



FACTORS AFFECTING THE COMPLETENESS OF ANTENATAL VISITS IN ADOLESCENT PREGNANCY

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Abstract

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Adolescent pregnancy is considered a high-risk condition and can cause maternal and perinatal complications. These complications can be prevented if pregnant women regularly attend antenatal visits at least six times. Pregnant teenagers tend to make antenatal visits at the beginning of the second trimester.

The purpose of this systematic review are to identify factors that influence the completeness of antenatal visits in adolescent pregnancy. Four electronic database (Scopus, Pubmed, Science Direct and Google Scholar) were used to search literature from 2017-2022 with keywords “factors influencing antenatal visits”, “antenatal care”, “compliance in antenatal care”, “adolescent pregnancy”, then they are selected according to the inclusion and exclusion criteria. Eleven articles were included according to the PRISMA. Overall, the completeness of antenatal visits carried out by pregnant adolescents is still low. This is influenced by knowledge, education of adolescents and partners, economic status, employment status, pregnancy distance, and maternal autonomy. A multi-sectoral intervention approach involving improving the quality of services, physical access, and health education about understanding the importance of pregnancy screening from the beginning of pregnancy is urgently needed to improve the completeness of antenatal visits in pregnant adolescents.

Keywords : Factors Influencing Antenatal Visit, Antenatal Care, Compliance in Antenatal Care, Adolescent Pregnancy

INTRODUCTION

Adolescent pregnancy is defined as a pregnancy that occurs between the ages of 10-19 years. Tens of thousands of children aged 15-19 die from pregnancy and childbirth worldwide (UNFPA, 2017), and an estimated 21 million women aged 15-19 in developing countries become pregnant and 12 million give birth each year (Sully *et al*, 2020). Indonesia has the 37th highest rate of young marriages in the world and the second highest in the *Association of Southeast Asian Nation* (ASEAN) after Cambodia.

More than 22,000 Indonesia children aged 10-14 years are married (BKKBN, 2012) and from Susenas statistics 2019-2020 show that 49% of Indonesia adolescents are pregnant (BPS, 2020).

Adolescent pregnancy is considered a high-risk condition that causes psychological (Indarti et al, 2020), socioeconomic (Kemenkes, 2017), as well as maternal and perinatal complications (Indarti et al, 2020). Adolescent pregnancy and childbirth can also have an impact on the demands of new mothers and adolescent demands (Ngum Chi Watts, 2015). One of the health practices used by pregnant women to prevent pregnancy problems and overcome diseases (Nurmawati and Indrawati, 2018), including preventing pregnancy complications in adolescents, birth counseling and childbirth readiness (Gupta et al, 2014), monitoring the health of pregnant women and fetal growth and preparing for the health of children (Kuhnt and Vollmer, 2017) namely through ANC services (*antenatal care*) carried out by professionals in accordance with the Midwifery Service Standards (SPK) or operationally known as 10T in its implementation (Ainy et al, 2016), with a minimum of 6 (six) antenatal visits during pregnancy with details of two times in the first trimester, once in the second trimester, and three times in the third trimester. At least twice examined by a doctor during the first visit in the first trimester and during the fifth visit in the third trimester (Kemenkes, 2020).

Antenatal services are less used by pregnant adolescents compared to adult mothers (Lacoella and Tirivayi, 2019). This is evidenced by adolescent mothers starting antenatal visits in the fourth month of pregnancy (Emelumadu et al, 2014, Shahabuddin et al, 2015), some come when the gestational age is more than five months and only a few report antenatal visits before five months (Namusana et al, 2022). Pregnant adolescents may not use antenatal services well due to a lack of mental readiness to accept pregnancy, especially if they are not supported by others, which can make them feel depressed and indifferent about their pregnancy. Neighbors may also talk about teen pregnancy, making them embarrassed to do ANC (Nurmawati and Indrawati, 2018). Therefore, in this study, an analytical study will be carried out to determine the factors that affect the completeness of antenatal visits in adolescent pregnancy from the results of previous research observations.

MATERIALS AND METHODS

This study uses a systematic review method through reviews of several journal articles to identify factors that affect the completeness of antenatal visits in adolescent pregnancy. The articles obtained came from electronic databases, namely Scopus, Pubmed, Science Direct and Google Scholar using the keywords Antenatal Visit and Adolescent Pregnancy. The inclusion criteria for the articles used are articles published from 2017 to 2022, written in United Kingdom, and published articles have a complete section. Meanwhile, the exclusion criteria were articles that were not related to antenatal visits in adolescent pregnancy.

The article selection process follows the stages of PRISMA. The first stage is focused on searching for articles using keywords. The articles that appear are then sorted, then sorted based on the inclusion criteria that have been determined. Articles that only include the abstract will be eliminated so that articles to be analyzed are obtained.

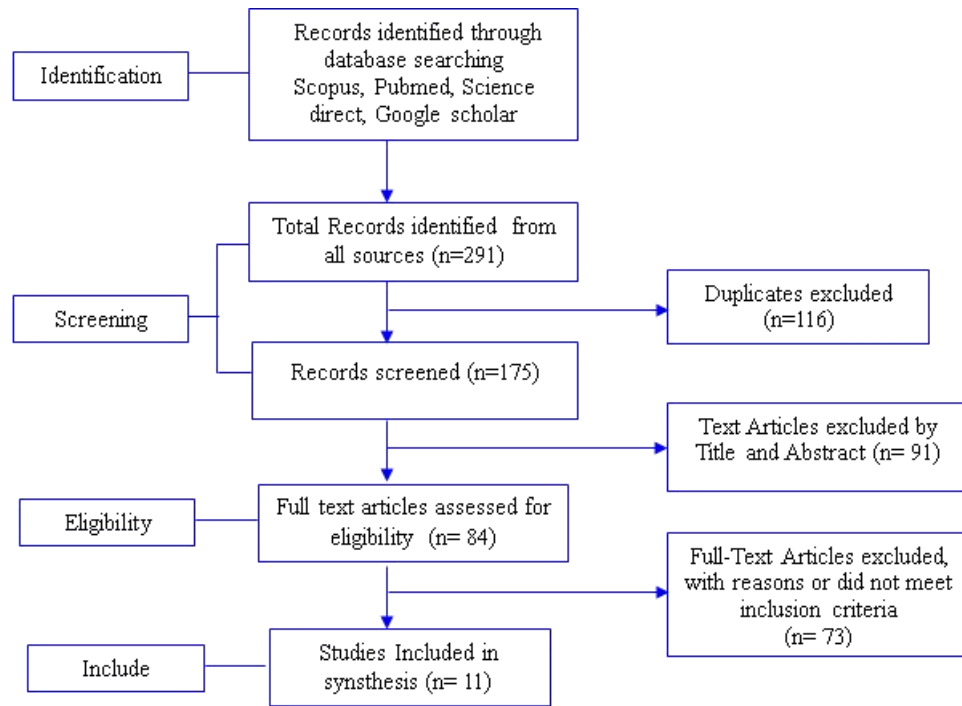


Figure 1. Study selection with ScR Prism data extraction diagram from selected literature

RESULTS AND DISCUSSION

The search results obtained 291 articles. The next article selection was by eliminating article duplication with the result of 116 articles. Then the article was filtered by looking at the abstract and title obtained as many as 84 eligible articles. Furthermore, article elimination was carried out based on inclusion criteria and 73 articles were obtained. Of the 91 articles, only 11 articles are relevant to the dependent variable referred to in the review (table 1).

Table 1: Finding Results

No.	Title	Objective	Method	Results
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1	Determinants of Utilization of Antenatal Care Services among Adolescent Girls and Young Women in Indonesia (Efendi <i>et al</i> , 2017)	To assess the key factors determining use of ANC by adolescent girls and young women in Indonesia	Data from the Indonesia Demographic and Health Survey 2012 were used, with a focus on married adolescent girls (aged 15–19 years, n = 543) and young women (20–24 years, n = 2,916) who were mothers. Bivariate and multiple logistic regression analyses.	Adolescents were less likely to make ANC visits than young women. Richer women were more likely to make four ANC visits in both groups compared to the poorer women. Living in urban areas, higher educational attainment, and lower birth order were also all associated with higher levels of receiving ANC among young women. Socio-economic factors were related to the use of ANC among adolescent girls and young women.
2	Timing and Number of Antenatal Care Contacts in Low and Middle Income Countries: Analysis in The Countdown to 2030 Priority Countries (Jiwani <i>et al</i> , 2020)	<p>a. To quantify the timing of ANC initiation and its variation according to overall levels of ANC contacts</p> <p>b. Compare the profile of women who initiated ANC during the first trimester to that of women who delayed the first visit until the second or third trimester</p> <p>c. Quantify the association between timely ANC initiation and 1) the number of ANC contacts received and 2) the content of ANC care received</p> <p>d. Estimate the proportion of women who achieve ANC 8+ contacts and compare their profile to that of women with 1-7 ANC contacts.</p>	<p>a. Using 54 Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) since 2012, we reported the proportion of women with timely ANC initiation and those who received 8-10 contacts by coverage levels of ANC4+ and by Sustainable Development Goal (SDG) regions.</p> <p>b. Identified demographic, socio-economic and health systems characteristics of timely ANC initiation and achievement of ANC8+.</p> <p>c. With four multiple regression models to quantify the associations between timing of first ANC and the number and content of ANC received.</p>	<p>a. Overall, 49.9% of women with ANC1+ and 44.3% of all women had timely ANC initiation; 11.3% achieved ANC8+ and 11.2% received no ANC.</p> <p>b. Women with timely ANC initiation had 5.2 (95% confidence interval (CI) = 5.0-5.5) and 4.7 (95% CI = 4.4-5.0) times higher odds of receiving four and eight ANC contacts, respectively ($P < 0.001$), and were more likely to receive a higher content of ANC than women with delayed ANC initiation.</p> <p>c. Regionally, women in Central and Southern Asia had the best performance of timely ANC initiation; Latin America and Caribbean had the highest proportion of women achieving ANC8+.</p> <p>d. Women who did not initiate ANC in the first trimester or did not achieve 8 contacts were generally poor, single women, with low education, living in rural areas, larger households, having short birth intervals, higher parity, and not giving birth in a health facility nor with a skilled attendant.</p>
3	Perceived Barriers to Utilization of	To identify perceived barriers to utilization	A qualitative study using in-depth interviews and focus	The main perceived barriers to ANC utilization were

	Antenatal Care Services in Northern Uganda: a Qualitative Study (Uldbjerg <i>et al</i> , 2020)	of ANC services in a rural post-conflict area in northern Uganda	group discussions of seventeen participant (pregnant women, health workers and a traditional birth attendant).	identified as: poor quality of care, including poor attitude of health workers; socio-cultural practices not being successfully aligned to ANC; and lack of support from the husband, including difficulties in encouraging him to attend ANC.
4	Factors Related to the Practice of Antenatal Care in Adolescents with Unwanted Pregnancies (Study in the UPT Ponjong I Health Center Area, Gunungkidul Regency) (Wakhidah <i>et al</i> , 2017)	To know the related factors of ANC practice in teenagers with unwanted pregnancy.	This research is a qualitative research using cross sectional approach. The technique used is total sampling technique, i.e.: 43 teenagers with unwanted pregnancy on 2014 and 2015 in UPT Puskesmas Ponjong I.	a. Related variable to the ANC practice is knowledge of ANC (p=0,043). b. Variables which not related to the ANC practice are attitude to ANC (p=0,362), cultural value (p=11), access affordability (p=0,067), cost affordability (p=0,162), official competencies (p=1,000), support from husbands/couple (p=1,000), support from parents (p=0,728), support from peers (p=0,269).
5	Women's Autonomy and the Utilization of Antenatal Care (ANC) in Adolescent Primigravida in Rural Areas, Central Java (Widyastuti, 2017)	To examine the relationship between women autonomy and ANC utilization	Correlation study among 85 married teenage primigravida, gestational age > 28 weeks, across Pekalongan District, through Chi Square analysis.	31.8% of adolescents had inadequate ANC utilization. It related to the overall women autonomy index (p-value = 0.013, X ² = 6.168), especially for familial dimension of health care decision making power (p-value = 0.000, X ² = 31.264)
6	Determinants of Antenatal Care Utilization among Adolescent Mothers in the Yendi Municipality of Northern Region, Ghana (Ziblim <i>et al</i> , 2018)	To find out the determinants of antenatal service attendance among pregnant adolescents in the city of Yendi	A cross sectional descriptive study design was employed with both quantitative and qualitative methods of data collection. Data was collected from 126 adolescent mothers using the purposive sampling technique.	a. Distance to health facilities, mother's and partner's level of education, unfriendly attitude of health workers, cultural beliefs and income are the main determinants for the utilization of antenatal care services among pregnant adolescents. b. A significant association with the utilization of antenatal care services include place of residence, ethnicity, religion, marital status, partner's education level and distance to health facility.
7	Determinants of Maternal Healthcare Utilization among	To identify the determinants of maternal healthcare utilization among	Design: multicountry cross-sectional with Demographic and Health Survey data on 4288 married adolescents	a. Wealth and access to media were positively associated with the utilization of all types of maternal healthcare services.

	Married Adolescents: Evidence from 13 Sub-Saharan African countries (Lacoella and Tirivayi, 2019)	married adolescents in 13 countries with the highest adolescent marriage rates in Sub-Saharan Africa		Female education and partner education were positively associated with antenatal care. b. Full antenatal care and safe delivery utilization were associated with increased postnatal care utilization. Second or third birth order and associated birth intervals c. were strong barriers to maternal healthcare utilization. d. Autonomy over personal healthcare decisions had an opposite relationship (OR=0.76; 95% CI=0.58, 1.01)
8	Analysis of Antenatal Care visit factors in pregnant adolescent at Kupang city Health Center (Riwoe <i>et al</i> , 2022)	To analyze factors associated with teenage pregnancy ANC Health Center in the city of Kupang	This was an observational study using cross sectional design with multiple regression test	A significant relationship between perception, family support, knowledge, education, health care providers, facilities and infrastructure with antenatal care visit of pregnant teen in the working area of public health centre in city of Kupang.
9	Experiences of Antenatal Care among Pregnant Adolescent at Kanyama and Matero Clinics in Lusaka District, Zambia (Bwalya, 2018)	To explore and describe the lived experiences of antenatal care among pregnant adolescents aged between 12 to 19 years old at Kanyama and Matero Referral Clinics in Lusaka district of Zambia	Qualitative study which used in-depth interviews to collect data at 12 pregnant adolescents of 12 to 19 years age range that attended antenatal care.	a. The study revealed that the adolescents experienced positive and negative antenatal care. b. While there were some reported cases of caring and friendly health care providers and older pregnant women, there were also reported cases of poor attitudes and behaviours by the older pregnant women and health care providers towards the adolescents. c. Opening hours for the health facilities which was not favourable to all adolescents and the lack of specific spaces for adolescents as well as inadequate privacy and confidentiality.
10	Factors Influencing Utilization of Antenatal Care Services among Teenage Mothers in Malindi Sub-County Kenya-a Cross Sectional Study (Stephen, 2017)	Identified factors that influence utilization of ANC services among women aged 13-19 years	Cross-sectional study was conducted among 385 teenage mothers using semi-structured questionnaires and key informants' interviews in Malindi Sub-County	a. 91.2% of the participants reported poor utilization of ANC services with less than 4 ANC visits. b. About 54.7% reported late/inappropriate booking time. c. Knowledge of the recommended ANC visits, marital status, occupation, and the person making the decision

				to attend ANC were strong determinants of ANC utilization.
				d. Participants with good knowledge of the recommended ANC visits were about 3 times more likely to have good utilization of ANC services than participants with poor knowledge (OR=2.734, p=0.006, 95% CI: 1.34, 5.58).
				e. Participants who made the decision to start ANC clinics were 3 times more likely to have good ANC services utilization compared to participants whose decision was made by others (OR=2.914, p=0.009, 95% CI: 2.91, 6.48).
11	Correlates of antenatal care usage among adolescent mothers in Nigeria: a pooled data analysis (Alex-Ojei and Odimegwu, 2021)	To examined selected correlates of timing and frequency of antenatal care visits among adolescent mothers aged 15–19 in Nigeria	Data from the women's recode dataset of the Nigeria Demographic and Health Surveys between 2003 and 2018 were pooled, with a sample size of 4,775. Multivariate data analysis was carried out using binary logistic regression	<p>a. Educated, higher wealth status contributing to health decision-making.</p> <p>b. Having an educated partner and living in the South West region were associated with higher complete antenatal care utilization.</p> <p>c. Having difficulty getting permission to go to the health facility and with the distance to the health facility were associated with lower likelihood of ANC.</p> <p>d. Respondents with secondary and higher education were more likely to start ANC early, but Muslim mothers and those living in the North West, South-South and South West were less likely to begin ANC early.</p>

The following are the results of the analysis based on table 1:

Knowledge

Knowledge is an important factor that affects the motivation of pregnant women to make antenatal visits. Mothers with high knowledge about pregnancy health consider antenatal visits not just to

fulfill obligations, but to be a necessity for their pregnancy (Rachmawati et al, 2017). This supports the results of research by Wakhidah et al (2017) and Stephen Mulinge (2017) that adolescents with good knowledge about antenatal visits are more likely to have antenatal visits at least four times. Pregnant women who have low knowledge are 19 times more likely to have incomplete antenatal visits when compared to mothers who have high knowledge about ANC (Fitrayeni et al, 2017).

Education

A person's level of education determines how much knowledge he has. According to Ziblim et al (2018), Lacoella and Tirivayi (2019), Riwoe Rohi et al (2022), maternal and partner education is the main determining factor in the use of antenatal services among pregnant adolescents. Educated pregnant women have a better understanding of health problems so that it affects their attitude towards their own pregnancy and the fulfillment of their nutrition during pregnancy (Notoatmodjo, 2012). Pregnant adolescents who have higher education tend to have pregnancy checks in the first trimester (Fulpagare et al, 2019). In addition, some researchers also showed that the role of partner education, and in this study, young mothers whose partners had minimal primary education had higher rates of antenatal service utilization (Rai et al, 2012, Mekonnen et al, 2019, Singh et al, 2012, Singh et al, 2013).

Economic Status

Based on the results of the study, antenatal visits more than four times tend to be carried out by pregnant adolescents with good economic status (Efendi et al, 2017). Young mothers with higher economic status have higher utilization of antenatal services (Rai et al, 2012, Banke-Thomas et al, 2017, Ochako et al, 2011).

Employment Status

Pregnant women who work with high activity and intensive activities prefer to prioritize their careers compared to their own health, so it is difficult to be obedient in conducting antenatal visits compared to housewives who have more free time to be able to manage and schedule antenatal visits optimally (Usman et al, 2014).

Pregnancy Distance

Close pregnancy spacing can increase the risk of complications in pregnant women so that this further increases the frequency of antenatal visits (Usman et al, 2014).

Maternal autonomy

Autonomy was found to have a positive influence on antenatal visits. Adolescent mothers who can play a role in decision-making related to their health have more complete antenatal visits, compared to those who are not able to play a role in decision-making (Alex-Ojei and Odimegwu, 2021). During pregnancy, adolescents have decision-making power in the family supported by the husband

and the family living in the same house (Widyastuti, 2017, Stephen Mulinge, 2017). In developing countries, the mobility of adolescent girls tends to be limited, especially for married adolescents, which makes it difficult for them to access health services (WHO, 2007). Surveys in Indonesia show that women have significant barriers to accessing health services, especially adolescents, who must first obtain permission from their husbands or family (WHO, 2007, BPS, BKKBN, Kemenkes, and ICF International, 2013).

CONCLUSION

Based on the results of the analysis of 11 articles, evidence shows that knowledge, education of adolescents and partners, economic status, employment status, pregnancy distance, and maternal autonomy, affect the completeness of antenatal visits in adolescent pregnancy. A multi-sectoral intervention approach involving improving the quality of services, physical access, and health education about understanding the importance of pregnancy screening from the beginning of pregnancy is urgently needed to improve the completeness of antenatal visits in pregnant adolescents.

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