Factors associated with late antenatal care attendance among women of reproductive age in South Africa

Stemary Tiisetso Letloenyane[1] and Mluleki Tsawe[1]

[1]Department of Population Studies and Demography, North-West University, Mahikeng Campus, Mafikeng, South Africa

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Abstract

Background: Late antenatal care (ANC) attendance is a population health concern. This study aimed to examine the factors associated with late ANC attendance among women of reproductive age in South Africa.

Methods: Data obtained from the 2016 SADHS was used in this study. Three types of data analysis were used: univariate, bivariate (with a chi-square test), and multivariate (binary logistic regression).

Results: We found that age, population group, marital status, level of education, employment status, parity, media exposure, household wealth status, place of residence, and province were associated with late ANC. We found that younger women, women with primary or secondary education, women with higher parity, and women from the Eastern Cape had higher odds of late ANC.

Conclusion: Awareness programmes should be implemented to address barriers to early use of ANC. There is also a need to educate younger women about the importance of early ANC.

Introduction

The healthcare that a pregnant woman receives is fundamental to both her and the unborn child's survival, both during and immediately following birth. Furthermore, pregnancy-related issues account for half of the maternal deaths globally each year (World Health Organisation, 2020). Maternal health has become a global concern in recent years, particularly in underdeveloped countries, due to an increasing number of mother and child deaths during pregnancy, childbirth, and after giving birth (World Health Organisation, 2015). For example, data from 2015 alone showed that 1 in 180 women globally were at risk of dying from pregnancy and childbirth-related issues (World Health Organisation, 2015). The second leading cause of death in 2017 among women of reproductive age (15–49 years old) was maternal mortality (World Health Organisation, 2020). Approximately 65% of these mortalities take place in Africa, with low- and lower-middle-income countries accounting for over 95% of the deaths (World Health Organisation, 2019). Inadequate antenatal care (ANC) utilization, which is defined as the description of medical treatment and procedures offered to pregnant women throughout their pregnancy until delivery, is the primary cause of a huge amount of preventable deaths associated with pregnancy and childbirth (World Health Organisation, 2020).

Late ANC attendance remains a problem for women of reproductive age and has the potential to lead to poor neonatal and maternal health outcomes. A significant number of pregnant women still attend ANC services later than recommended, often after the first trimester. According to Jinga et al. (2019), more than 60% of women in Sub-Saharan Africa attend their first ANC service after 20 weeks of gestation, while some (6.0%) proceed into labour without the experience of ANC attendance. Understanding the factors that influence late ANC is crucial for targeted interventions aimed at improving child and maternal health in the country. If the recommendations on ANC attendance and the actual early ANC uptake are not taken seriously, it could lead to higher rates of maternal and child mortality (Downe et al., 2019; Nwabueze et al., 2023). Moreover, late ANC attendance could lead to missing complications that could have been diagnosed earlier. The delayed start of ANC results in lost opportunities for the detection and treatment of underlying illnesses that exist either independent of pregnancy or as a result of pregnancy (Pattinson, 2013; Solarin & Black, 2013). According to the National Department of Health et

al. (2019), just over three in four women had at least four antenatal care bookings (ANC) during their most recent pregnancy that ended in a live birth, 13% had two to three bookings, and two percent (2%) had just one booking in South Africa. Not much is known about the factors associated with late ANC attendance among women of reproductive age in South Africa. The main objective of the study is to examine the factors associated with late ANC attendance among women of reproductive age in South Africa.

Methods

Data source

We used secondary data from the 2016 South Africa Demographic and Health Survey (SADHS). Women of reproductive age (15-49), who had a live birth in the five years before the survey, were included in the study.

Variables

We used late ANC attendance as our outcome variable in the study. This variable is based on the question asked from women "*How many months pregnant were you when you first received antenatal care for this pregnancy?*" The answers are based on numbers (months). Women who had their first ANC visit in the second trimester (i.e., from four months into their pregnancy) are coded as 1=Late ANC, otherwise 0=Not late. We included ten explanatory variables in this study. These included age group, population group, marital status, highest educational level, employment status, parity, media exposure, household wealth, place of residence, and province.

Statistical analysis

We used Stata version 14 to analyse the data (StataCorp, 2015). Three types of data analysis were conducted: univariate, bivariate (with a chi-square test), and multivariate (binary logistic regression).

Results

Prevalence of late ANC attendance

Table 1 (*not shown here*) shows the association between late ANC attendance and the background characteristics. The findings showed that there was an association between late ANC attendance and the following factors: age, population group, marital status, level of education, employment status, parity, media exposure, household wealth status, place of residence, and province. Late ANC attendance was more prevalent among women aged 15-19 (60.6%). The prevalence of late ANC attendance was lower among women above the age of 19. Regarding population group, women from the black population group had a higher prevalence of late ANC attendance (47.8%), followed by those from the coloured population group (35.9%). Moreover, the findings showed a higher prevalence of late ANC attendance among women who were never married (49.6%), followed by those women who were no longer married (45.3%). Regarding the educational level, women who had no education (48.7%) and those who had secondary education (48.7%) had a higher prevalence of late ANC attendance, followed by women who had primary education (48.5%). Moreover, the findings showed that a higher prevalence of late ANC was among women who were not employed (49.3%). Women who had five or more children had a higher prevalence (55.8%) of late ANC attendance. Likewise, women who were not exposed to the media had a higher prevalence (47.5%) of late ANC attendance.

Furthermore, late ANC attendance decreased with household wealth. The results showed that women from poor households (50.4%) had a higher prevalence of late ANC attendance, while late ANC attendance was lower among women from rich households (40.3%). There was a higher prevalence (50.7%) of late ANC attendance among women from rural areas. Additionally, women from the Eastern

Cape had a higher (53.0%) prevalence of late ANC attendance, followed by women from Mpumalanga (50.9%), and women from KwaZulu-Natal (49.8%), while it was lower (37.6%) among women from the Western Cape and the Northern Cape (40.4%).

Determinants of late ANC attendance

Table 2 presents the logistic regression results for factors influencing late antenatal care attendance among women of reproductive age in South Africa. The finding showed that women aged 15-19 years were 1.63 [95% CI: 1.06-2.51] times more likely to attend ANC late than women aged 30-39. Regarding level of education, women who attained primary education were 1.77 [95% CI: 1.13-2.76] times more likely to attend ANC late than women who attained higher education. In addition, women who attained secondary education were 1.91 [95% CI: 1.38-2.65] times more likely to attend ANC late than women who attained higher education. In terms of parity, the results showed that women who had five or more children were 1.65 [95% CI: 1.07-2.52] times more likely to attend ANC late than women who had 3-4 children. Moreover, women from the Eastern Cape province were 1.41 [95% CI: 1.02-1.97] times more likely to attend ANC late than women from the North West province.

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Table 2: Determinants of late antenatal care attendance among women of reproductive age in South Africa

Variables	Odds ratio	Std. Err.	t	P>t	95% CI	
					Lower	Upper
Age group						
15-19	1.63	0.36	2.24	0.025	1.06	2.51
20-29	1.12	0.14	0.88	0.381	0.87	1.43
30-39®	1					
40-49	1.04	0.20	0.20	0.840	0.71	1.51
Population group						
Black®	1					
Coloured	0.74	0.13	-1.65	0.098	0.52	1.06
Other	0.58	0.19	-1.65	0.100	0.30	1.11
Marital status						
Never married	1.13	0.12	1.14	0.256	0.92	1.38
In-union®	1					
No longer married	1.05	0.25	0.20	0.841	0.66	1.67
Level of education						
No education	1.79	0.83	1.25	0.211	0.72	4.46
Primary	1.77	0.40	2.51	0.012	1.13	2.76
Secondary	1.91	0.32	3.93	0.000	1.38	2.65
Higher®	1					
Employment status						
Not employed®	1					
Employed	0.90	0.10	-1.00	0.316	0.72	1.11
Parity						
1-2	1.10	0.12	0.92	0.360	0.90	1.35
3-4®	1					
5+	1.65	0.36	2.29	0.022	1.07	2.52
Media exposure						
No®	1					
Yes	1.11	0.13	0.89	0.372	0.88	1.39
Household wealth status						
Poor	1.07	0.13	0.60	0.548	0.85	1.35
Average®	1					
Rich	0.95	0.14	-0.34	0.734	0.72	1.26
Place of residence						
Urban®	1					
Rural	1.09	0.13	0.73	0.469	0.87	1.37
Province						
Western Cape	1.08	0.23	0.38	0.703	0.72	1.63
Eastern Cape	1.41	0.24	2.06	0.040	1.02	1.97
Northern Cape	0.99	0.19	-0.05	0.958	0.67	1.45
Free State	1.08	0.20	0.42	0.671	0.75	1.57
KwaZulu-Natal	1.24	0.19	1.35	0.178	0.91	1.68
North West®	1					
Gauteng	1.17	0.21	0.88	0.381	0.83	1.65
Mpumalanga	1.29	0.20	1.64	0.102	0.95	1.76
Limpopo	1.05	0.18	0.28	0.781	0.75	1.47
_cons	*0.33*	*0.08*	*-4.40*	*0.000*	*0.20*	*0.54*

Note: ® = reference category; CI = confidence interval