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THE RELATIONSHIP BETWEEN AGE AND THE INCIDENCE OF PROLONGED LABOR IN MOTHERS IN GIVING BIRTH

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ABSTRACT

This study aimed to determine the relationship between age and the incidence of prolonged labor in women giving birth. The research method used was quantitative, with a descriptive analytical approach using a cross-sectional approach. The results showed that of 82 women giving birth, 40 respondents (48.8%) experienced prolonged labor. Most of the women who experienced prolonged labor were in the at-risk age group. Based on statistical testing, a p-value of 0.001 < 0.05 was obtained, thus H1 was accepted. It was concluded that there is a relationship between maternal age and the incidence of prolonged labor.

Keywords: Women Giving Birth, Prolonged Labor, Age

INTRODUCTION

Childbirth is a natural process involving a series of stages, the period from full cervical dilation to the birth of the baby (Wahidah, 2024). Labor that lasts too long can pose risks of complications for both the mother and the baby (Zanah & Hanim, 2025). One such risk is prolonged labor. Defined as labor exceeding 24 hours for primigravidae and 18 hours for multigravidae (Frianti et al., 2026), prolonged labor can lead to various complications such as infection, exhaustion, and maternal dehydration and may result in postpartum hemorrhage, which, in severe cases, increases the risk of maternal morbidity and mortality (Firdhauzy et al., 2024; Lubis & Sugiarti, 2021).

Prolonged labor remains a challenge in obstetric care due to the increased risk of complications for both mother and infant. Based on World Health Organization (WHO) data analysis, prolonged labor was a direct cause of childbirth complications in 2017, accounting for approximately 69,000 deaths or 2.8% of all maternal deaths worldwide (Ijabah et al., 2023), this situation indicates that, although the proportion is relatively small compared to other causes of maternal mortality, prolonged labor still warrants attention, as it can progress to more severe complications if not promptly recognized and managed.

In Indonesia, efforts to reduce the maternal mortality rate remain a priority in health development. Data from the Ministry of Health indicates a downward trend in the maternal mortality rate, falling from 390 per 100,000 live births in 1991 to 189 per 100,000 live births in 2020, while the figure reported for 2024 was 183 per 100,000 live births (Kemenkes, 2024).

According to profile reporting data from the West Java Health Office, the maternal mortality rate (MMR) across regencies and cities in 2024 stood at 749 cases or 98.60 per 100,000 live births representing a decrease of 43 cases compared to the 792

cases recorded in 2023. The leading causes of maternal death in 2024 were non-obstetric complications (29.11%), hypertension during pregnancy, childbirth, and the postpartum period (28.17%), obstetric hemorrhage (25.37%), other obstetric complications (10.15%), and other causes (0.53%) (Dinas Kesehatan Provinsi Jawa Barat, 2024).

Meanwhile, according to 2023 health profile data for Sukabumi Regency, the maternal mortality rate (MMR) rose from 32 per 100,000 live births in 2022 to 40. Of the 40 recorded maternal deaths, 15% (6 cases) occurred during pregnancy, 15% (6 cases) during childbirth, and 70% (28 cases) during the postpartum period. From 2021 to 2023, the causes of maternal death in Sukabumi Regency included hemorrhage, hypertension during pregnancy, infection, and cardiovascular disorders (Dinas Kesehatan Kabupaten Sukabumi, 2023).

Data from the working area of the Kalapanunggal Community Health Center in Sukabumi Regency indicates that no maternal deaths occurred in 2025. However, complications among women giving birth were still observed, specifically prolonged labor. Between July and December 2025, 40 cases of prolonged labor were recorded out of 442 deliveries across the seven villages served by the center. These findings demonstrate that, despite the absence of maternal deaths, prolonged labor remains an issue in childbirth services within the area. Although the global prevalence of prolonged labor is relatively low, it is a frequent cause of maternal morbidity and mortality, requiring prompt management and referral to facilities capable of handling obstetric and neonatal emergencies (Puskesmas Kalapanunggal, 2025).

Bleeding and infection are among the impacts that will occur if the mother experiences prolonged labor, this is based on the statement of Anggraini et al., (2023) which states that prolonged labor can pose a danger to the mother, the dangers that arise are intrauterine infection, postpartum hemorrhage, postpartum infection, trauma and injury to the mother's birth canal such as cervical tears and vaginal wall tears. Several studies have shown a relationship between maternal age and the duration of prolonged labor. Women who are older and too young tend to experience longer labor compared to women who are in their reproductive age (Firdhauzy et al., 2024).

Physiological changes in the mother's body are related to increasing age. The reproductive age that is not at risk is between 20 and 35 years old, because at this age the mother's reproductive organs are fully developed, making the mother's uterus ready to receive a pregnancy. In women under 20, the reproductive organs are not yet fully functional, making complications more likely. Furthermore, the strength of the perineal and abdominal muscles is not yet optimal, which often leads to complications during childbirth. Meanwhile, age over 35 is associated with the start of regeneration of body cells, especially in this case the endometrium, due to the biological age of the tissue and the presence of disease (Firdhauzy et al., 2024).

According to research conducted by Mandasari & Juniarty (2023) at Prabumulih City Hospital in 2021, the sample size was 326 people, the results of the chi-square analysis test showed $p = 0.000 < 0.05$, the results of the study showed that there was a relationship between age and the incidence of prolonged labor. Furthermore, research conducted by Firdhauzy et al., (2024) at the Galis Bangkalan Community Health Center stated that the results of the study were conducted with 122 respondents with most respondents aged <20 years and >35 years, the results of the chi-square analysis stated $p = 0.000 < 0.05$ which showed that there was a significant relationship between age and parity with the incidence of prolonged labor. Furthermore, supported by research

conducted by Atikah et al., (2026) at Nurul Anisa Maternity Hospital in 2025, in the period 2023 to 2024, 70 cases of prolonged labor were recorded from a total of 389 deliveries that occurred, the results of the chi-square analysis test showed p = 0.003 < 0.05, the results of the study stated that there was a significant relationship between several factors and the occurrence of prolonged labor, one of which was the mother's age.

However, findings from previous studies do not directly reflect conditions in every specific healthcare service area, as the characteristics of women in labor, social conditions, access to services, and the nature of healthcare provision vary by region. Data from the Kalapanunggal Community Health Center indicate that prolonged labor still occurs among women giving birth, although not all women in high-risk age groups experience it. This situation points to an empirical phenomenon requiring further investigation to determine whether maternal age is associated with the occurrence of prolonged labor among women giving birth in the Kalapanunggal Community Health Center's service area.

Given this context, research into the relationship between age and prolonged labor is crucial for obtaining empirical insight into the link between maternal age and this complication at the primary healthcare level. The novelty of this study lies in its examination of the relationship between maternal age and prolonged labor among women giving birth in the Kalapanunggal Community Health Center area Sukabumi Regency, specifically considering local population characteristics and conditions during the study period. This research is significant because its findings can provide midwives and healthcare professionals with information to identify women in labor based on age groups, heighten awareness regarding potential delays in labor progression, and support early detection and appropriate decision-making regarding referrals.

This study aims to determine the relationship between age and the occurrence of prolonged labor among women giving birth in the service area of the Kalapanunggal Community Health Center, Sukabumi Regency.

RESEARCH METHODS

The research method used was a quantitative method with a descriptive analytical type using a cross-sectional approach. The population in this study was all mothers giving birth at the PONED Kalapanunggal Health Center in 2025, totaling 82. The sampling technique used was total sampling. The independent variable was age, and the dependent variable studied was prolonged labor. Bivariate analysis used Chi Square.

RESULT

Table. 1
Characteristics of Maternal Age at Delivery

Age	F	%
Age at risk	37	45,1%
Not at risk	45	54,9%
Total	82	100,0%

Based on the table above, the results show that the majority of respondents are of a non-risk age, namely 45 respondents (54.9%).

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Table. 2
Distribution of Premature Labor Incidence

Premature Labor Incidence	F	%
Prolonged labor	40	48,8%
Normal	42	51,2%
Total	82	100,0%

Based on the table above, the results show that the majority of respondents did not experience prolonged labor, namely 42 respondents (51.2%).

Table. 3
The Relationship between Age and the Incidence of Prolonged Labor

Maternal Age at Birth	Prolonged labor				Total		P *Value*
	Prolonged labor		Normal				
	F	%	F	%	F	%	
Age at risk	33	40,2	4	4,9	37	45,1	
Not of risk	7	8,5	38	46,3	45	54,9	<
Total	40	48,8	42	51,2	82	100	0,001

Based on table 3, cross-tabulation results, of the 82 women giving birth, 40 (48.8%) experienced prolonged labor and 42 (51.2%) did not. The highest proportion of prolonged labor was found in the at-risk age groups, namely those aged <20 years and >35 years, with 33 (40.2%). Meanwhile, the non-risk age group, namely those aged 20-35 years, had the lowest proportion of prolonged labor, with 7 (8.5%).

Based on statistical testing using the chi-square test, the p-value was <0.001, which is lower than the 0.05 significance level. Therefore, H0 is rejected and H1 is accepted. Therefore, it can be concluded that there is a relationship between maternal age and the incidence of prolonged labor at the Kalapanunggal Community Health Center, Sukabumi Regency.

DISCUSSION

The Relationship Between Age and the Incidence of Prolonged Labor

The analysis revealed a relationship between maternal age and prolonged labor. The analysis showed that 40 women experienced prolonged labor, while 42 did not. The Chi-Square statistical test yielded a p-value of <0.001, meaning H0 was rejected and H1 was accepted. Therefore, it can be concluded that there is a significant relationship between maternal age and prolonged labor.

This occurs because maternal age is a factor that influences the labor process. Physiologically, mothers under the age of 20 have not yet fully reached reproductive maturity including the readiness of reproductive organs and the birth canal which can increase the risk of complications during labor; conversely, mothers over the age of 35 may experience a decline in reproductive physiological functions, such as uterine contractility, which can affect the progression of labor (Sagita & Sofiyanti, 2025). Meanwhile, mothers aged 20–35 generally fall within the healthy reproductive age range, a period when reproductive functions and the body's physiological condition are relatively optimal for childbirth (Pramiyana, 2026).

These findings are supported by research conducted by Haerati (2023) which identified a relationship between age and the duration of the second stage of labor (p-value = 0.009). Research by Sitohang et al., (2025) who found a significant relationship between maternal age and the duration of the first stage of labor (p-value = 0.029), and research by (Pardosi, 2023) who demonstrated a significant association between age and prolonged labor (p-value = 0.018).

Prolonged labor is a childbirth complication influenced by various factors, both maternal and fetal. In addition to maternal age, which was a variable in this study, according to, several other factors that may be associated with prolonged labor include parity, strength of contractions, fetal malposition or malpresentation, premature rupture of membranes, labor history, and late referral. Therefore, prolonged labor is influenced not only by maternal age but also by various other factors that need to be considered in prevention and management efforts during pregnancy and childbirth.

Based on the results of cross-tabulation analysis and statistical tests, it was found that mothers giving birth who are of healthy reproductive age, namely 20-35 years old, tend to have a lower risk of experiencing prolonged labor. Conversely, mothers who become pregnant and give birth at the age of less than 20 or more than 35 years old have a greater risk of experiencing prolonged labor. Age can influence the delivery process because mothers at risk generally do not or no longer have optimal physical and psychological conditions for pregnancy and childbirth. This condition can lead to complications during pregnancy that impact fetal growth and development, making the delivery process more difficult and longer.

Researchers hypothesize that the link between maternal age and prolonged labor indicates a relationship between age and the physiological readiness to undergo childbirth. Women aged 20–35 generally possess optimal physiological conditions and reproductive organ maturity, which tends to facilitate a smoother labor process. Consequently, maternal age should be a key factor considered during the monitoring of labor, particularly for women in high-risk age groups.

CONCLUSION

The majority of women giving birth fall into a non-at-risk age group and do not experience prolonged labor. There is a significant association between maternal age and the occurrence of prolonged labor.

SUGGESTIONS

Based on the research findings showing a relationship between age and the incidence of prolonged labor, health care facilities are expected to increase efforts to detect and monitor pregnant women in at-risk age groups through quality antenatal care and standardized delivery management. Further research is recommended to examine other factors that may influence the incidence of prolonged labor, such as parity, fetal weight, pelvic size, fetal position, maternal nutritional status, and the quality of uterine contractions, to obtain a more comprehensive picture of the factors associated with prolonged labor.

REFERENCE

Anggraini, W., Ashari, A., & Iriyani, E. (2023). Faktor Risiko Partus Lama pada Ibu Bersalin di RSUD Panembahan Senopati Bantul Periode Januari sampai Desember 2022. *Jurnal Ilmiah Indonesia*, *3*(11), 1119–1134. https://cerdika.publikasiindonesia.id/index.php/cerdika/article/view/708

Atikah, E., Rohmah, H. N. F., Widaningsih, I., & Wardani, I. K. F. (2026). Determinasi Partus Lama pada Ibu Bersalin di RSIA Nurul Anisa 2025. *Borneo Nursing Journal (BNJ)*, *8*(1), 2552–2559. https://doi.org/10.61878/bnj.v8i1.454

Dinas Kesehatan Kabupaten Sukabumi. (2023). Profil Kesehatan Kabupaten Sukabumi. *Profil Kesehatan Kabupaten Sukabumi Tahun 2023*, 273. https://opendata.sukabumikab.go.id/organisasi/dinas_kesehatan

Dinas Kesehatan Provinsi Jawa Barat. (2024). Profil Kesehatan Provinsi Jawa Barat Tahun 2024. *Dinas Kesehatan Provinsi Jawa Barat*, *400*, 268. https://diskes.jabarprov.go.id/profilkesehatan

Firdhauzy, A. R., Sulistyowati, D. W. ., Khasanah, U., & Ginarsih, Y. (2024). Hubungan Usia dan Paritas dengan Kejadian Partus Lama pada Ibu Bersalin di Puskesmas Galis Bangkalan. *Gema Bidan Indonesia*, *13*(2), 52–58. https://doi.org/10.36568/gebindo.v13i2.207

Frianti, N., Haslina, M. A. S., & Cahyani, W. O. M. G. (2026). Gambaran Kejadian Partus Lama pada Ibu Bersalin Di UPTD Puskesmas Bataraguru Kota Baubau Tahun 2021-2025. *JOMIS (Journal of Midwifery Science)*, *10*(2), 189–197. https://doi.org/10.36341/jomis.v10i2.7892

Haerati, H. (2023). Faktor yang Berhubungan dengan Persalinan Kala II Lama di RSUD dr. L Palaloi Kabupaten Maros. *Jurnal Pendidikan Keperawatan Dan Kebidanan*, *2*(1). https://doi.org/10.58901/jpkk.v2i1.511

Ijabah, N., Achyar, K., & Kusuma, I. R. (2023). Efektifitas Pemberian Perlakuan Posisi Miring Kiri dan Upright Position terhadap Percepatan Kemajuan Persalinan Kala I Fase Aktif pada Ibu Inpartu. *Jurnal Riset Kesehatan Masyarakat*, *3*(4), 171–183. https://doi.org/10.14710/jrkm.2023.18715

Kemenkes. (2024). *Profil Kesehatan Indonesia 2024*. Kementerian Kesehatan RI. https://kemkes.go.id/id/profil-kesehatan-indonesia-2024

Lubis, E., & Sugiarti, W. (2021). Hubungan Umur dan Paritas dengan Kejadian Partus Lama di RSB Permata Hati Metro Tahun 2019. *Bunda Edu-Midwifery Journal*, *4*(1), 23-30. https://doi.org/10.54100/bemj.v4i1.40

Mandasari, P., & Juniarty, E. (2023). Faktor-Faktor yang Berhubungan dengan Kejadian Persalinan Lama. *Jurnal STIKES Al-Ma'arif Baturaja*, *8*(2), 219–224. https://doi.org/10.52235/cendekiamedika.v8i2.234

Pardosi, M. (2023). Factors Associated with Prolonged Parturition. *Jurnal Penelitian Pendidikan IPA*, *9*(10), 9047–9055. https://doi.org/https://doi.org/10.29303/jppipa.v9i10.4299

Pramiyana, I. M. (2026). Efektivitas Mobilisasi Dini terhadap Kecepatan Involusi Uteri pada Ibu Post Partum dengan Persalinan Normal di Kabupaten Bondowoso. *Jurnal Dharma Praja*, *8*(1). http://www.jurnaldharmapraja.ac.id/index.php/ojs/article/view/102

Puskesmas Kalapanunggal. (2025). *Data Puskesmas Kalapanunggal*. Puskesmas Kalapanunggal. https://iahe.or.id/home/puskesmas/32030200047

Sagita, C. D., & Sofiyanti, I. (2025). Kehamilan Usia Terlalu Muda: Studi Asuhan Kebidanan Komprehensif terhadap Dampak Fisiologis dan Psikologis. *In Prosiding Seminar Nasional Dan CFP Kebidanan Universitas Ngudi Waluyo*, *4*(2), 2430–2437. https://callforpaper.unw.ac.id/index.php/semnasdancfpbidanunw/article/view/1845

Sitohang, T., Simbolon, G. A., & Silalahi, E. L. (2025). Hubungan Umur dan Paritas dengan Lama Kala I Persalinan. *Jurnal Ilmiah Pannmed (Pharmacist, Analyst, Nurse, Nutrition, Midwivery, Environment, Dentist)*, *20*(3), 223–227. https://doi.org/10.36911/pannmed.v20i3.2409

Wahidah, N. (2024). *Asuhan Sayang Ibu pada Masa Persalinan*. Bertuah Indonesia Berkarya. https://scholar.google.com/citations?view_op=view_citation&hl=en&user=gFlfD5QAAAAJ&citation_for_view=gFlfD5QAAAAJ:IjCSPb-OGe4C

Zanah, A. M., & Hanim, B. (2025). Penerapan Pijat Oksitosin untuk Mempercepat Proses Persalinan Pada Ibu Bersalin Ny X di Puskesmas Ukui. *Jurnal Penelitian Multidisiplin Bangsa*, *2*(6), 1002–1006. https://doi.org/10.59837/jpnmb.v2i6.626