

Article

Number of ANC Visits at RSIA AMC Metro Based on Mother's Age and Parity

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Abstract: WHO declared COVID-19 as a pandemic on March 11, 2020. Obstacles found in ANC services during the COVID-19 pandemic were pregnant women afraid of contracting COVID-19 if they had to carry out ANC examinations at health services. ANC examinations play an important role in preventing and detecting pregnancy complications. Predisposing factors are one of the factors that influence the behavior of pregnant women in making ANC visits. Some of which are included in the predisposing factors are age and parity. This study aims to determine the effect of age and maternal parity on the number of ANC visits during the COVID-19 pandemic at RSIA AMC Metro. The sample consisted of 100 pregnant women who visited ANC between January and October 2022, and data analysis with multiple logistic regression. The majority of pregnant women were aged 20-35 years (71%), had given birth 2-4 times (36%), and made 1-5 ANC visits (82%). However, the study found that neither age nor maternal parity significantly affected the number of ANC visits during the pandemic at RSIA AMC Metro.

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1. Introduction

Corona Virus Disease 2019 (COVID-19) is an infectious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). The World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020 [1]. Indonesia is one of the countries affected by the COVID-19 pandemic. The Indonesian government has designated COVID-19 as a national non-natural disaster through Presidential Decree No. 12 of 2020 [2].

The COVID-19 pandemic has impacted the provision of routine services, including Antenatal Care (ANC). One of the challenges in providing ANC during the COVID-19 pandemic is that pregnant women are afraid of contracting COVID-19 if they have to undergo ANC examinations at health facilities. During the COVID-19 pandemic, pregnant women should have a minimum of 6 ANC visits, at least two visits in the first trimester (pregnancy age 0-12 weeks), at least one visit in the second trimester (pregnancy age 12-24 weeks), and at least three visits in the third trimester (pregnancy age 24 weeks until delivery) [3].

ANC examinations play a crucial role in detecting and preventing complications during pregnancy. In addition, ANC examinations also help reduce the Maternal Mortality Rate (MMR) [3]. MMR is one of the parameters that reflect the welfare of a society in a country [4]. According to WHO, the MMR in 2015 was 216 per 100,000 live births worldwide [5]. In the same year, the MMR in Indonesia was 305 per 100,000 live

births. This figure decreased compared to 2012, which was 359 per 100,000 live births. However, this decrease has not yet reached the Millenium Development Goals (MDGs) target of 102 per 100,000 live births [6].

Assessment of ANC services for pregnant women can be seen based on K1 and K4 coverage. Based on data for 2007-2020, the scope of K4 in Indonesia tends to increase. In 2019-2020, there was a decrease in K4 coverage from 88.54% to 84.6% [6]. The K1 and K4 range decline in 2019-2020 also occurred in Lampung Province, with K1 coverage amounting to 97.4% to 93.6% and K4 coverage amounting to 92.9% to 89.19% [7]. K1 and K4 coverage in Metro City also decreased in 2019-2020, with K1 coverage amounting to 100% to 92.19% and K4 coverage amounting to 100% to 88.50% [7], [8].

Data from the Anugerah Medical Center (RSIA AMC) Metro Mother and Child Hospital shows that visits to the obstetric polyclinic in 2019-2021 have decreased. In 2019, there were 11,927 obstetric polyclinic visits; in 2020, there were 11,283; and in 2021 there were 10,042. Based on the initial research conducted on June 7 2022, on ten medical records of third-trimester pregnant women, it is known that there are nine pregnant women aged around 20-35 years and one other aged over 35 years. Two mothers had parity nulliparas, five primiparas, and three multiparas. Additional information from the initial research is that no pregnant women have had 6 ANC examinations.

Factors related to ANC visits to pregnant women are external and maternal factors (age and parity). The theory put forward by Lawrence Green also states that predisposing factors, enabling factors, and reinforcing factors can influence a person's behaviour, including the conduct of pregnant women in making ANC visits. Some of which are included in the predisposing factors are age and parity [9]. Based on this background, the researcher is interested in knowing the effect of age and maternal parity on ANC visits during the COVID-19 pandemic at RSIA AMC Metro.

2. Materials and Methods

This research was conducted at RSIA AMC Metro in October-November 2022. The type of research used is quantitative with analytic observational using a cross-sectional approach. The population in this study were all medical records of pregnant women who made ANC visits. The sample in this study was 100 medical records of pregnant women who made ANC visits in January-October 2022. The data collection technique in this study was carried out by document review. The data analysis technique uses multiple logistic regression analysis which was carried out on the independent variables (age and parity) with the dependent variable (number of ANC visits). The general model for multiple logistic regression formula can be seen in equation (1).

$$\pi(x) = \frac{\exp(a + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p)}{1 + \exp(a + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p)} \quad (1)$$

Description:

$\pi(x)$ = Probabilily

α = Constant

$\beta_1 - \beta_p$ = Regression coefficient parameters

$X_1 - X_p$ = Independent variable (causative factor)

The steps in the research can be seen in Figure 1.

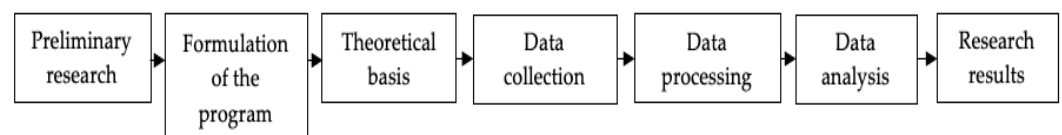


Figure 1. Research Step

Description:

1. Preliminary research: This first step was carried out to gather information about ANC visits at RSIA AMC Metro
2. Formulation of the problem: Researchers determine the formulation of the problem according to the problems found, namely how the age and parity of the mother affect the number of ANC visits during the COVID-19 pandemic
3. Theoretical basis: Looking for theories about age, parity, and the number of ANC visits to support in solving existing problems
4. Data collection: Collecting data on age, parity, and number of ANC visits originating from medical records for research needs
5. Data processing: Perform data processing by checking the completeness and correctness of the data, assigning a code to each data collected, and entering data into tables
6. Data analysis: Data analysis was performed using statistical data processing software
7. Research results: The results of the research were obtained from analysis using statistical data processing software, which can then be drawn conclusions and suggestions

3. Results and Discussion

3.1. Distribution of Age, Parity and Number of ANC Visits of Mothers Who Undertake ANC Visits during the COVID-19 Pandemic at RSIA AMC Metro

The results of the univariate analysis conducted to describe the characteristics of the variables age, parity, and number of ANC visits are as follows. Table 1. shows that the age category distribution of most pregnant women, or as many as 71 (71%), is between 20-35 years, and a small proportion, or 1 (1%) of pregnant women aged <20 years.

Table 1. Frequency Distribution of Age of Mothers Who Undertake ANC Visits during the COVID-19 Pandemic at RSIA AMC Metro

Age	Frequency (n)	Percentage (%)
< 20 year	1	1
20-35 year	71	71
> 35 year	28	28
Total	100	100

The 20-35 is the safest period for women to become pregnant and give birth [10]. At this age, pregnant women are mentally mature and can understand the information well to make the right decisions regarding health behavior, such as making ANC visits [11].

These results are consistent with research by Rita Armaya (2018) which concluded that of a total of 55 pregnant women, 42 (76.4%) were pregnant women aged 20-35 years, and 11 (20%) were pregnant women aged > 35 years. The rest 2 (3.6%) were pregnant women aged <20 years [12]. This research also aligns with the results of Reineldis Elsidianastika Trisnawati's study (2020), which stated that out of 56 pregnant women, the majority, or 32 (57.1%), were pregnant women aged 20-35 years. The remaining 24 (42.9%) are pregnant women aged < 20 years and > 35 years [13].

The same result was also shown by Mudarmawati's research (2022), which stated that out of a total of 65 pregnant women, the majority, or 48 (73.8%), were pregnant women aged 20-35 years, and the remaining 17 (26.2%) were pregnant women. Pregnant aged < 20 years and > 35 years [14]. Based on the theory and related research that has been described, it can be concluded that the age of mothers who made ANC visits were mostly pregnant women aged 20-35 years. In this age range, pregnant women will make ANC visits because they feel that ANC visits are essential.

Table 2 explains that most pregnant women have given birth to 2-4 children, 36 (36%), and a minority or 30 (30%) pregnant women have given birth to 1 child. A mother who

has experienced childbirth more than once will think she has experience [15]. However, based on the experience of past pregnancies, ANC visits can be carried out again during the current pregnancy because they feel that pregnancy checks need to be carried out even though general pregnancies typically develop [16].

Table 2. Frequency Distribution of Parity of Mothers Who Undertake ANC Visits during the COVID-19 Pandemic at RSIA AMC Metro

Parity	Frequency (n)	Percentage (%)
0	34	34
1	30	30
2 - 4	36	36
Total	100	100

These results are in line with Retno Palupi Yonni Siwi's research (2020), which stated that out of a total of 30 pregnant women, the majority or 17 (56.7%) were pregnant women with multipara parity, 11 (36.7%) were pregnant women with primipara parity, and the remaining 2 (6.7%) are pregnant women with *grandemultipara* parity [17]. This research is also in line with the results of Charles Wembonyama Mpoy's study (2021), which stated that out of a total of 1472 pregnant women, the majority or 772 (52.4%) were pregnant women who had given birth 2-4 times, 434 (29.5%) were pregnant women who had given birth to 5 or more children. The remaining 266 (18.1%) were pregnant women who had given birth once [18].

Dewi Indah Sari's research (2021) also showed the same result: out of 83 pregnant women, the majority, or 50 (60.2%), were pregnant women with multipara parity. The remaining 33 (39.8%) were pregnant women with primiparous parity [19]. Based on the related theory and research described, it can be concluded that the parity of mothers who make ANC visits are primarily pregnant women who have given birth 2-4 times. In this parity range, pregnant women will make ANC visits because they feel the need to maintain and pay attention to the condition of their pregnancy.

Table 3 shows that out of 100 pregnant women, 82 (82%) pregnant women made 1-5 ANC visits, and the remaining 18 (18%) made six or more ANC visits. ANC visits during the COVID-19 pandemic were carried out at least six times [3]. However, many pregnant women are still not compliant with ANC visits due to a lack of socialization about the new policy [20].

Table 3. Frequency Distribution of Number of ANC Visits during the COVID-19 Pandemic at RSIA AMC Metro

Number of ANC Visits	Frequency (n)	Percentage (%)
1 - 5 times	82	82
≥ 6 times	18	18
Total	100	100

These findings align with the results of two other studies. Priyanti's study (2020) reported that among 140 pregnant women, the majority (56.4%) attended ANC visits less than six times, while the remaining 43.6% attended six or more times [21]. Similarly, Harahap's research (2022) found that out of 53 pregnant women, the majority (62.3%) had incomplete ANC visits (less than six times), while the remaining 37.7% had complete ANC visits (six or more times) [22].

Furthermore, a study by Nurrahmaton (2023) produced similar findings, indicating that among a sample of 36 pregnant women, the majority (58.3%) attended non-compliant ANC visits (less than six visits), while the remainder (41.7%) attended compliant visits (six or more visits) [23]. Based on the theoretical framework and relevant literature, it can

be inferred that most pregnant women attend ANC visits only 1-5 times due to their lack of awareness of the new policy mandating at least six visits.

3.2. The Effect of Mother's Age and Parity on the Number of ANC Visits during the COVID-19 Pandemic at RSIA AMC Metro

The results of multiple logistic regression analysis can be seen in Table 4. The following results show that the mother's age has a significance value of > 0.05 , which means that the mother's age does not affect the number of ANC visits. These results are in line with research by Kassahun Tiruaynet (2019), which states that there is no effect of maternal age on the use of antenatal care services in the Benishangul Gumuz region, West Ethiopia, with an overall significance value of > 0.05 [24].

Table 4. Result of Multiple Logistic Regression Analysis

Variables	β	S.E.	Wald	df	Sig.	OR	CI 95%
Mother's age							
< 20 year	-18,852	40192,97	0,000	1	1,000	0,000	0,000 - 0,0
20-35 year	1,237	0,829	2,227	1	0,136	3,447	0,679 - 17,507
> 35 year	-	-	2,227	2	0,328	-	-
Mother Parity							
0 time	0,586	0,693	0,716	1	0,398	1,798	0,462 - 6,995
1 time	0,700	0,712	0,966	1	0,326	2,014	0,499 - 8,134
2-4 time	-	-	1,081	2	0,582	-	-
Constant	-2,937	0,849	11,96	1	0,001	0,053	-

This research is consistent with the findings of a study conducted by Haileab Fekadu Wolde in 2019 which stated that there was no effect of maternal age on late initiation of antenatal care among pregnant women at the main hospital of Addis Zemen, South Gondar, Ethiopia, with a total significance value of > 0.05 [25]. Nevertheless, the outcomes of this investigation diverge from the study carried out by Erkihun Tadesse in 2020, who concluded that there was an effect of maternal age on the utilization of antenatal care services for pregnant women attending antenatal care at public hospitals during the COVID-19 pandemic in Northeast Ethiopia with an overall significance value < 0.05 [26].

Table 4. also explains that maternal parity shows a total significance value of > 0.05 , which means that maternal parity does not affect the number of ANC visits. These results are in line with the research of Atsedele Alle Ewunetie (2018), which states that maternal parity has no effect on delays in the first antenatal care visit among pregnant women at public health facilities in Debre Markos City, Northwest Ethiopia, with a total significance value of > 0.05 [27].

The findings in this study are similar to those of Gebretsadik Shibre (2021), who noted that there was no effect of maternal parity on the utilization of antenatal care services among women in Guinea, with an overall significance value of > 0.05 [28]. Nonetheless, this study's results contradicted the investigation conducted by Hanifa M. Denny in 2022, who concluded that maternal parity affects four or more antenatal care visits for working women in Indonesia with an overall significance value of < 0.05 [29].

This study's outcome also contradicts the theory put forward by Lawrence Green about predisposing factors as one of the factors that influence a person's use of health services, where the predisposing factors include age and parity [30]. Based on related research and the theories that have been discussed, it can be concluded that the age and parity of the mother do not affect the number of ANC visits. This is thought to occur because pregnant women are afraid of contracting COVID-19, so they are reluctant to visit health facilities for ANC visits [26], [31].

The limitation of this study is that this research was conducted through a review of medical records, so information cannot be obtained about the number of ANC visits made

by pregnant women to other health services. Also, there is no integrated system for recording ANC from the midwife, health center, to hospital levels.

4. Conclusions

The study shows that most mothers who received ANC visits during the COVID-19 pandemic at RSIA AMC Metro were aged 20-35, had given birth 2-4 times, and attended 1-5 ANC visits. Age and maternal parity had no significant impact on the number of ANC visits. The researchers recommend that the health office provides outreach to pregnant women about the new policy requiring at least six ANC visits and create an integrated system for recording ANC visits. Further research is needed to explore other variables that may affect the number of ANC visits and to gather complete information by interviewing pregnant women and reviewing their Maternal and Child Health books.

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