

Determinants of ANC Visits Among Adolescent Pregnant Women in Bantul District



Munica Rita Hernayanti¹, Dyah Noviawati Setya Arum², Maranata Maranata³ Okki Dhona Laksmita⁴

¹Poltekkes Kemenkes Yogyakarta, Indonesia, municaadriana@gmail.com

²Poltekkes Kemenkes Yogyakarta, Indonesia, aa_dyahnsarum@yahoo.com

³Politeknik Pikesi Ganesha, Indonesia, maranata@gmail.com

⁴Taipei Medical University, Indonesia, okki.laksmita@gmail.com

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ABSTRACT

Adolescent pregnancy is a serious problem. Adolescent pregnancy can lead to reduced antenatal care (ANC) visits and result in significant consequences in the form of untreated pregnancy complications that will result in increased Maternal Mortality Rate (MMR). The primary objective of this study was to ascertain and scrutinize the factors influencing antenatal care (ANC) visitation patterns among adolescent pregnant women within Bantul Regency. This study is an observational analytic study with a cross sectional design. The outcomes of the chi-square test for the facilitating factor yielded results pertaining to the level of education ($p= 0.041$), marriage status ($p= 0.006$), pregnancy status ($p= 0.000$) while on the reinforcing factor of family support ($p= 0.027$). The results of this study's logistic regression test stated that health worker support ($p= 0.020$) and pregnancy status ($p= 0.001$). The conclusion of this research suggests that the pivotal determinants significantly influencing antenatal care (ANC) utilization among adolescent pregnant women in Bantul Regency are the presence of health worker support and the particular status of pregnancy.

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Corresponding Author:

Munica Rita Hernayanti
Poltekkes Kemenkes Yogyakarta
Email: municaadriana@gmail.com

INTRODUCTION

Adolescent pregnancy constitutes a substantial issue with the potential to profoundly impact the life of a teenager. Adolescent pregnancy may pose physiological risks to the mother, physiological risks to the neonate, and socioeconomic risks.(1) Based on WHO data, every year one million adolescents under 15 years old give birth. WHO data also says three million adolescents have unsafe abortions (2).

Data from the *Riset Kesehatan Dasar* (Riskesdas) in 2013 stated that pregnancy in the population aged <15 years was 0.02%. Pregnancy in the population aged 15-19 years was 1.97%. Pregnancies in the 15-19 age group increased by 0.3% from the previous year (3).

In 2015, the Special Region of Yogyakarta (DIY) recorded 1,078 deliveries involving teenagers, representing an increase from the preceding year when there



were 930 such deliveries. Notably, Bantul Regency exhibited the highest incidence of teenage pregnancies and deliveries, with 276 documented cases (4).

The global pregnancy visitation rate increased from 40.9% in 1990 to 58.6% in 2013. ANC visits in developed countries at 84.8% contrasted with a much lower rate of 48.1% in developing countries.(5)

Adolescent mothers (aged 15-19) and young women (20-24) exhibit a tendency for infrequent utilization of antenatal check-ups, limited folic acid intake during pregnancy, suboptimal health practices, and encounter challenges in achieving adequate breastfeeding coverage due to shortened duration (6).

Antenatal care is an important way to monitor and support the health of normal pregnant women and detect women with normal pregnancies. Ante Natal Care (ANC) is important because through ANC midwives can monitor the physical and psychological health of the mother in preparation for childbirth. If mothers are ready and able to face childbirth safely, it will reduce MMR and IMR (4).

Antenatal care (ANC) visits play a crucial role in delivering quality healthcare, as they encompass elements of health promotion, screening, diagnosis, and disease prevention. The development of ANC services provides more space for pregnant women and health workers to communicate. Effective communication in ANC visits can include physiological, biomedical, behavioural and sociocultural issues, effective support. Effective support can be in the form of social, cultural, emotional and psychological support. Through effective communication will provide a positive experience during pregnancy and labour as a foundation for realising a healthy mother.(5)

The significance of antenatal care (ANC) visits during pregnancy is underscored by empirical evidence. A study conducted in Probolinggo, involving 200 pregnant women, revealed a discernible relationship between consistent antenatal check-ups and the occurrence of preeclampsia (7).

Based on research conducted by Wiratmo, explaining there are some factors that influence ANC visits to ANC behavior including age, education, jobs, income, husband or family support (20). Another study conducted by Puspa, based on the results of multiple logistic regression tests, it is known that age, mother's education, parity,desired pregnancy, wealth quintile, exposure to information media, health insurance ownership, and husband's support as determinants of completeness of ANC visits (21). Both studies showed that age had an effect on ANC attendance, inversely proportional to research by Nurfitriani about the analysis of factor that associated the Antenatal Care (ANC) visit in pregnant woman, this research explain that age, employment status, disease history, and parity were not related to ANC visits and there is a relationship between education level, knowledge, attitude, application of health protocols, the distance of residence, role of medical personnel (22).

Meanwhile, existing research discusses the determinants of ANC visit in general, not specifically inadolescent pregnant women this makes the researchers want to investigate further about the determinants of ANC visits among adolescent pregnant women in Bantul Regency. The purpose of this study was to determine and analyse the determinants of ANC visits among adolescent pregnant women in Bantul Regency.

METHOD

This research constitutes an observational analytical study with a cross-sectional design. The study employed a purposive sampling technique and was carried out over a span of May to September 2018. The criteria inclusion in this study were teenage pregnant women between the ages of 10 to 19 in Bantul Regency. The exclusion criteria for this research sample were if they were unwilling to be respondents and were domiciled outside Bantul Regency, Special Region of Yogyakarta. In this study, teenage pregnant women were given a questionnaire to fill out.

The dependent variable in this study was the frequency of ANC visits. The independent variables included variables related to education level, employment status, marital status, pregnancy status, maternal perceptions of pregnancy, labor and breastfeeding, health worker support, family support, and the identity of the family support giver.

Determination of the sample size was calculated using the Lemeshow formula and then added 10% to get a sample size of 153. Data analysis in this study consisted of univariate analysis, bivariate analysis using chi square, and multivariate analysis using logistic regression. The Ethical has been review by the Research Ethics Committee of the Yogyakarta Ministry of Health Polytechnic with registration number LB.01.01/KI-02/XXIV/596/2018.

Overview of ANC Visits among Adolescent Pregnant Women in Bantul Regency

The classification of ANC visits is depicted through two distinct categories: 'Appropriate' and 'Inappropriate.' Respondents are categorized as 'Appropriate' if they meet the minimum requirements for ANC visits (i.e., one visit in the first trimester, one in the second trimester, and two in the third trimester) based on their pregnancy age. Conversely, respondents who do not meet these requirements are classified as 'Inappropriate.' The findings of the study are succinctly presented in Table 1.

Table 1. Frequency Distribution of ANC Visits among Adolescent Pregnant Women in Bantul Regency

ANC Visits	Frequency	%
Appropriate	127	83.0
Inappropriate	26	17.0
Amount	153	100.0

Table 1 shows that most respondents (83%) fulfilled the minimum ANC requirements or in the category of appropriate ANC visits.

Overview of Determinants of ANC Visits among Adolescent Pregnant Women in Bantul Regency

Determinants, in this context, can be understood as factors that exert an influential impact. The researchers delineate the determinants of ANC visits among pregnant women in Bantul Regency into two categories: predisposing factors and reinforcing factors. Predisposing factors in this study encompass variables related to education level, employment status, marital status, pregnancy status, and maternal perceptions of pregnancy, childbirth, and breastfeeding. On the other hand, reinforcing factors consist of health worker support, family support, and the

primary provider of support within the family. The detailed study findings are presented in Tables 2 and 3.

Table 2. The Frequency Distribution of Factors Facilitating ANC Visits among Adolescent Pregnant Women in Bantul Regency,

Characteristic	Frequency	%
Educational background		
Senior High School-University	75	49.0
Elementary School-Junior High School	78	51.0
Amount	153	100.0
Working Status		
Working	28	18.3
No working	125	81.7
Amount	153	100.0
Married Status		
Not yet	4	2.6
Official	146	95.4
Unregistered	3	2.0
Amount	153	100.0
Pregnancy Status		
Pregnancies were desired	80	52.3
No desired	73	47.7
Amount	153	100.0
Mothers' Perceptions of Pregnancy, Childbirth, and Breastfeeding		
Positive	80	52.3
Negative	73	47.7
Amount	153	100.0

Referring in Table 2, reveals that the majority of respondents (51%) possessed an educational background of elementary or junior high school, were not working (81.7%), and were officially married (95.4%). Furthermore, a significant portion of respondents (52.3%) expressed that their pregnancies were planned and desired, and they held positive perceptions toward pregnancy, childbirth, and breastfeeding, with 80 respondents falling into this category

Table 3. Frequency Distribution of Reinforcing Factors for ANC Visits among Adolescent Pregnant Women in Bantul Regency

Variable	Frequency	%
Health worker support		
Supporting	93	60.8
No Supporting	60	39.2
Amount	153	100.0
Family support		
Supporting	91	59.5
No Supporting	62	40.5
Amount	153	100.0
Support provider		
Husband	133	86.9
Parent	18	11.8
In-law	2	1.3
Amount	153	100.0

Referring to Table 3, out of a total of 153 respondents, 91 respondents (59.4%) reported receiving support from their family, while 93 respondents (60.8%) indicated receiving support from health workers. Regarding family support, the majority of respondents (86.9%) mentioned their husband as the primary provider of support, with the lowest percentage attributing support to in-laws (1.3%).

Influence of Facilitating Factors with ANC Visits among Adolescent Pregnant Women in Bantul Regency

The effect of facilitating factors on ANC visits among adolescent pregnant women in Bantul Regency is illustrated in Table 4.

Table 4. Influence of Facilitating Factors with ANC Visits among Adolescent Pregnant Women in Bantul Regency

Facilitating Factors	ANC Visits				Amount	%	χ^2	p value	C					
	Sesuai		No											
	Frek	Frek	.	%										
Educational background														
Senior High School-University	67	89,3	8	10,7	75	100,0	4175	0,041*	0,16 3					
Elementary school-Junior High School	60	76,9	18	23,1	78	100,0								
Amount	127	83,0	93	17,0	153	100,0								
Working Status														
No working	105	84,0	20	16,0	125	100,0	0,478	0,49	0,56					
Working	22	78,6	6	21,4	28	100,0								
Amount	127	83,0	26	17,0	153	100,0								
Married Status														
Not yet	1	25,0	3	75,0	4	100,0	1031	0,006*	0,25 1					
Official	123	84,2	23	15,8	146	100,0								
Unregistered	3	0	0	0,0	3	100,0								
Amount	127	83,0	26	17,0	153	100,0								
Pregnancy Status														
Pregnancies were desired	86	92,5	7	7,5	93	100,0	1506	0,000*	0,29 9					
No desired	41	68,3	19	31,7	60	100,0								
Amount	127	83,0	26	17,0	153	100,0								
Mothers' Perceptions of Pregnancy, Childbirth, and Breastfeeding														
Positive	67	83,8	13	16,3	80	100,0	0,066	0,79	0,02 1					
Negative	60	82,2	13	17,8	73	100,0								
Amount	127	83,0	26	17,0	153	100,0								

Table 4 shows the chi square test results of the relationship between education level ($p = 0.041$), marital status ($p = 0.006$) and pregnancy status ($p = 0.000$). It can be interpreted that there is an influence between education level, marital status, and pregnancy status with maternal ANC visits. The p value for employment status ($p = 0.49$) and maternal perception ($p = 0.79$) means that there is no influence between employment status and maternal perception with ANC visits.

Influence of Reinforcing Factors with ANC Visits among Adolescent Pregnant Women in Bantul District

The influence of reinforcing factors, namely health worker support, family support and supporters, on ANC visits among adolescent pregnant women in Bantul Regency is illustrated in Table 5.

Table 5. Influence of Reinforcing Factors with ANC Visits among Adolescent Pregnant Women in Bantul District

Reinforcing factor	ANC Visits				Amount	%	χ^2	p value	C					
	In accordance		No											
	Frek.	%	Frek.	%										
Health worker support														
Supporting	73	78,5	20	21,5	93	100, 0								
No Supporting	54	90,0	6	10,0	60	100, 0	3,423	0,064	0,148					
Amount	127	83,0	93	17,0	153	100, 0								
Family support														
Supporting	75	82,4	16	17,6	91	100, 0								
No Supporting	52	83,9	10	83,9	62	100, 0	0,055	0,81	0,019					
Amount	127	83,0	26	17,0	153	100, 0								
Family support provider														
In-law	2	100, 0	0	7,7	2	100, 0								
Parent	11	61,1	7	38,9	18	100, 0	7,218	0,027*	0,212					
Husband	114	85,7	19	14,3	133	100, 0								
Amount	127	83,0	26	17,0	153	100, 0								

Table 5. shows that the support of health workers and family has no influence on maternal ANC visits. Family support giver showed the result of p value = 0.027

which means there is an influence between the family support giver and the mother's ANC visit.

Most Dominant Factors in ANC Visits among Adolescent Pregnant Women in Bantul District

Following the chi-square analysis presented in Tables 4 and 5, five independent variables were identified with a p-value <0.25 , thus qualifying them for inclusion in the subsequent multivariate analysis using logistic regression. These variables include education ($p = 0.041$), marital status ($p = 0.006$), pregnancy status ($p = 0.000$), health worker support ($p = 0.064$), and family support ($p = 0.027$), all of which displayed significant associations with maternal ANC visits. The findings of the multivariate analysis for these factors are expounded upon in Table 6.

Table 6. Most Dominant Factors in ANC Visits among Adolescent Pregnant Women in Bantul Regency

Discussion

Variable	Coefficient	df	p	OR	CI 95%	
					Min	Mak
Health worker support	1.305	1	0.020	3.686	1.230	11.046
Pregnancy Status	-1.765	1	0.001	0.171	0.063	0.454

Table 6 reveals that both health worker support and pregnancy status exhibit p-values of less than 0.05, indicating their statistically significant impact on maternal ANC visits. The odds ratio (OR) values further emphasize their influence, with health worker support having an OR of 3.686 and pregnancy status having an OR of 0.171.

DISCUSSION

The findings of this study indicate that the majority of teenage pregnant women in Bantul Regency adhered to appropriate ANC visitation criteria. This categorization necessitates at least one visit in the first trimester, one visit in the second trimester, and two visits in the third trimester. These results align with research conducted in the Puskesmas Slawi Tegal Regency, affirming that a significant proportion of pregnant women in that area also engage in regular ANC visits.(8)

The determinants of ANC visits among adolescent pregnant women in Bantul Regency were categorized by the researchers into two distinct types of factors: facilitating factors and reinforcing factors. Predisposing factors in this study encompassed variables related to education level, employment status, marital status, pregnancy status, and maternal perceptions of pregnancy, childbirth, and breastfeeding. Reinforcing factors in this study included health worker support, family support, and the primary provider of support.

Influence of Facilitating Factors with ANC Visits among Adolescent Pregnant Women in Bantul Regency

The results of the study stated that the majority of respondents had elementary and junior high school education levels, did not work, and were officially married, although there were 4 respondents who were not married. In this study most respondents stated that their pregnancy was a desired pregnancy and had a positive perception of pregnancy, childbirth, and breastfeeding.

Mothers' basic level of education allows them to adopt new knowledge more quickly (9). Pregnant women who work with high and dense activities prefer to prioritise their careers over their health so that it is difficult to comply with ANC visits compared to housewives who have more free time.(10) Mothers who desire pregnancy are better prepared to care for the baby. Legal marital status will encourage positive perceptions of pregnancy, childbirth and breastfeeding (11).

The analysis of facilitating factors influencing ANC visits among adolescent pregnant women in Bantul Regency revealed a significant association between education level, marital status, and pregnancy status with maternal ANC visits. This study is in line with research conducted at Puskesmas Talun Kenas, Deli Serdang Regency, which stated the same results where education affects ANC examination during the Covid-19 pandemic.(12) The results of the 2012 SDKI analysis showed that pregnancy status had an effect on antenatal care. Unwanted pregnancies by the mother have a greater chance of not doing pregnancy care.(13)

Education is any planned effort to influence others whether individuals, groups, or communities so that they do what is expected by the perpetrators of education. A mother's basic level of education allows her to adopt new knowledge more quickly (9). Maternal education plays an important role in behaviour change to seek ANC services. (12)

Elevated levels of education among pregnant women enable them to proactively access and comprehend health-related information, facilitating a better understanding of their health conditions and vice versa. The significance of education becomes evident in the context of pregnancy and childbirth, as it can serve as an indicator of an individual's overall health status. Pregnant women who get a lot of information about the importance of ANC services will know how to prevent pregnancy risks so that they can help reduce the high MMR.(14)

Employment is a description of an individual's activities and their economic well-being. It is well-documented that socioeconomic status significantly impacts the physical and psychological health of pregnant women. Working pregnant women tend to exhibit a higher level of knowledge compared to those who are homemakers. Working mums have more opportunities to interact with other people, so there are more opportunities to get information about pregnancy.(10)

Unintended pregnancy status has a negative impact not only on health issues but can also have a broad social and economic impact. Mothers with unintended pregnancies are less likely to recognise the early signs of pregnancy, leading to a lack of ANC visits since the onset of pregnancy.(13)

Mothers with unwanted pregnancies are less motivated to seek information about pregnancy. Exposure to minimal health information leads to unhealthy behaviours and ignorance of health risks. Mothers with unintended pregnancies utilise fewer health services, have inadequate nutrition and are stressed and depressed.(13)

The status of an unwanted pregnancy emerged as a contributing factor to mothers delaying access to ANC services. The apprehension of facing a negative societal perception of the pregnancy often compels mothers and their families to conceal the pregnancy. These problems make women access health services when it is time to deliver or choose to deliver elsewhere (15).

Influence of Reinforcing Factors with ANC Visits among Adolescent Pregnant Women in Bantul District

The results of this study stated that most respondents stated that they received support from family and health workers. The family support factor in terms of providing the greatest support for them is the husband. Support from health workers was obtained by mothers during ANC. This is in accordance with the purpose of ANC, which is to prepare the role of the mother and family to accept the birth of a baby so that it can grow and develop normally (16). Maternal role achievement involves role acceptance and role partnering. According to research, husband's support is the most valuable support for mothers (17).

The analysis of reinforcing factors related to ANC visits among adolescent pregnant women in Bantul Regency revealed a significant association between the support giver, particularly the husband, and ANC visits. The findings of the multivariate analysis further underscored the influence of health worker support on the utilization of ANC visits among adolescent pregnant women in Bantul Regency.

The results of this study are in line with previous research which states that there is a relationship between husband support and maternal compliance in conducting ANC visits. When the husband's support is categorised as poor, this will have a negative effect on the mother's psychological (motivation), which can be seen in the completeness of ANC visits.(10)

Social support from parents and family plays a pivotal role in shaping the psychological well-being of pregnant women. When expectant mothers receive comprehensive support from their husbands, parents, and families, the pregnancy journey tends to progress smoothly, thereby indirectly benefiting the health of both the mother and the fetus (18).

Husband support is a tangible form of husband's concern and responsibility in his wife's pregnancy. Husband support can be in the form of material support, information, emotional support, and self-esteem. Husband support is the availability of resources provided by the husband to his wife in the form of physical and psychological comfort obtained through the individual's knowledge such as being loved, cared for and cherished.(18)

The results of this study are in line with previous research which states that the support of health workers with ANC visits. Health worker support in the good category will motivate mothers to regularly attend ANC visits.(19) Another study stated that mothers' understanding of the utilisation of ANC services arises because of experiences gained from previous services (15).

Antenatal check-ups (ANCs) are strongly advocated for pregnant women to ensure the continuous monitoring of both maternal and fetal health. These check-ups should ideally take place in a medical facility equipped with the necessary healthcare diagnostic tools and equipment. ANC is important to maintain the physical and mental health of the mother, monitor the health of the mother and fetus for a safe delivery, detect and treat early pregnancy complications and diseases that may arise.(18)

Health worker support can influence the compliance behaviour of pregnant women. Health worker support, especially midwives, can influence maternal behaviour by providing health education about the meaning and purpose of ANC,

policies related to examination schedules, and care provided to pregnant women.(18)

Less than optimal health worker services will be one of the causes of obstacles for mothers in conducting pregnancy checks. Pregnant women who are not regular in conducting antenatal check-ups result in early detection of pregnancy risks that cannot be done properly. This problem results in morbidity and mortality rates not being resolved.(18)

CONCLUSION AND RECOMENDATIONS

Based on the findings of this study, it can be deduced that education level, marital status, and pregnancy status serve as significant facilitating factors influencing ANC visits among pregnant women in Bantul Regency. Additionally, reinforcing factors that have a substantial impact on ANC visits in the same region encompass family support and health worker support.

Based on this research, families are expected to provide full support to pregnant women of adolescent age so that they can accept their pregnancy. If the status is not married, immediately facilitate to get official marital status. This is because pregnancy status, marital status and maternal perceptions greatly affect the readiness of adolescent pregnant women in facing childbirth and breastfeeding. For midwives to increase their role because health worker support is the most dominant factor in adherence to ANC visits. This research is expected to provide policy input in providing care to teenage pregnant women so that they are better prepared to handle childbirth and the breastfeeding process.

Further researchers can addvariables or examine other factors not included in this study, such as distance to health facilities. However, it's important to acknowledge that while including more variables can yield a broader understanding, the study design should ensure clarity in assessing each variable's individual impact to draw precise conclusions regarding their influence on ANC visit adherence in this specific context.

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