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FAMILY FACTORS RELATED TO 4T PREGNANCY AT UPTD PUSKESMAS UBUNG IN 2024

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ABSTRACT
4T pregnancy defined as pregnancy occurring at too young an age (under 20 years), too old (over 35 years), too many children, or with birth intervals that are too close—remains a significant contributor to maternal and neonatal complications. This study aimed to analyze family-related factors associated with 4T pregnancy at UPTD Puskesmas Ubung, Central Lombok, Indonesia, in 2024. A quantitative cross-sectional design was employed using primary data collected through structured questionnaires and guided interviews. The study population consisted of all pregnant women attending antenatal care services at UPTD Puskesmas Ubung in 2024 (N = 108). A total of 85 respondents were selected using purposive sampling based on predefined inclusion and exclusion criteria. Data were analyzed using univariate analysis and chi-square tests with a significance level of $\alpha = 0.05$. The results indicated that multiparous mothers ($p = 0.047$), working mothers ($p = 0.023$), and mothers within the ideal reproductive age (20–35 years) ($p = 0.0001$) had a significantly lower risk of 4T pregnancy. In addition, good family knowledge ($p = 0.034$) and strong family support ($p = 0.015$) were significantly associated with a reduced risk of 4T pregnancy. This study concludes that family factors play a crucial role in mitigating the risk of 4T pregnancy. Future interventions should prioritize family-based reproductive health education and further longitudinal studies are recommended to explore causal relationships between family factors and high-risk pregnancy outcomes.

Keywords: 4T pregnancy, Education, Family factors, Reproductive health, Social support

INTRODUCTION
One category of high-risk pregnancy is known as "4 Too" or 4T pregnancy. 4T pregnancy refers to pregnancies occurring at too young an age, too old an age, with intervals between pregnancies that are too close, or with too many children. This condition can increase the risk of complications that endanger the mother or baby in the long term, which may occur during pregnancy, childbirth, and the postpartum period (Sekar Putri Kirana, Ratna Dwi Jayanti, 2023). According to data from the World Health Organization (WHO), complications during pregnancy and childbirth are one of the leading causes of maternal deaths in various countries, especially in developing countries like Indonesia. Data from the United Nations International Children's Emergency Fund states that 287,000 maternal deaths during pregnancy or childbirth were caused by complications from high-risk pregnancies or 4T pregnancies worldwide. Additionally, 21 million pregnant women experience 4T pregnancies (UNICEF, 2025)

The high maternal mortality rate (MMR) is not only a global issue but also a serious problem in Indonesia, where MMR reaches 189 per 1,000 live births. Riskesdas data (2018) reveals that 7.4% of pregnant women are under 20 years old, 28.9% are over 35 years old, 23.9% have pregnancy intervals of less than 2 years, and 18.4% have more than 2 children. One of the main causes of maternal death is complications during pregnancy. Factors that increase the risk of these complications include the pregnant woman's age being too young or

too old, pregnancy intervals that are too close, and too many children (Badan Pusat Statistik, 2023). West Nusa Tenggara (NTB) is one of the provinces in Indonesia with a relatively high maternal mortality rate (MMR) compared to the national average. Based on BPS data (2023), the maternal mortality rate in NTB increased in 2021 and 2022. In 2021, there were 144 cases, and in 2022, the maternal mortality rate reached 257 cases per 100,000 live births. Meanwhile, the maternal mortality rate in Central Lombok in 2022 and 2023 was 28 maternal deaths out of a total of 18,856 live births in 2022, and in 2023, there were 28 maternal deaths out of a total of 9,344 live births. Maternal mortality data in NTB and Central Lombok indicate that there are still high maternal mortality rates, especially in NTB in 2022 (Astika et al., 2025; Badan Pusat Statistik, 2022).

One form of social support in reducing the risk of 4T pregnancy is family social support. Family factors play a significant role in supporting the occurrence of 4T pregnancies. Families play an important role in 4T pregnancies. Increasing reproductive health education, open communication, and emotional support within the family can help reduce the risk of 4T pregnancies (Hazairin et al., 2021). The occurrence of high-risk pregnancies, known as "4 Too" (too young, too old, too many children, and birth intervals too close), is an important issue in maternal health in West Nusa Tenggara (NTB), especially in Central Lombok. Data from the Health Department shows the prevalence of chronic energy deficiency (CED) in pregnant women in Central Lombok Regency reaches 13.71% (Afriani et al., 2025). In Central Lombok, high-risk pregnancies with "4 Too" factors reach 24.6% of total pregnancies, consisting of 6.2% pregnant women who are too young (under 20 years), 7.4% too old (over 35 years), 5.8% too many children (more than three children), and 5.2% birth intervals too close (Dinas Kesehatan Provinsi NTB, 2022; Rosita et al., 2025).

Research conducted by (Hazairin et al., 2021) explains that pregnant women with the highest 4T risk are those over 35 years old at 63.19%, compared to normal pregnancies or deliveries, and pregnant women with multiparous parity at 43.62% are the most vulnerable. It is recommended that health workers, especially midwives, actively identify potentially dangerous pregnancies during antenatal visits. Therefore, to reduce MMR in Indonesia, midwives must educate pregnant women about 4T risk factors to help them avoid pregnancy complications that can lead to maternal death. The results of a preliminary study conducted at the KIA Clinic of Puskesmas Ubung showed that out of 10 pregnant women interviewed, there were 2 pregnant women under 20 years old and 3 pregnant women over 35 years old with parity more than 4. Overall, most respondents received support from their families, especially husbands, in various forms such as accompanying them to pregnancy check-ups (30%).

The lack of knowledge about reproductive health, cultures or habits that do not support maternal health, and low access to quality health services are some of the main factors influencing the high rate of high-risk pregnancies. Despite the growing body of evidence highlighting maternal characteristics as determinants of high-risk pregnancy, empirical studies that specifically examine family-related factors such as family knowledge and family support in the context of 4T pregnancy at the primary healthcare level remain limited, particularly in rural and semi-rural settings of Indonesia. Previous studies have predominantly focused on individual maternal risk factors, with less attention given to the role of the family as the primary decision-making unit in maternal health care.

In the context of Indonesian society, families play an important role in decision-making related to health, including pregnancy. The involvement of husbands, parents, and other family members often determines the health of pregnant women. Central Lombok represents a unique context where cultural norms, family dynamics, and access to maternal health services interact to influence pregnancy outcomes. To date, no local study has comprehensively explored how family knowledge and support contribute to the occurrence of 4T pregnancy at UPTD Puskesmas Ubung, despite the persistently high prevalence of high-risk pregnancies in this

area. Therefore, this study is necessary to fill the existing knowledge gap by providing location-specific evidence on family factors associated with 4T pregnancy, which can inform targeted, family-based maternal health interventions at the primary healthcare level.

METHODS

This study is a quantitative research design with a cross-sectional approach, in which all variables were measured simultaneously to identify relationships between independent and dependent variables. The study was conducted in December 2024 at the Maternal and Child Health (KIA) Clinic of UPTD Puskesmas Ubung. The independent variables included parity, occupation, maternal age, education level, family knowledge, and family support. The dependent variable was the incidence of 4T pregnancy (too young, too old, too many children, and birth spacing that is too close). The study population consisted of all pregnant women who attended antenatal care at UPTD Puskesmas Ubung in 2024, totaling 108 individuals. A purposive sampling technique was used, resulting in a sample of 85 pregnant women. Inclusion criteria were: (1) pregnant women registered at UPTD Puskesmas Ubung, (2) willing to participate in the study, (3) able to communicate effectively, and (4) having complete antenatal records. Exclusion criteria included: (1) pregnant women with severe medical or obstetric complications requiring referral, (2) respondents who were unwilling to complete the questionnaire, and (3) incomplete data.

Data collection was carried out using structured questionnaires and guided interviews. The results of the questionnaire validity test conducted on 15 respondents showed that the family knowledge and family support questionnaires demonstrated good item correlations, with all items meeting the validity criteria, as indicated by calculated correlation coefficients (r-count) exceeding the r-table value (0.444). Furthermore, the reliability test results revealed Cronbach's alpha values of 0.928 for the family knowledge questionnaire and 0.823 for the family support questionnaire. These findings indicate that both questionnaires are reliable instruments for data collection. The questionnaire consisted of several sections:

1. Maternal characteristics, including parity, age, occupation, and education;
2. Family knowledge, which assessed understanding of 4T pregnancy risks, safe reproductive age, ideal birth spacing, and potential pregnancy complications;
3. Family support, which measured emotional, informational, and instrumental support provided by family members, particularly husbands, during pregnancy.

The interviews were conducted to clarify and validate respondents' answers related to family involvement, decision-making in pregnancy care, and support received during antenatal visits. The questionnaire was tested for validity and reliability prior to data collection. This study has received ethical clearance from the Health Research Ethics Committee, with ethical approval number: 017/KEPK/FKESUNIQHBA/XI/2024. All respondents provided informed consent before participation, and confidentiality of data was strictly maintained. Data were analyzed using univariate and bivariate analyses. The chi-square test was applied to determine the relationship between independent variables and the incidence of 4T pregnancy, with a significance level set at $\alpha = 0.05$.

RESULTS

A. Variable Characteristics

The characteristics used in this study include parity, occupation, age, and education of pregnant women. The description of the characteristics of the subjects is as in Table 1.

Tabel 1 Frequency Distribution of Respondents Based on Respondent Characteristics

Characteristics	Number (n)	Percentage (%)
Parity		
Primipara	22	26

Multipara	63	74
Occupation		
Employed	60	71
Unemployed	25	29
Age		
Adolescent	13	15
Ideal reproductive age	59	70
Advanced reproductive age	13	15
Education		
Low education	7	8
Middle education	74	87
High education	4	5

Based on the table above, the parity characteristics show that most respondents were multiparous (2–4 pregnancies), totaling 63 people (74%), while only 22 people (26%) were primiparous (1 pregnancy). This indicates that the majority of respondents already have more than one child. The employment characteristics show that most respondents, 60 people (71%), were employed, while 25 people (29%) were unemployed (housewives). This suggests that the majority of respondents were engaged in work activities outside the household.

The age characteristics indicate that most respondents were within the ideal reproductive age range (20–35 years), totaling 59 people (70%), while 13 people (15%) were categorized as adolescents (<20 years) and advanced reproductive age (>35 years). This illustrates that the respondents involved in the study were generally at an ideal age for childbearing.

The educational characteristics show that most respondents had a secondary education level (equivalent to senior high school), totaling 74 people (87%). Meanwhile, 7 people (8%) had a low education level (elementary or junior high school), and 4 people (5%) had a higher education level (≥Diploma/Bachelor/Master/Doctorate). This indicates that the majority of respondents had a secondary level of education. Overall, the total number of respondents involved in this study was 85 people, representing various backgrounds in terms of occupation, age, parity, and education.

B. Bivariate Analysis

The following are the result of the chi square statistical tets as follows.

Tabel 2 Statistical Test Results

Independent Variables	Incidence 4T				Total	%	Statistical test	
	Not at risk		At risk				α	p-value
	F	%	F	%				
Parity								
Primipara	13	15	9	11	22	26	0,05	0,047
Multipara	22	26	41	48	63	74		
Occupation								
Employed	20	24	40	47	60	71	0,05	0,023
Unemployed	15	17	10	12	25	29		
Age								
Adolescent	13	15	0	0	13	15	0,05	0,0001
Ideal reproductive age	9	11	50	59	59	70		
Advanced reproductive age	13	15	0	0	13	15		
Education								
Low education	6	7	1	1	7	8	0,05	0,013

Middle education	26	31	48	56	74	87		
High education	3	4	1	1	4	5		
Family knowledge								
Good	20	24	17	19	37	43	0,05	0,034
Not good	15	18	33	39	48	57		
Family support								
Good	10	12	28	33	38	45	0,05	0,015
Not good	25	29	22	26	47	55		

Based on the results of the analysis, the relationship between parity characteristics showed that the majority of respondents were multiparous mothers, namely those who had experienced two to four pregnancies, totaling 63 people (74%). Among the multiparous mothers, most experienced pregnancies at risk of the 4T condition, totaling 41 people (48%). This indicates that although multiparous mothers were the majority in this study, they tended to experience a higher risk of 4T pregnancies. The p-value for the relationship between parity and the incidence of 4T was 0.047, indicating a significant relationship between the two variables.

Regarding maternal occupation, most respondents, 60 people (71%), were working mothers, while 25 people (29%) were housewives. Among the working mothers, the majority experienced pregnancies at risk of 4T, totaling 40 people (47%). Nevertheless, the relationship between maternal occupation and the incidence of 4T also showed significance, with a p-value of 0.023, which is less than 0.05. This indicates that maternal occupation is associated with the level of risk for 4T incidence.

In terms of age characteristics, the majority of respondents were within the ideal reproductive age range of 20 to 35 years, totaling 59 people (70%). Among mothers in this age group, most experienced pregnancies at risk of 4T, totaling 50 people (59%). These results suggest that even mothers of ideal reproductive age have the potential to experience 4T pregnancy risks. The p-value obtained for the relationship between maternal age and the incidence of 4T was 0.0001, which is less than 0.05, indicating a significant relationship between maternal age and the incidence of 4T.

Regarding educational characteristics, most respondents had a secondary education level, totaling 74 people (87%). Among mothers with secondary education, the majority experienced pregnancies at risk of 4T, totaling 48 people (56%). This finding indicates that maternal education also plays a role in influencing the risk of 4T incidence. The p-value for the relationship between maternal education and the incidence of 4T was 0.013, which also indicates a significant relationship.

Based on the data obtained, the majority of families had good knowledge, totaling 48 people (57%), as they were able to answer the questionnaire with a score above 60. This good level of knowledge reflects adequate family understanding regarding the 4T issue. Among families with good knowledge, most experienced pregnancies that were not at risk of 4T, totaling 33 people (39%). This shows that adequate knowledge can play an important role in reducing the risk of 4T among pregnant women. Pregnancies that are not at risk also reflect the family's readiness to provide appropriate support to pregnant mothers, particularly in monitoring health factors related to the causes of 4T. The statistical test results showed a p-value of 0.034 (<0.05), indicating a significant relationship between family knowledge and the incidence of 4T. In other words, the better the family's knowledge about health and pregnancy, the lower the likelihood of 4T occurrence.

Regarding the relationship between family support and the incidence of 4T, the data showed that the majority of families provided good support, totaling 28 people (33%). This result indicates a fairly good level of understanding, as they successfully answered the questionnaire with a score above 60, reflecting their awareness of the importance of the

family's role in supporting pregnant women to prevent 4T risks. The data also showed that the 28 mothers who received good family support were not in a condition at risk of 4T incidence.

DISCUSSION

A. Characteristics of Pregnant Women

The table above shows that the majority of respondents in this study were classified as multiparous, totaling 63 people (74%), while the remaining 22 people (26%) were primiparous. This data indicates a pattern of parity among pregnant women, where multiparous women are more dominant than primiparous women.

Theoretically, multiparous women face a higher risk of pregnancy complications, particularly those related to the "4T" risk factors (too young, too old, too close between pregnancies, and too many children). This risk becomes more significant when a woman has had four or more children. Such conditions are caused by the decline in physical condition and reproductive organ function due to repeated pregnancies. This decline can affect the body's ability to maintain a healthy pregnancy, thereby increasing the likelihood of complications such as bleeding, preeclampsia, or preterm labor (Cunningham, F. G., Leveno, K. J., Bloom, S. L., Spong, C. Y., Hauth, J. C., & Rouse, 2022)

Other studies, such as that conducted (Hazairin et al., 2021) also found that most research subjects were multiparous women. These findings support the fact that multiparous parity is more commonly found, especially in areas with high birth rates. Therefore, special attention should be given to this group, considering their higher risk of pregnancy complications compared to primiparous women.

The majority of respondents in this study were working mothers, totaling 60 people (71%). Work activities, especially those requiring heavy physical effort or causing stress, can affect the physical and psychological condition of pregnant women. Such conditions have the potential to increase fatigue, which may trigger pregnancy complications and affect fetal health. However there ara study found that working pregnant women can maintain a balance between work and health if they receive emotional and logistical support from their families (Mutawtah et al., 2023).

Most respondents were within the ideal reproductive age range, totaling 59 people (70%). In contrast, a smaller proportion of respondents were in their teenage years (<20 years) or advanced reproductive age (>35 years), each totaling 13 people (15%). Theoretically, the ideal reproductive age (20–35 years) is considered the safest period for pregnancy because the reproductive organs are in optimal condition. Meanwhile, teenage and advanced reproductive ages tend to have a higher risk of complications, including the "4T" factors, due to physical and psychological unpreparedness (Cunningham, F. G., Leveno, K. J., Bloom, S. L., Spong, C. Y., Hauth, J. C., & Rouse, 2022).

The results of this study support this theory, showing that mothers within the ideal reproductive age have a lower risk of complications. However, the findings also indicate that pregnant women outside the ideal age range who receive family support can still reduce the risk of complications. This finding aligns with the study by (Hazairin et al., 2021) which emphasizes the importance of family support in maintaining maternal health during pregnancy.

Most respondents had a secondary level of education (74 people or 87%), while the rest had low education (8%) and higher education (5%). The level of education influences a mother's understanding of pregnancy and the "4T" risk factors. Mothers with secondary or higher education are generally more aware of the importance of regular prenatal check-ups and healthy lifestyles (Natsir et al., 2025). This study shows that the predominance of respondents with secondary education contributes to a lower risk of "4T," as they tend to be more receptive to health education. This is supported by the findings of (Pakpahan, 2025) who stated that

mothers with secondary or higher education are more responsive to information provided by healthcare professionals.

Based on the results of this study, the researchers conclude that family support plays a crucial role in reducing the risk of "4T," regardless of characteristics such as parity, occupation, age, and education level. Therefore, family-based interventions should be an integral part of maternal and child health programs. Education and capacity building for families in supporting pregnant women are essential to ensure the health of both mother and fetus under various pregnancy conditions.

B. The Relationship Between Respondents Characteristics and the Incidence of 4T

1. The Relationship Between Parity Characteristics and the Incidence of 4T

This study aims to identify the relationship between maternal characteristics—such as parity, occupation, age, and education level and the risk of pregnancy complications known as the 4T (too young, too old, too close birth spacing, and too many children). The analysis results indicate that each characteristic has a significant relationship with the risk of 4T, suggesting that these factors require attention in efforts to prevent pregnancy complications.

The majority of respondents in this study were multiparous mothers (74%), of whom 48% did not experience the risk of 4T. However, a p-value of 0.047 indicates a significant relationship between parity and the incidence of 4T. Theoretically, multiparous mothers, especially those with more than four births, are at higher risk of pregnancy complications due to decreased reproductive organ function following repeated pregnancies (Cunningham, F. G., Leveno, K. J., Bloom, S. L., Spong, C. Y., Hauth, J. C., & Rouse, 2022). Another study also found that multiparous mothers are more susceptible to complications compared to primiparous mothers, although the level of risk is influenced by the mother's overall health condition and family support (Hazairin et al., 2021).

2. The Relationship Between Occupational Characteristics and the Incidence of 4T

A total of 71% of respondents were working mothers, with 47% of them not experiencing the risk of 4T. Nevertheless, the analysis showed a significant relationship between occupation and the risk of 4T, with a p-value of 0.023. Working mothers tend to be more vulnerable to stress and fatigue, especially if their jobs require heavy physical labor, which can affect pregnancy conditions. Emotional and logistical support from the family plays an important role in maintaining a balance between work and health during pregnancy, as emphasized by the study of (Mutawtah et al., 2023).

3. The Relationship Between Maternal Age Characteristics and the Incidence of 4T

The majority of respondents were within the ideal reproductive age range (20–35 years), accounting for 70%, with 59% of them not experiencing the risk of 4T. The ideal reproductive age is considered the best period for pregnancy because the reproductive organs are in optimal condition. Conversely, mothers in their teenage years (<20 years) or advanced reproductive age (>35 years) face a higher risk of complications due to physical or psychological unpreparedness (Cunningham et al., 2024). A p-value of 0.0001 indicates a significant relationship between age and the risk of 4T, emphasizing the importance of pregnancy within the ideal reproductive age range. This finding aligns with the study by (Hazairin et al., 2021) which highlights the importance of reproductive age awareness in reducing pregnancy risks.

4. The Relationship Between Educational Level Characteristics and the Incidence of 4T

In terms of education, the majority of respondents had a secondary education level (87%), with 56% of them not experiencing the risk of 4T. A higher level of education is associated with a better understanding of healthy pregnancy, the importance of antenatal care, and pregnancy risk management (Sherly Mutiara, Erika Fariningsih & Indah, 2022). A p-value of 0.013 indicates a significant relationship between education level and the risk of 4T. The

study also found that mothers with secondary or higher education are more responsive to health education, thus having a lower risk of complications compared to mothers with lower education levels.

Overall, this study reveals that maternal characteristics including parity, occupation, age, and education level are significantly associated with the risk of 4T. Mothers with high parity, physically or mentally demanding jobs, age outside the ideal reproductive range, and low education levels have a greater risk of experiencing pregnancy complications. Nevertheless, optimal family support and proper health education can play an important role in reducing these risks, providing mothers with a greater opportunity to experience a healthy pregnancy.

C. The Relationship Between Family Knowledge and the Incidence of 4T

The study results indicate a significant relationship between the level of family knowledge and the risk of 4T during pregnancy (p-value = 0.034, $\alpha = 0.05$). Data in Table 4.3 reveal that the majority of families (57%) had a good level of knowledge. Among this group, 39% supported pregnancies without the risk of 4T. Conversely, in families with lower levels of knowledge (43%), the percentage of pregnant women at risk of 4T was higher (24%) compared to those not at risk (19%).

Family knowledge about pregnancy particularly regarding the 4T risks (too young, too old, too close, and too many children) plays a crucial role in preventing pregnancy complications. Families with good knowledge tend to better understand the importance of pregnancy planning, regular antenatal check-ups, adequate maternal nutrition, and effective management of maternal health risks.

These findings align with the theory that family health education can enhance awareness and promote positive behaviors related to pregnancy. Adequate knowledge enables families to provide the emotional and logistical support needed by mothers during pregnancy, thereby reducing the risk of complications associated with 4T (Cunningham, F. G., Leveno, K. J., Bloom, S. L., Spong, C. Y., Hauth, J. C., & Rouse, 2022).

This result is also supported by (Hazairin et al., 2021) who found that families with higher knowledge levels play a significant role in reducing pregnancy complications. Their study emphasized that families actively supporting pregnant women—by encouraging regular antenatal visits and adhering to medical advice—contribute to lowering the incidence of 4T. Similarly, highlighted that family health education not only improves understanding but also fosters healthy habits in supporting pregnant women, such as maintaining safe birth spacing and promoting pregnancy within the ideal reproductive age (Sherly Mutiara, Erika Fariningsih & Indah, 2022).

On the other hand, families with low knowledge levels tend to overlook warning signs of pregnancy complications, increasing the risk of 4T. A study revealed that low knowledge is often linked to limited access to information, low formal education levels, and cultural factors that discourage family involvement in maternal health care (Pakpahan, 2025).

Based on these findings, family knowledge can be considered a key factor in preventing 4T risks. Families with good understanding of pregnancy are more likely to provide optimal support to pregnant women through health monitoring, dietary management, and ensuring access to adequate healthcare services. Conversely, families with low knowledge levels may increase the risk of complications that endanger both maternal and infant health.

This study also highlights the importance of health education interventions that directly involve families. Improving access to health information and education especially for families with low knowledge levels can be an effective strategy to reduce the risk of 4T. Therefore, close collaboration between healthcare providers and families is essential to support healthy pregnancies. This conclusion reinforces that family health education is an effective preventive

effort to reduce pregnancy complications and promote the well-being of both mothers and babies.

Recent literature emphasizes that family involvement is a critical determinant of maternal health outcomes, particularly in preventing high-risk pregnancies. Studies published within the last decade have demonstrated that family knowledge and social support significantly influence antenatal care utilization, pregnancy planning, and risk perception among pregnant women (Mutawtah et al., 2023; UNICEF, 2021; WHO, 2016). Family-centered approaches have also been shown to reduce pregnancy-related complications by improving decision-making and adherence to medical recommendations.

Furthermore, adequate family knowledge regarding reproductive health enables families to recognize early warning signs of pregnancy complications and supports informed decision-making. A systematic review by BMC Pregnancy and Childbirth reported that women who received consistent family support experienced better pregnancy outcomes and lower levels of stress, which are known contributors to high-risk pregnancies. These findings align with the Social Support Theory proposed by House, which emphasizes emotional, informational, and instrumental support as key mechanisms for improving health outcomes.

In the Indonesian context, where family structures play a dominant role in health-related decisions, strengthening family-based interventions may be particularly effective. Therefore, integrating family education into antenatal care programs at the primary healthcare level is essential to reduce the incidence of 4T pregnancy.

D. The Relationship Between Family Support and the Incidence of 4T

The results of this study indicate a significant relationship between family support and the incidence of 4T pregnancy that occurs too young, too old, too close, or with too many children (p-value = 0.015; $\alpha = 0.05$). Based on the data, families providing good support showed a higher proportion of pregnant women not at risk of 4T, totaling 28 individuals (33%), compared to those at risk, which was only 10 individuals (12%). Conversely, in families with poor support, the number of pregnant women at risk of 4T was higher 25 individuals (29%) compared to those not at risk, which was 22 individuals (26%).

The findings of this study reinforce previous international evidence indicating that family-related factors are pivotal in reducing pregnancy risks. Studies conducted in low- and middle-income countries have shown that strong family support improves maternal health behaviors, including timely antenatal visits and adherence to nutritional recommendations, thereby reducing pregnancy complications (Mutawtah et al., 2023; WHO, 2016).

These findings highlight the crucial role of family support in preventing the risk of 4T among pregnant women. Good family support not only involves emotional care but also includes fulfilling the physical and health needs of the mother. Examples of such support include encouraging regular antenatal check-ups, ensuring adequate nutrition, and helping manage stress during pregnancy. Families who are caring and actively involved in the pregnancy process can help mothers experience a healthy and safe pregnancy.

This finding aligns with the theory that social support, including family support, is one of the main determinants of maternal health . Adequate support provides emotional security, encouraging pregnant women to adhere more closely to medical recommendations. Furthermore, supportive families can help identify pregnancy risks early and take preventive measures (Mutawtah et al., 2023). This is consistent with the “Social Support Model” proposed by House (1981), which emphasizes that social support enhances an individual’s ability to cope with health challenges.

Pregnant women who received family support tended to have more positive pregnancy outcomes compared to those who lacked such support. In that study, family support was associated with increased frequency of antenatal visits and a reduced risk of complications such

as anemia and hypertension during pregnancy, which are often contributing factors to the occurrence of 4T.

Furthermore, families with low education levels or limited access to health information often provided inadequate support to pregnant women. In such conditions, pregnant women tend to receive insufficient attention, thereby increasing the risk of 4T. This lack of support highlights the need for more intensive interventions to improve family knowledge about maternal health.

Based on the findings of this study and previous research, it can be concluded that family support plays a crucial role in preventing the occurrence of 4T. Strong support enhances family awareness of the importance of maintaining maternal health, both through direct education from healthcare professionals and through broader access to health information. Conversely, limited family support is often caused by a lack of understanding of pregnancy risks, restricted access to information, and cultural factors that do not encourage active family involvement in supporting pregnant women.

To address this issue, the researchers propose family-based interventions such as training or health education programs for families. Such programs are expected to improve the quality of support provided to pregnant women, thereby significantly reducing the risk of 4T. This study also emphasizes the need for synergistic collaboration between healthcare providers, families, and communities to create an environment that supports healthy and safe pregnancies.

CONCLUSION

Based on the study that has been carried out, it is obtained :

1. The majority of pregnant women were multiparous (74%), employed (71%), within the ideal reproductive age range (70%), and had a secondary education level (87%).
2. Multiparous parity, employment, ideal reproductive age, and secondary education were associated with a lower risk of 4T pregnancy. Good knowledge (p=0.034) and strong family support (p=0.015) also significantly reduced the incidence of 4T pregnancies.
3. Good family knowledge was significantly associated with a reduced risk of 4T pregnancy (p=0.034).
4. Strong family support was significantly associated with a decreased incidence of 4T pregnancy (p=0.015).

This study demonstrates that maternal characteristics and family factors—particularly family knowledge and family support—are significantly associated with the risk of 4T pregnancy. Good family knowledge and strong family support contribute to a lower incidence of high-risk pregnancy.

Future research is recommended to employ longitudinal or mixed-method designs to better explore causal relationships between family factors and pregnancy outcomes. Additionally, intervention-based studies focusing on family-centered education programs are needed to evaluate their effectiveness in reducing 4T pregnancy at the community and primary healthcare levels.

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