

# The Relationship of Pregnant Women's Knowledge of Pregnancy Emergency Signs with Compliance in Antenatal Care (ANC) Examinations in the Working Area of the Sipatana Health Center

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## Article Info

### Article history:

Received 16 Dec, 2025

Revised 19 Jan, 2026

Accepted 04 Mar, 2026

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### Keywords:

Toxic Parenting, Mental Health, Adolescents

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## ABSTRACT

Adolescence is a transition period that is susceptible to various emotional and psychological changes, so it requires the support of a healthy family environment. One of the factors that affect adolescent mental health is parental parenting. Toxic parenting is a form of negative parenting characterized by excessive control, criticism, and a lack of emotional support, which can affect the psychological well-being of adolescents. This study aims to find out the relationship between toxic parenting and mental health in adolescents. The research instruments were in the form of a toxic parenting questionnaire and a Strength and Difficulties Questionnaire (SDQ). The results showed that most adolescents experienced a moderate level of toxic parenting (65.9%), while a weak level was (34.1%). Adolescent mental health conditions are mostly in the borderline (48.8%) category, followed by the abnormal (36.6%) and normal (14.6%) categories. The results of the Chi-square test showed a p-value = 0.002 (< 0.05), which indicates that there is a significant relationship between toxic parenting and adolescent mental health. In conclusion, the higher the level of toxic parenting, the greater the risk of mental health disorders. It is recommended that parents implement positive parenting that is oriented towards emotional support and open communication to support adolescent mental health.

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## INTRODUCTION

Pregnancy is a process that occurs in productive women, and it will bring about a variety of changes, including physical and psychological changes, in reaction to pregnancy. The natural and physiological processes that occur in women are characterized by fertilization, which is the process of forming a zygote and finally becoming a fetus that will develop in the uterus until the labor process occurs. During pregnancy, pregnant women will experience physiological and psychological changes that make pregnant women need information from health workers about the condition of the mother and the fetus she is carrying (Herliani et al., 2024).

Globally, the World Health Organization (WHO) notes that more than 295,000 women die each year from complications of pregnancy and childbirth. This figure is mostly in developing countries and is very likely to be prevented with appropriate and education-based interventions (UNICEF, 2022). The Maternal Mortality Rate (MMR) in Indonesia has decreased significantly, from 346 per 100,000 live births in 2010 to 189 per 100,000 live births in 2020 or by 45 percent in the last ten years. Although this figure has not reached the target of 183 per 100,000 live births, efforts to achieve the target of the RPJMN (National Medium-Term Development Plan) look optimistic to be achieved.

The number of maternal deaths in Gorontalo Province is 197.7 per 100,000 KH in 2022 and in 2023 it is 138.9 per 100,000 KH, where Bone Bolango Regency is the highest, at 323.8 per 100,000 KH, and the lowest, Gorontalo City, at 61.7 per 100,000 KH. Meanwhile, the number of infant deaths in 2023 is 8.6 per 1,000 KH,

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where Bone Bolango Regency is the highest at 21.4 per 1,000 KH and the lowest is Gorontalo Regency at 2.7 per 1,000 KH, while Gorontalo City is 8 per 1,000 KH. The most common causes of maternal death are Eclampsia and Bleeding, for the most common causes of infant death itself are BBLR & Asphyxia (Gorontalo Provincial Health Office, 2024). The highest number of maternal deaths in Gorontalo City in 2023 occurred at the Sipatana Health Center where the causes of maternal mortality include anemia and heart, while in 2025 until October the maternal mortality rate is 180.6 per 100,000 KH and the infant mortality rate is 14.4 per 1,000 KH, where the AKB in Sipatana is 10.1 per 1,000 KH (Gorontalo City Health Office, 2025).

The main causes of AKI in Indonesia include bleeding, eclampsia, sepsis, and childbirth complications which are often preceded by pregnancy danger signs that are not properly recognized by pregnant women and health workers. This cause can be detected through structured and quality Antenatal Care (ANC) services. ANC screening allows for early identification of pregnancy problems so that treatment can be provided in a timely manner (WHO, 2023).

The low number of ANC visits is caused by several factors such as the quality of ANC services that do not meet expectations, lack of motivation and awareness of mothers to access information, socio-economic factors and distance to health facilities, lack of medical tools and facilities in ANC services, lack of active health workers in education and lack of knowledge of pregnant women regarding the importance of ANC in early detection of signs of pregnancy emergency, resulting in an increased risk of anemia in pregnant women, stunting incidence in children, complications of pregnancy and childbirth, and maternal and child mortality (Sholikah et al., 2023).

Assessment of the implementation of health services for pregnant women can be done by looking at the scope of K4. K4 coverage is the number of pregnant women who have received antenatal services according to the standard at least four times according to the recommended schedule in each trimester (Ministry of Health of the Republic of Indonesia, 2024). Based on the Indonesian Health Profile, pregnant women's (K4) health services nationally in 2023 are 85.6%, almost reaching the RPJMN (National Medium-Term Development Plan) target of 90%. Data in Gorontalo Province in 2023 shows that the coverage of ANC K4 visits has only reached 78%, which means that there are still a third of pregnant women who do not receive complete ANC services. This shows that the health education system is still weak at the primary level (Ministry of Health of the Republic of Indonesia, 2024). Data in Gorontalo City in 2025 until October shows K4 data as much as 56% and the Puskesmas with the highest to lowest coverage in a row, namely Pilododaa Health Center (72%), Duingingi Health Center (67%), North City Health Center (65%), East City Health Center (64%), Hulonthalangi and Dumbo Raya Health Center (53%), Central City Health Center (52%), West City Health Center (49%), South City Health Center (45%), Sipatana Health Center with 36% (Gorontalo City Health Office, 2025).

The lack of ANC visits is influenced by the low knowledge of pregnant women, especially regarding the importance of ANC in the early detection of signs of pregnancy emergencies (Affindha & Arifah, 2024; Sadiman & Islamiyati, 2024). Mother's knowledge of these danger signs is a key factor in making decisions to seek medical help (Ajabmoh et al., 2021). Lack of maternal knowledge can result in pregnant women not recognizing pregnancy danger signs, late decision-making for referral to health facilities, low participation in ANC programs and pregnant women's classes and increased risk of untreated pregnancy complications. Lack of knowledge makes pregnant women and their families unable to recognize and respond quickly to dangerous conditions, which can lead to serious complications up to the death of the mother or fetus (Sholikah et al., 2023).

Signs of pregnancy emergencies that need to be known include vaginal bleeding, severe abdominal pain, high fever, seizures, and decreased fetal movements. These signs occur due to several factors, such as socio-economic factors, maternal health, environmental and cultural health services, and maternal knowledge factors. A pregnant woman's lack of knowledge about pregnancy hazards and care is a major factor in obstetric emergencies. Research by Kurniawati et al. (2022) shows that pregnant women with low knowledge of pregnancy danger signs are more likely to not seek immediate medical help, which contributes to maternal morbidity and mortality (Kurniawati et al., 2022).

Good knowledge of the signs of an emergency is believed to increase the motivation of pregnant women to be obedient in conducting ANC examinations (Wahyuningsih & Linggardini, 2022). Research conducted in Mamuju showed a significant relationship between pregnant women's knowledge of pregnancy danger signs and compliance in conducting ANC visits. The results of the study indicated that mothers with a good level of knowledge were more likely to have a complete ANC examination (Susanti, 2023).

Based on an initial survey conducted at the Sipatana Health Center, the total number of pregnant women at the Puskesmas in 2025 was 102. Initial interviews were conducted with 6 pregnant women and the results showed that 4 pregnant women did not comply with the pregnancy check (ANC) and all of them had poor knowledge of the signs of pregnancy emergencies such as bleeding and blood pressure as well as the risk of emergencies and proper handling of emergencies during pregnancy. From the results of observations at the Sipatana Health Center, it is known that most pregnant women come to the health center only when there are serious complaints, and not for routine check-ups. This shows a weak understanding of the importance of early detection of pregnancy complications. Based on the description above, the research was interested in conducting a study entitled "The Relationship of Pregnant Women's Knowledge of Pregnancy Emergency Signs with Compliance in Antenatal Care (ANC) Examinations in the Work Area of the Sipatana Health Center".

## RESEARCH METHODS

This research was carried out at the Sipatan Health Center, Gorontalo City, on May 21 – June 06, 2025. The type of quantitative research uses a cross-sectional research design. The sampling technique in this study used purposive sampling with a sample of 51 respondents from a population of 102 respondents. This research instrument used a questionnaire to see the respondents' knowledge of the signs of pregnancy emergency and the KIA Book for compliance in the ANC examination.

## RESEARCH RESULTS

### Univariate Analysis

#### Characteristics of Respondents Based on Demographic Data

Table 1. Characteristics of respondents by age

Yes	Age	Frequency (n)	Percentage (%)
1	21-30 years old	24	47.1
2	31-40 years old	27	52.9
<b>Total</b>		<b>51</b>	<b>100</b>

Source: Primary Data 2025

Based on the table above, about the class level, most of the respondents in the age group of 31-40 years were 27 respondents (52.9%), the rest of the age group of 21-30 years were 24 respondents (47.1%).

Table 2. Characteristics of respondents based on parity

Yes	Gestational Age	Frequency (n)	Percentage (%)
1	Trimester I	6	11.8
2	Trimester II	14	27.5
3	Trimester III	31	60.7
<b>Total</b>		<b>51</b>	<b>100</b>

Source : Primary Data 2025

Based on the table above, some respondents with a gestational age of 28-40 weeks or the third trimester were 31 respondents (60.7%)

Table 3. Characteristics of respondents based on education

Yes	Parent Education	Frequency (n)	Percentage (%)
1	SD	8	15.7
2	Junior High School	15	29.4
3	High School	21	41.2
4	PT	7	13.7
<b>Total</b>		<b>51</b>	<b>100</b>

Source: Primary Data, 2025

Based on the table above, most of the respondents have a high school education background as many as 21 respondents (41.2), and a small number of respondents have a PT education (13.7%).

Table 4. Characteristics of respondents by occupation

Yes	Parenting Work	Frequency (n)	Percentage (%)
1	IRT	31	60.8
2	Self-employed	12	23.5
3	ASN	8	15.7
<b>Total</b>		<b>51</b>	<b>100</b>

Source: Primary Data, 2025

Based on the table above, most of the respondents did not work or as IRTs as many as 31 respondents (60.8%) and a small number worked as employees as many as 2 respondents (3.9%).

### Respondent Characteristics Based on Variables

Table 5. Characteristics of respondents based on the knowledge of pregnant women

Yes	Knowledge of Pregnant Women	Frequency (n)	Percentage (%)
1	Good	20	39.2
2	Enough	14	27.5
3	Less	17	33.3
<b>Total</b>		<b>51</b>	<b>100</b>

Source: Primary Data, 2025

Based on the table above, the results of pregnant women's knowledge about the signs of pregnancy emergency were the most in the good category, namely 20 respondents (39.2%), for the lack category as many as 17 respondents (33.3%) and for the adequate category as many as 14 respondents (27.5%).

Table 6. Distribution of Respondents Based on Maternity Age

Yes	Pregnant Mother's Compliance	Frequency (n)	Percentage (%)
1	Obedient	32	62.7
2	Non-compliant	19	37.3
<b>Total</b>		<b>82</b>	<b>100</b>

Source: Primary Data, 2025

Based on the table above, the results of compliance of pregnant women in the Antenatal Care (ANC) examination were mostly compliant with 32 respondents (62.7%), while those who did not comply were 19 respondents (37.3%).

### Bivariate Analysis

The relationship between pregnant women's knowledge and pregnant women's compliance in Antenatal Care (ANC) examinations in the Sipatana Health Center Working Area

Table 7. Knowledge of Pregnant Women Pregnant Mother's Compliance Quantity p-value Obedient Non-compliant

Knowledge of Pregnant Women	Pregnant Mother's Compliance				Quantity		p-value
	Obedient		Non-compliant		f	%	
	f	%	f	%			
Good	15	46,9	5	26,3	20	39,2	0,016
Enough	11	34,4	3	15,8	14	27,5	
Less	6	18,8	11	57,9	17	33,3	
Quantity	32	62,7	19	37,3	51	100,0	

Source: Primary Data, 2025

Based on the table above, most of the respondents who complied in the ANC examination and had good knowledge were 15 respondents (46.9%), followed by 11 respondents who were obedient with sufficient knowledge (34.4%), respondents who were not compliant and had insufficient knowledge as many as 11 respondents (57.9%), respondents who were obedient with lack of knowledge as many as 6 respondents (18.8%), respondents who did not comply with good knowledge as many as 5 respondents respondents (26.3%) and the last respondent, namely respondents who do not comply with sufficient knowledge, as many as 3 respondents (15.8%). The results of the chi-square test showed that the p-value was 0.016, which means that there was a significant relationship between pregnant women's knowledge of pregnancy emergencies and pregnant women's compliance in the Antenatal Care (ANC) examination in the Sipatana Health Center Working Area.

### DISCUSSION

#### Pregnant women's knowledge about pregnancy emergencies in the Sipatana Health Center Working Area

The results showed that out of 51 pregnant women, as many as 20 respondents (39.2%) had good knowledge. Good knowledge indicates that a person is able to recognize the danger signs of pregnancy, understand the causes, and know the right steps to seek help. Based on the answers from the research questionnaire, the question that was answered correctly was about "The danger sign of infection in pregnancy is high fever accompanied by abdominal pain". Most pregnant women are able to identify that a high fever accompanied by abdominal pain is a danger sign of infection during pregnancy, which has the potential to threaten the safety of the mother and fetus. These findings show that respondents have a relatively good awareness of physical symptoms that are easily recognized directly.

Respondents' good knowledge can be attributed to educational characteristics. The increase in knowledge in the "good" category occurs due to educational factors, where based on characteristic data, the majority of pregnant women have a high school education (60.0%), which in theory has a positive effect on the ability to receive, understand, and process health information. According to the theory Health Literacy, Individuals with better levels of education tend to have higher health literacy, so they are able to understand health messages and apply them in daily life, including during pregnancy (Nutbeam & Lloyd, 2021).

Empirically, a study titled *The Influence of Education on Pregnancy Danger Signs on the Knowledge of Pregnant Women in the Coastal and Island Areas* (Mayasari & Rochmaedah, 2024) It shows that education has a significant effect on pregnant women's knowledge of pregnancy danger signs. Pregnant women who have a higher level of education. Results This research is also supported by research conducted by Putri et al. (2023) It found that 42% of pregnant women in Yogyakarta have high knowledge about ANC due to exposure to health digital media and pregnant women's classes, where education level and access to health information are the main determinants of pregnant women's knowledge.

In addition to educational characteristics, the characteristics of respondents from the aspects of maternal age and gestational age are also related to good knowledge in pregnant women. The results showed that the majority of well-informed mothers were in the age group of 31-40 years, which is based on the theory of early adult development (Papalia et al., 2019), individuals in the 30-40 age range have more stable cognitive and emotional maturity, so they are better able to understand pregnancy risks and the importance of regular ANC checkups. As for the gestational age, mothers in the third trimester showed better knowledge because they had interacted more often with health workers. Each visit to the ANC provides additional education related to pregnancy hazards, nutrition, and childbirth preparation. Safitri et al. (2025) found that the frequency of ANC visits had a significant relationship with increased knowledge of pregnant women, as exposure to health information increased with more education sessions from midwives.

Based on the results of the questionnaire of "sufficient" knowledge in pregnant women about pregnancy emergencies, it showed that respondents were familiar with most of the basic concepts and warning signs, such as bleeding, severe pain, or decreased fetal movement, but this understanding was always consistent for all types of emergencies. In theory, this condition is at the level of Understanding in Bloom's Taxonomy, which is to understand information in a basic way but has not yet reached the stage of optimal application and analysis (Nutbeam & Lloyd, 2021).

The results of this study are in line with the research Wulandara et al. (2025) found that 52% of pregnant women in Gorontalo have sufficient knowledge about emergencies because exposure to information is still limited to formal counseling. The results are similar to the study of Rahmi et al. (2023), which reported that mothers with secondary education and housework tended to have moderate knowledge related to obstetric complications.

Relatively knowledgeable respondents are mostly 21-30 years old, from a theoretical perspective Andersen's Behavioral Model of Health Services Use, age is included in the predisposing factors that affect healthcare seeking behavior. Pregnant women with younger ages have a tendency to delay ANC because they feel healthy and do not understand the urgency of routine checkups. In addition, it is in the second trimester of pregnancy. Pregnant women in this category usually already understand the basics of the importance of ANC, but do not fully know the danger signs or the recommended frequency of check-ups (Wahyuni et al., 2023).

Meanwhile, 17 respondents with less knowledge were still found to be associated with the characteristics of respondents who had low education (elementary and junior high) by 58.8% and the dominance of work as a housewife (IRT) by 47.0%. Pregnant women's lack of knowledge about pregnancy emergencies, particularly those associated with low education, is a consistent finding in various maternal health studies. This condition shows that pregnant women are not able to recognize the main danger signs (such as bleeding, preeclampsia, or decreased fetal movement), do not understand the level of urgency of the condition, and do not know the appropriate course of action when an emergency occurs. This low knowledge has the potential to increase delay in decision making which has an impact on the increased risk of maternal and perinatal complications.

The high number of errors in the questions regarding anemia, fetal movement, preeclampsia and eclampsia shows that most pregnant women are not able to recognize the symptoms of anemia as a dangerous condition, and often consider weakness and paleness as normal complaints of pregnancy, pregnant women do not understand the importance of monitoring fetal movement as an indicator of fetal well-being, and mothers do not understand this condition of preeclampsia and eclampsia as a major obstetric emergency

These findings are in line with research Shirley (2025) who reported a significant association between low education and poor emergency knowledge levels in West Nusa Tenggara. Likewise, research conducted by Shirley & Shirley (2023) It also shows that pregnant women with low education have a 2-3 times greater risk of having less knowledge compared to pregnant women with higher education. This study confirms that low education limits the mother's ability to understand ANC educational materials, especially as it relates to clinical conditions such as preeclampsia and placental solution.

### **Compliance of pregnant women in Antenatal Care (ANC) examinations in the Work Area of the Sipatana Health Center**

Based on the results of the research from 51 respondents, the majority of respondents (62.7%) complied with ANC. Respondents who are categorized as compliant in the Antenatal Care (ANC) examination are pregnant women who have carried out regular pregnancy examinations according to the schedule set by the Ministry of Health of the Republic of Indonesia. ANC adherence was measured by the number of pregnancy check-up visits per trimester during pregnancy (2 first trimester, 1 second trimester and 3 third trimester). So, respondents who are included in the compliant category in this study are pregnant women who carry out examinations in every trimester, without any missed visits, follow the examination schedule according to the recommended time, carry out all basic and additional examinations (such as blood pressure, measurement of uterine fundus height, urine examination, administration of Fe tablets, TT immunization, and nutritional counseling).

These results indicate that most mothers have a high awareness of the importance of regular check-ups to prevent pregnancy complications. If it is associated with the age characteristics of pregnant women, most of the pregnant women in this study are in the age group of 31–40 years, which is included in the healthy reproductive age range. The age range of 31–40 years is often referred to as early middle adulthood, where individuals have more emotional stability, life experiences, and more mature cognitive abilities. This contributes to the increased ability to understand pregnancy risks and the importance of ANC screening. Exploring the theory in Experience Human Development, middle adulthood is associated with improved reflective thinking function and experiential decision-making ability. Thus, mature mothers are more likely to absorb information and turn it into positive health behaviors (Papalia et al., 2019).

Based on the results of the study, most of the compliant pregnant women are in the third trimester. This shows that as the gestational age increases, the mother's level of compliance with ANC also increases. In the last trimester, mothers generally begin to feel significant physical changes and increased anxiety ahead of delivery, prompting them to be more actively self-checked. (Siregar & Hasibuan, 2024) In her study, it was found that mothers in the third trimester had the highest levels of ANC compliance due to increased awareness of risks leading up to delivery. In addition, health workers also carried out intensive approaches more often during this period, both through home visits and reminders of ANC visits, which helped increase maternal compliance.

Meanwhile, the results of the study showed that there were 19 respondents who did not comply with the ANC examination (37.3%). This non-compliance can be attributed to several factors characteristic of respondents such as education, where respondents who have an elementary-junior high school education are 68.4%. Pregnant women with low education levels tend to be more at risk of not performing standard ANC examinations due to limited ability to receive, process, and use health information optimally.

Research Lestari et al. (2022) in Indonesia, it shows that pregnant women with elementary–junior high school education have a higher probability of not completing ANC visits according to standards than mothers with high school–tertiary education. This non-compliance is related to a low understanding of the functions of the ANC and the perception that an examination is only necessary when a complaint arises. Study by Rahmawati et al. (2024) It also found that low education was significantly associated with ANC non-compliance, especially in the early trimester. Many mothers with low education delay ANC visits because they consider pregnancy to be a natural process that does not require regular check-ups. This study confirms that low risk perception mediates between education and ANC compliance.

### **The Relationship of Pregnant Women's Knowledge of Pregnancy Emergencies with Pregnant Women's Compliance in Antenatal Care (ANC) Examinations in the Working Area of the Sipatana Health Center**

Based on the results of the study, it is known that as many as 15 respondents (46.9%) have good knowledge and are compliant in conducting Antenatal Care (ANC) examinations. The high level of knowledge of pregnant women who comply with ANC is caused by several factors such as education and multiparapheric status. Substantially, this condition reflects that a good understanding of the goals of ANC, the schedule of visits per trimester, and the benefits of early detection of pregnancy complications encourage mothers to make regular visits. The group of mothers with good knowledge and obedience was dominated by mothers with high school-PT education (80.0%) and most of them were multipara (80.0%).

Study Kurniawati et al. (2024) reports that multiparades with secondary–higher education tend to be more compliant with a complete ANC visit because they have understood the benefits of early detection of complications based on previous experience. These findings are reinforced by (Lestari et al., 2022) which states that education and parity are important determinants of ANC compliance in Indonesia. Likewise with research by Gray-Baker (2021) suggests that a combination of higher education and previous reproductive experience improves ANC adherence because mothers are better able to assess risks and navigate the health care system independently.

From the results of the study, it was found that 5 respondents (26.3%) had good knowledge but did not comply in the ANC examination. This phenomenon shows that good knowledge is not always directly proportional to the mother's compliance behavior in utilizing health services. There are other influencing factors such as work, where some respondents in the knowledge group are good but do not comply with their work status

(80.0%).

These findings are in line with research Rahmawati et al. (2024) shows that some pregnant women with good knowledge remain non-compliant with ANC due to time constraints and the perception that ANC is not urgent when there are no complaints. These findings confirm the role of external factors that are stronger than knowledge. Research Lestari et al. (2022) also found that high knowledge does not always guarantee ANC compliance, especially in working mothers. Non-compliance is more common in mothers who feel they are able to recognize danger signs independently without regular check-ups.

In the sufficient knowledge group, there were 11 respondents (34.4%) who were compliant. These results show that although knowledge is not optimal, most pregnant women in this category still show compliance with ANC. This can be explained by the presence of other supporting factors such as healthy reproductive age (20–35 years). Individuals aged 20–35 years have rational thinking capacity and relatively mature decision-making skills, but the level of depth of understanding is greatly influenced by exposure to information. Therefore, mothers in this age group can achieve sufficient knowledge, understand the basic concepts of pregnancy emergencies, but are not yet fully able to analyze or apply this information in depth to the entire clinical situation.

Research Lestari et al. (2022) showed that pregnant women aged 20–35 years were more compliant with standard ANC visits than mothers aged <20 years or >35 years, although their level of knowledge was not always in the good category. This adherence is influenced by a more stable physical condition and the perception that ANC is an important part of pregnancy care. Study by (Sari & Handayani, 2023) found that mothers of early adulthood tended to have moderate to good knowledge of pregnancy red flags. However, the limitations of pregnancy experience or the lack of exposure to in-depth education cause some mothers to only reach the category of sufficient knowledge.

The results of the study were 3 respondents (15.8%) who had sufficient knowledge but were not compliant. The proportion of non-compliance in the knowledge group is quite persistent, indicating that in-depth knowledge can lead to partial understanding, for example regarding the number of ANC visits per trimester or the importance of screening in uncomplained pregnancies. The mother's non-compliance with sufficient knowledge in performing ANC is due to a misperception of the condition of pregnancy and low external urges, not to ignorance. The mother feels healthy so the examination is considered not necessary to do it regularly.

Research by Shirley & Shirley (2023) shows that pregnant women with moderate knowledge often obey inconsistently, especially in the first trimester, because there is still an assumption that ANC is only necessary when pregnancy complaints arise.

The results showed that there were 6 respondents (18.8%) with a lack of knowledge, but still compliant with the ANC examination. These findings illustrate that although their knowledge of ANC is low, there are other factors that motivate mothers to continue to have the examination, such as previous pregnancy experience (parity), where all respondents are multiparaphernalia. In multiparaphernalia, compliance is often an "automatic" behavior because they have become accustomed to ANC in previous pregnancies, rather than simply because of a deep understanding of emergencies. According to Experiential Learning Theory, experience is a major source of adult learning. However, if the previous pregnancy experience took place without serious complications, then the process of reflection and conceptualization becomes limited. As a result, knowledge of pregnancy red flags remains at a low level, even though ANC behaviors are still carried out obediently (Kolb, 2021).

Research Hazati (2025) at the Dadok Tunggul Hitam Health Center, Padang, found that 17.6% of mothers with low knowledge remained compliant with ANC visits because they felt comfortable with the midwife's services and had positive experiences in previous pregnancies. Research Rahim et al., (2022) found that some multipara mothers showed high levels of ANC adherence despite low antenatal knowledge scores. It is associated with previous pregnancy experiences that shape behavioral routines, but are not accompanied by an adequate improvement in cognitive understanding.

Meanwhile, the results of the study showed that there were 11 respondents (57.9%) who had poor supervision and did not comply with the ANC examination. These cells are the most prominent finding, as they show that most pregnant women with low knowledge do not comply with ANC examinations. This condition confirms that limited knowledge contributes greatly to the low utilization of ANC services.

Research by Putri et al. (2023) and Gray-Baker (2021) also suggests that low knowledge is a major predictor of ANC non-compliance, especially in mothers with low education and socioeconomic status. Similar results were found by (Yuniarti et al., 2025) at the Tirta Jaya Health Center, that low knowledge is a significant factor in ANC non-compliance.

The results of the Chi-square test ( $p = 0.016 < 0.05$ ) showed that there was a significant relationship between pregnant women's knowledge of pregnancy emergencies and adherence to ANC examinations. This means that the better the mother's knowledge of the danger signs of pregnancy, the higher the likelihood that they will have an ANC examination. This can be explained because good knowledge allows pregnant women to be aware of the risk of complications and the importance of regular check-ups as an early detection effort.

The results of this study are in line with the research conducted by Utomo et al., 2025 that based on the results of statistical tests with Chi-Square A p-value of 0.000 was obtained. If the p value is  $< \alpha$  (0.05), it can be interpreted that there is a relationship between pregnant women's knowledge about pregnancy emergencies and

compliance with ante natal care (ANC) examinations in the work area of the Segalamider Health Center with an OR value of 6.827, which means that respondents with poor knowledge have a risk of 6.827 times not complying with carrying out ANC examinations compared to respondents who have good knowledge. The results of this study are supported by the results of research conducted by Nugrawati et al. (2023), where a p value of 0.000 was obtained so that it can be concluded that there is a relationship between pregnant women's knowledge about pregnancy danger signs and the number of Antenatal Care (ANC) examination visits at the Limboto Health Center, Gorontalo Regency.

Researchers assume that mothers with good knowledge tend to be more adherent to ANC schedules because they understand the benefits and risks associated with pregnancy. Knowledge is a factor that can make it easier for a person or society to do what to do. Mothers who will check their pregnancy will be made easier if they know what the benefits of checking pregnancy are, who and where the pregnancy check is done. The lack of understanding and knowledge of mothers and families on the importance of pregnancy examinations has an impact on pregnant women.

## CONCLUSION

Most of pregnant women's knowledge about pregnancy emergency signs is in the good category (39.2%), followed by the sufficient (27.5%) and less (33.3%) categories.

Most of the compliance of pregnant women in the Antenatal Care (ANC) examination is classified as compliant, as many as 62.7% of mothers, while 37.3% are non-compliant

There was a significant relationship between pregnant women's knowledge of pregnancy emergency signs and compliance with ANC examinations, with p-value = 0.016 (< 0.05)

## ADVICE

The researcher hopes that the results of this study can improve education and health promotion activities continuously, both through pregnant women's classes, group counseling, and home visits.

The researcher hopes that the results of this study can be an additional reference for health workers to take a personal approach to pregnant women who have a low level of knowledge and low compliance with ANCs.

The researcher hopes that the results of this study can be a reference and information for future researchers in developing this research broadly such as social support, economic level, local culture, and pregnancy experience to ANC compliance.

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