at H.M Ryacudu Regional General Hospital in Kotabumi, North Lampung, indicate that the occurrence of Incomplete Abortion in pregnant mothers is closely linked to maternal age, with a significant relationship. This might be due to a significant number of pregnant mothers not utilizing Long-Term Family Planning contraception methods.

According to the researcher's opinion, maternal age impacts abortion occurrence because age affects an individual's reproductive system readiness during pregnancy. Particularly, becoming pregnant at a very young age (below 20 years) or advanced age (above 35 years) may reduce the quality of the reproductive system, potentially endangering maternal health, labor, and the

postpartum period. Generally, the ideal age for pregnancy falls between 20 and 35 years, according to literature.

The Relationship Between Gestational Age and Incomplete Abortion Incidents

William et al. (2012) state that the occurrence of Incomplete Abortion is when the embryo has exited the uterus while the placenta, either entirely or partially, remains retained within the uterus. This typically happens after a pregnancy has reached a gestational age of 10 weeks or more. In another study by Sarwono Prawirohardjo (2020), it is noted that during the early stages of an abortion, there is bleeding from the basal decidua, followed by necrosis of surrounding tissue, which leads to the detachment of the conceptus (embryo) from the uterine lining. This detached conceptus is considered a foreign object within the uterus. Subsequently, the uterus contracts in order to expel this foreign object. In pregnancies of less than 8 weeks, the embryo is usually expelled entirely since the chorionic villi have not deeply penetrated the decidua. However, during weeks 8 to 14 of pregnancy, the chorionic villi penetrate the decidua more deeply, resulting in the placenta not being completely released. This often leads to significant bleeding in pregnancies beyond 14 weeks. Following the rupture of the amniotic sac, a deceased embryo will be expelled in the form of an empty amniotic sac (blighted ovum/shapeless small object), followed by the placenta.

At a gestational age of less than 12 weeks, the chorionic villi have not yet deeply penetrated the decidua. As a result, the product of conception can be expelled, characterized by bleeding within the basal decidua. This is followed by tissue necrosis, which can lead to the detachment of the product of conception, causing it to be perceived as a foreign object within the uterus. This triggers uterine contractions to expel the foreign object (Lindayanti, 2018).

This is supported by several previous studies, as stated by Muhammad Apriliandy Shariff (2015) in "Factors Associated with Abortion Incidents". The research findings indicate that out of 60 sampled cases, 61.7% (37 mothers) were aged between 20-35 years, 30% (18 mothers) were aged >35 years, and 4.2% (5 mothers) were aged <20 years.

The study conducted by Lindayanti (2018) on "Determinant Factors of Abortion Incidents in Pregnant Mothers: A Case-Control Study" revealed significant findings. The research identified that there is a notable association between maternal age and the incidence of abortion ($p < 0.01$; $r = 0.297$).

Similarly, a significant correlation was found between gravida (number of pregnancies) and the occurrence of abortion ($p < 0.01$; $r = -0.272$), as well as between gestational age and the incidence of abortion ($p < 0.05$; $r = -0.224$). Parity (number of live births) and interpregnancy interval (time between pregnancies) also demonstrated significant links with abortion ($p < 0.05$; $r = -0.252$ and $p < 0.05$; $r = -0.224$ respectively). The combined effect of maternal age, gravida, gestational age, parity, and interpregnancy interval significantly impacts the likelihood of abortion in pregnant mothers ($F = 38.244$, $p < 0.01$; $R^2 = 0.574$). Furthermore, gestational age emerged as the most influential factor in abortion occurrences among pregnant mothers ($t = -13.093$; $p < 0.01$; partial correlation = -0.751).

The researcher's point of view is that the occurrence of Incomplete Abortion, particularly concerning maternal gestational age, is notably high, and there is a significant and meaningful relationship, as supported by the research findings. This aligns with the study's results where the majority of respondents had a gestational age of <12 weeks, accounting for 100 individuals (74.1%). This could be attributed to various stimuli causing uterine contractions in pregnant women, such as sudden shocks, engaging in strenuous activities, falls, exposure of the uterus/abdomen to blunt objects, or accidents resulting in uterine jolts, all of which can lead to Incomplete Abortion. Alternatively, direct trauma to the fetus, such as damage to fetal membranes by instruments, objects, or medications, could also contribute to this phenomenon.

Parity Relationship (Birth Frequency) with Incomplete Abortion Incidents

Mothers with parity of 1 time and >3 times have a greater risk of experiencing abortion. If a mother becomes pregnant and gives birth too frequently, it can lead to an unhealthy uterus, which can result in damage to the blood vessels in the uterine wall. This can affect the circulation of nutrients to the fetus, leading to decreased fetal nutrition and maternal death. This is in line with the theory proposed by Cunningham (2012), stating that parity of 2-3 is the safest in terms of maternal mortality. Parity 1 and high parity (>3 times) are associated with higher maternal mortality rates. The higher the parity, the higher the maternal mortality. Parity risk can be managed through improved obstetric care and the use of family planning programs.

Parity influences the occurrence of abortion in pregnancies strained by the presence of a fetus. If a woman gives birth too frequently, her uterus will become weaker. If a mother has given birth to 4 or

more children, it's necessary to be cautious about potential complications during pregnancy, childbirth, and the postpartum period. The risk of spontaneous abortion increases with maternal parity (Murphy, 2012).

Risky parity leads to weakness and fatigue of the uterine muscles, making bleeding more likely to occur. When risky parity is coupled with both young and advanced maternal age, uterine conditions and maternal health become susceptible to pregnancy-related pathologies. This can lead to prolonged labor, postpartum hemorrhage, and abortion (Mariza, 2017).

These observations are supported by various studies that have explored the relationship between parity and the incidence of Incomplete Abortion. Research by Rochayati et al. from Dr. Soetomo Hospital in Surabaya, as cited by Rustam Mochtar (2015), concluded that the frequency of High-Risk Pregnancy criteria had a proportion of 30.8%, and one of the contributing factors was parity or a birth frequency of four or more times. Another study by Williams (2009) noted that over 80% of abortions occur within the first 12 weeks of pregnancy, and the risk of spontaneous abortion increases with maternal parity (birth frequency).

Andani's research (2020) on the Relationship between Age and Parity with Abortion Incidence supports the idea that age and parity are related to abortion incidence. This is because reproductive organs might not be mature enough for fertilization at a young age and might become less receptive to pregnancy at an advanced age. However, the study suggests that parity alone might not directly influence abortion incidence as it can be affected by other factors like infections, placental abnormalities, and lifestyle.

Linda Yanti's study (2018) on Determinants of Abortion Incidence in Pregnant Women: A Case-Control Study revealed significant relationships between maternal age, gravidity, gestational age, parity, and the occurrence of abortion. The collective influence of maternal age, gravidity, gestational age, parity, and inter-pregnancy interval significantly affects abortion incidence in pregnant women. Gestational age emerges as the most influential factor in abortion incidence ($t=-13.093$; $p<0.01$; partial correlation $=-0.751$).

The research conducted at H.M. Ryacudu General Hospital in Kotabumi, North Lampung Regency, overall indicates a high and significant correlation between Incomplete Abortion and parity (birth frequency). This could potentially be attributed to a majority of pregnant women not using Long-Acting Reversible Contraception (LARC) and

adhering to myths/beliefs that equate more children with more blessings.

The researcher's opinion aligns with the notion that parity significantly affects abortion incidence. The study found that out of 49 respondents who had a parity of >4 times and experienced Incomplete Abortion, 42 individuals (85.7%) fell into this category. This is because as a person's parity increases, it affects their reproductive system. Frequent childbirth weakens the uterus, making it difficult to sustain conception, ultimately leading to a higher likelihood of abortion.

The Relationship Between Abortion History and Incomplete Abortion Incidents

Pregnant women with a history of previous abortions need to be cautious about the possibility of experiencing abortion again. Data from several studies show that after experiencing one abortion, a person has a 15% higher risk of experiencing another abortion. Pregnant women who have had two consecutive abortions have an even higher risk of abortion, with an increased risk of up to 25% (Prawirohardjo, 2020).

The occurrence of abortion is suspected to have an impact on subsequent pregnancies, both in terms of complicating the pregnancy and affecting the pregnancy outcomes. Women with a history of abortion have a higher risk of premature delivery and recurrent abortion.

This is supported by various studies that have explored the relationship between abortion history and the incidence of Incomplete Abortion by several researchers. For example, a study by Wilcox et al. (1988), as cited by Sarwono (2008), concluded that a study of 221 women followed over 707 total menstrual cycles found a total of 198 pregnancies, with 43 (22%) experiencing abortion before their next menstrual period. Other studies report that after one spontaneous abortion, couples have a 15% risk of experiencing another miscarriage, and if there have been two prior abortions, the risk increases to 25%. Some studies predict that the risk of abortion after three consecutive abortions is 30-45% (Sarwono, 2008).

The research conducted at H.M. Ryacudu General Hospital in Kotabumi, North Lampung Regency, overall indicates a high and significant correlation between Incomplete Abortion and a history of abortion.

According to the researcher's outlook, parity influences the occurrence of abortion in pregnancies strained by the presence of a fetus. If a woman gives birth too frequently, her uterus will become weaker.

CONCLUSION

This research was conducted to determine the relationship between age, gestational age, parity, and abortion history. After conducting analysis and statistical testing, the following conclusions were drawn:

1. There were 112 cases (67.1%) of incomplete abortion and 55 cases (32%) of non-incomplete abortion.
2. Pregnant women experiencing abortion were >35 years old, accounting for 89 individuals (53.3%), while those <35 years old were 78 individuals (46.7%).
3. Pregnant women experiencing abortion had gestational ages <12 weeks, totaling 135 individuals (80.8%), while those >12 weeks were 32 individuals (19.2%).
4. Pregnant women with ≥ 4 parity accounted for 42 individuals (25.1%), and those with <4 parity were 125 individuals (74.9%).
5. There were 49 pregnant women (29.3%) with a history of abortion and 118 pregnant women (70.7%) without a history of abortion.
6. There is a relationship between maternal age and the incidence of incomplete abortion at H.M. Ryacudu General Hospital in Kotabumi, North Lampung Regency, from 2020 to 2022. The statistical test result yielded a p-Value of 0.025, OR=2.233, (95% CI OR) 1.156 - 4.315.
7. There is a relationship between gestational age and the incidence of incomplete abortion at H.M. Ryacudu General Hospital in Kotabumi, North Lampung Regency, from 2020 to 2022. The statistical test result yielded a p-Value of 0.000, OR=4.762, (95% CI OR) 2.113 - 10.732.
8. There is a relationship between parity and the incidence of incomplete abortion at H.M. Ryacudu General Hospital in Kotabumi, North Lampung Regency, from 2020 to 2022. The statistical test result yielded a p-Value of 0.000, OR=9.250, (95% CI OR) 2.175 - 31.586.
9. There is a relationship between abortion history and the incidence of incomplete abortion at H.M. Ryacudu General Hospital in Kotabumi, North Lampung Regency, from 2020 to 2022. The statistical test result yielded a p-Value of 0.016, OR=2.840, (95% CI OR) 1.260 - 6.397.

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