**Mansoura Nursing Journal (MNJ) Vol. 10. No. 1 – 2023** **Original Article**
**Print ISSN: 2735 – 4121 Online ISSN : 2735 – 413X**

# Late antenatal visit and associated factors

**Samah Shaaban Ali1, Shaimaa Fouad Mohammed2, Amina Mohammed Rashad El- Nemer3**

1Head nurse at Mansoura University Hospitals, Faculty of Nursing, Mansoura University, Egypt

2Lecturer of Woman's Health and Midwifery Nursing, Faculty of Nursing, Mansoura University, Egypt

3Professor of Woman's Health and Midwifery Nursing, Faculty of Nursing, Mansoura University, Egypt

Corresponding author email: samahhamad2210@gmail.com

## 1.ABSTRACT

**Background:** Antenatal care (ANC) is important for maternal and fetal health. As early as the first trimester, ANC visits should begin and continue throughout the second and third trimester. Long distances or times to health facilities, lack of health insurance, low socioeconomic status, low levels of education, parity, limited understanding of the benefits of ANC, employment status, cultural norms and ethnicity and communication between health workers are just a few of the factors that contribute to late ANC initiation. **Aim:** This study aimed to assess late antenatal visits and associated factors among pregnant women. **Design:** A descriptive study design was used. **Setting:** This study was carried out at antenatal clinics of Obstetric and Gynecological Specialty Center at Mansoura University Hospitals, Mansoura, Egypt. **Study sample:** A convenient sample of 384 pregnant women was utilized. **Tools:** One tool was used; a structured interview questionnaire which consists of four parts: socio Demographic factors, obstetric history, sociocultural factors and health system factors. **Results:** More than two thirds of them were far from health system, had expensive transport cost &their family size was 3-5.. More than half of them had previous pregnancy complications. Nearly three quarters of the pregnant women reported fear of disclosure, the majority of them reported fear of evil eye, lack of husband support. Less than two thirds of the pregnant women reported low quality of services received during ANC while more than one third of them reported high ANC quality. **Conclusion:** There was a statistically significant association between the studied women's first antenatal visit and their sociodemographic, obstetric, sociocultural and health system factors. **Recommendation:** Increasing the awareness of pregnant women about the importance of early attendance to antenatal clinics.

***Keywords:*** *Antenatal care- associated factors- late initiation-pregnant women.*

## 2.Introduction:

Antenatal care (ANC) is a critical care that pregnant women receive to improve both the mother's and the fetus's health ***(Belay, Astatkie, Abebaw, Gebreamanule & Enbeyle, 2022).*** If prenatal care is started early and followed up till delivery, it reduce poor pregnancy outcomes ***( Maluka, Joseph, Fitzgerald, Salim & Kamuzora, 2020).***

Key benefits of adequate ANC include a decrease in unfavorable pregnancy outcomes, monitoring and maintaining the health and safety of the mother and the fetus, detecting all pregnancy complications and taking the necessary actions, responding to complaints, preparing for delivery, promoting a healthy lifestyle, promoting women's health and a decrease in perinatal and neonatal morbidity and mortality ***(Laksono, Rukmini, & Wulandari, 2020).*** Around 99% of maternal deaths and 98% of infant deaths that occur in middle- and low-income countries can be prevented if pregnant women have access to high-quality ANC ***(Tessema, Teshale, Tesema, & Tamirat,2021).***

According to WHO guidelines, all pregnant women should start ANC before12 weeks and schedule at least four ANC visits between weeks 8 &12, 24 &26, 32 weeks and 36 &38 weeks respectively in order to reduce maternal mortality from pregnancy-related complications (***Belay, et al., 2022).***

In 2016, WHO developed a modified ANC model. This model now suggests a minimum of eight ANC visits to replace the prior four visits (focused ANC model) with the first visit contact occurring at week 12 of pregnancy and additional visits occurring at weeks 20, 26, 30, 34, 38, and 40 of gestation ***(Ali, Elbarazi, Alabboud, Al-Maskari, Loney, & Ahmed, 2020).***

Early initiation of prenatal care depends on the woman's awareness and the support of the community. The goal of promoting early ANC should be directed to create an

environment that is supportive such as by increasing investment for the necessary medical equipments, lowering the cost of additional ANC services, ending discrimination against adolescent pregnancies and people living with HIV and improving the training of health professionals *(Funsani , Jiang, Yang , Zimba, Bvumbwe & Qian, 2021)*.

Community health centers were still having issues in offering pregnant women competent ANC services due to a lack of necessary equipments. This resulted in higher costs, poorer ANC quality and lower usage of the services *(Woldeamanuel, & Belachew, 2020).* Late ANC may lead to delayed detection of problems which could have a significant adverse effect on the health of the mother and fetus. This would increase the risk of preterm labor, low birth weight, intrauterine deaths and maternal & neonatal mortality *(Manyeh, Amu, Williams & Gyapong, 2020).*

**Significance of the study**

According to WHO, only 50% of expectant women worldwide receive the recommended minimum of four ANC visits. One of the highest maternal mortality rates in the world is found in Africa **(Ahinkora, 2022).** A considerable percentage of pregnant women in Egypt attend their first ANC visit after 12 weeks of gestation as a result of numerous factors that influence their decision as ANC services being available, poorer socioeconomic status, higher parity or gravidity, lower educational level and fewer access to health care. Women who have previously delivered healthy babies and who become pregnant unintentionally are more likely to begin ANC later in their pregnancies *(Ali et al., 2020; Ismainar, Subagio, Widjanarko &Hadi, 2020).*

The number of visits may have a lower impact on pregnancy outcomes than the time of starting ANC. Poor outcomes including low birth weight ,preterm birth, maternal mortality, premature labor, preterm babies and intrauterine deaths may result from late ANC attendance which also raises the overall cost of prenatal care *(Ali et al., 2020 ; Manyeh et al. , 2020).*

The development of maternal and neonatal health still presents significant challenges. The main causes of prenatal mortality, which account for around 25% of all maternal deaths, are preeclampsia and antepartum hemorrhage. These conditions can be managed if expectant women attend ANC on time **(Maluka et al., 2020*).*** Also, in order to decrease maternal and neonatal mortality and improve perinatal outcomes, it is important for pregnant women to receive regular antenatal care and be aware of the appropriate time of the first ANC visit. There are little research about associated factors for late initiation of antenatal visits in Mansoura University Hospitals so this study was conducted.

**2.1 Aim of the study**

The study aimed to assess late antenatal visits and associated factors among pregnant women .

**2.2 Research Question**

What are factors associated with late initiation of antenatal visit among pregnant women attending antenatal clinics?

**3. Method**

**3.1 Study design:**

A descriptive study design was utilized to describe the patterns of disease occurrence in relation to variables such as person, place and time at Antenatal Clinics of Obstetric and Gynecological Specialty Center at Mansoura University Hospitals

**3.2Study setting**:

This study was conducted at Antenatal Clinics of Obstetric and Gynecological Specialty Center at Mansoura University Hospitals. It consists of one flour divides into six parts; reception part, sonar part, antenatal examination section, gynecological examination section, vesicular mole section and room for nursing staff. The Antenatal Clinic is open daily from Saturday to Wednesday from 9 am to 1pm in Dakahlia Governorate for pregnant women and sun day is for pregnant women and vesicular mole cases. Nearly 300 cases of pregnant women attended to these antenatal clinics each week

**3.3Study sample:**

A convenient sample of 384 pregnant women was used.

**3.4Sample size calculation:**

Based on data from literature **Wolde , Tsegaye, & Sisay (2019)** to assess late initiation of antenatal care and associated factors among pregnant women. Considering level of significance of 5% and power of study of 80%, the sample size was estimated according to the following formula: $[(Z_{1-\alpha/2})^2. P (1-P)]/d^2$. Where, $Z_{1-\alpha/2}$ = is the standard normal variation, ($p<0.05$) it is 1.96.P = the expected proportion in population based on previous studies. d = absolute error or precision. So, Sample size = $[(1.96)^2. (0.525). (1-0.525)]/(0.05)^2$ =383.2 .Based on the above formula, the sample size required for the study was 384 pregnant women.

**3.5 Tools of data collection**

One tool was used to collect data

**Tool I: A structured interview questionnaire:** This tool was developed by the researchers after reviewing the related literature **( Mgata &Maluka, 2019 ; Wolde, et al., 2019).** It included four parts. **Part (1): demographic** factors such as age, educational level, husband educational level, woman's occupational status, husband occupation, marital status, monthly income, travel cost, family size, residence, distance of the health system. **Part (2): obstetric history** such as gestational age, gravidity, history of abortion, type of pregnancy, previous cesarean section, previous stillbirth, history of child death, number of living children, previous pregnancy complications and time of first antenatal visit at previous and present pregnancy. **Part (3): Sociocultural factors** as fear of disclosure, fear of evil eyes, fear of witch craft, sex of health care provider and husband support. **Part (4): Health system factors** as quality of health services, cost of the services, shortage of health care providers, overcrowding and long stay and attitude of health care providers.

**3.6Validity of the tool**

Before using the tool, a panel of three experts in Women's Health and Midwifery nursing examined their content and validity to makesure that questions carried the intended meaning and were consistently stated. Modifications as simplifying the meaning and rearranging the sequence of some questions were done.

**3.7 Ethical Consideration**

Ethical approval was obtained from the Research Ethics Committee at the Faculty of Nursing in Mansoura University to implement the study. Official permission was obtained from the director of the antenatal outpatient clinics of obstetric and gynecological specialty center at Mansoura University Hospitals. Oral consent was obtained from every pregnant woman involved in the study after clarification of the aim and approach of the study. All pregnant women were reassured about the confidentiality of the collected data. In addition, the right to withdraw from the study was permitted.

**3.8 Pilot Study:**

Before data collection, a pilot study was done on 10% (39 pregnant women) to assess the simplicity, applicability & clarity of the tools. Based on the results of the pilot study, the necessary adjustments as simplifying the meaning and rearranging of some statements were done. The pilot study was excluded from the study sample.

**3.9 Field work**

-This study was conducted in the above-mentioned setting from the beginning of August 2021 to the end of January 2022.

- Ethical approval was obtained from Research Ethics Committee at the faculty of nursing in Mansoura University to implement the study.
- Official permission was obtained from the director of the antenatal outpatient clinics of obstetric and gynecological specialty center at Mansoura University Hospitals.
- The researcher prepared and designed data collection tool after reviewing the relevant literature.
- The researcher attended to the study setting three days a week (Sunday, Monday and Tuesday) from 9:00 a.m. to

1:00 p.m. till the sample size was obtained.

- The researcher introduced herself to the pregnant women and obtained their oral consent to participate in the study after explaining the study's purpose.
- The researchers collected data regarding pregnant women's socio demographic, obstetric, sociocultural and health system factors for late initiation of ANC visit.
- The researchers attended ANC clinic at Mansoura University Hospitals until completed the predetermined sample.
- Statistical program for social sciences (SPSS) version 21 was used to store, categorize, code, computerize, tabulate, and analyze the acquired data.

### 3.10 Data Analysis phase

All statistical analyses were performed using SPSS for windows version 20.0 (SPSS, Chicago, IL). Continuous data were normally distributed and were expressed in mean ±standard deviation (SD). Categorical data were expressed in number and percentage. Chi-square test was used for comparison of variables with categorical data. The reliability (internal consistency) test for the questionnaires used in the study was calculated. Statistical significance was set at $p<0.05$.

## 4. Results

**Table 1.** Shows that more than one third of the studied women aged 25-30 years with Mean ±SD 28.6 ±6.0, cann't read or write and their husband cann't read or write (35.9%, 35.4% &39.8%, respectively). (79.2%) were housewives and (62.0%) of their husbands weren't employed, (53.1%) hadn't enough income. (71.1%) were far from health system, (71.6%) had expensive transport cost &(67.4% ) their family size was 3-5. The majority of them (81.8%) were from rural areas.

**Table 2.** Clarifies that 78.1% of the studied pregnant women had gestational age ≥ 25 weeks with Mean ±SD 31.8 ±10.5. Around half of them were gravida three or more (49%). 74.5% of them had no history of abortion. Less than two thirds of them planned their pregnancy &had previous cesarean section (64.1% &65.4%, respectively). The majority of them had no history of child death and no previous still birth (93.7% & 85.9%, respectively). 68.5% of them had one to three living children .73.2% of them had their first antenatal visit at previous pregnancy before12 weeks. More than half of them (55.5%) had previous pregnancy complications.

**Table 3.** Reveals that 74.5% of the studied women reported fear of disclosure, 84.1% reported fear of evil eye, 86.7% had lack of husband support and 83.6% reported attendance of male health care provider.

**Table 4.** Clarifies that 54.2% of the studied women were checked for blood pressure and (61.7%) weighted during pregnancy. 54.2% reported that they didn't have blood sample taken during their pregnancy, 60.7% weren't told about complications, 55.7% not given or instructed to take iron tablets & 57.3% not receive at least one tetanus injection. 53.1% of them reported overcrowding and long stay. 84.6% reported negative attitude of health care providers. The cost of the services was suitable for (51.6%) of them.

**Figure 1.** Clarifies that 60.4% of the studied women reported low quality of services received during ANC. 39.6% of them reported high ANC quality

**Table 5**. Shows that, there was a highly statistical significant association between the studied women's sociodemographic characteristics and their first antenatal visit ($p< 0.001$) as pregnant woman aged > 30 years, those who and their husband can't read &write, housewives, their husbands weren't employed, hadn't enough income, their distance was far from health system, with expensive transport cost, their family size3-5 &from rural areas had their first antenatal visit late (41.2%, 47.1%, 54.0%, 94.9%, 70.4%, 63.1%, 88.3%, 87.2%, 86.1% & 99.6%, respectively).

**Table 6**. Shows that there was a statistical significant association between the studied women's obstetric history and their first antenatal visit at present pregnancy (p<

0.001) as studied women at ≥ 25 weeks gestation, who were gravida three or more with no history of previous abortion, had unplanned pregnancy, had one to three living children attended their first antenatal visit late after 12 weeks (94.5%, 65.3%, 95.6%, 50.4& 92.0%, respectively), while pregnant women who had previous C.S, previous stillbirth , had history of child death and had previous pregnancy complications attended their first antenatal visit early before 12weeks (79.1%, 58.2% ,60.0%&72.7% ,respectively).

**Table7.** Shows that, there was a statistically significant association between the studied women's sociocultural factors &their first ANC visit at the present pregnancy ($p<0.05$) as 69.3% of them had their first antenatal visit late due to fear of disclosure. 80.7% of them attended late due to fear of evil eye. 7.7% attended late due to fear of witch craft. (92.3%&94.5%,respectively) attended late due to the presence of male health care provider and lack of husband support.

**Table 8.** Shows that, there was a statistically significant association between health system factors & the studied women's first antenatal visit at present pregnancy ($p<0.05$) as pregnant women who reported low quality ANC services, the cost of the service was unsuitable for them, reported overcrowding, long stay and negative attitude of health care provider attended their first antenatal visit late after 12 weeks (70.1%, 54.7%, 63.5%& 87.2%, respectively).

**Table (1): Sociodemographic characteristics of the studied women**

| Items | No. (384) | % |
|---|---|---|
| **- Age (Years** | | |
| < 25 | 110 | 28.6 |
| 25 – 30 | 138 | 35.9 |
| > 30 | 136 | 35.4 |
| Mean ±SD | 28.6 ±6.0 | |
| **- Woman's educational level** | | |
| Cann't read or write | 136 | 35.4 |
| Middle education | 125 | 32.6 |
| High education | 123 | 32.0 |
| **-Husband educational level** | | |
| Cann't read or write | 153 | 39.8 |
| Middle education | 133 | 34.6 |
| High education | 98 | 25.5 |
| **-Woman Occupational status** | | |
| Working | 80 | 20.8 |
| Housewife | 304 | 79.2 |
| **-Husband occupation** | | |
| Employed | 146 | 38.0 |
| Not employed | 238 | 62.0 |
| **-Income** | | |
| Enough >4000 | 180 | 46.9 |
| Not enough ≤4000 | 204 | 53.1 |
| **-Distance for health system** | | |
| Far | 273 | 71.1 |
| Near | 111 | 28.9 |
| **-Transport cost** | | |
| Suitable | 106 | 27.6 |
| Expensive | 275 | 71.6 |
| Don't pay | 3 | 0.8 |
| **-Family size** | | |
| < 3 | 103 | 26.8 |
| 3 – 5 | 259 | 67.4 |
| > 5 | 22 | 5.7 |
| **-Residence** | | |
| Urban | 70 | 18.2 |
| Rural | 314 | 81.8 |

Table2. Obstetric history of the studied women

| Items | NO. (384) | % |
|---|---|---|
| -Gestational Age | | |
| < 25 | 84 | 21.9 |
| ≥ 25 | 300 | 78.1 |
| Mean ±SD | 31.8 ±10.5 | |
| -Gravidity | | |
| One | 77 | 20.1 |
| Two | 119 | 31.0 |
| Three or more | 188 | 49.0 |
| -History of abortion | | |
| None | 286 | 74.5 |
| One | 59 | 15.4 |
| Two or more | 39 | 10.2 |
| -Type of pregnancy | | |
| Planned | 246 | 64.1 |
| Unplanned | 138 | 35.9 |
| -Previous cesarean section | | |
| No | 133 | 34.6 |
| Yes | 251 | 65.4 |
| -Previous still birth | | |
| No | 330 | 85.9 |
| Yes | 54 | 14.06 |
| -History of child death | | |
| No | 360 | 93.7 |
| Yes | 24 | 6.25 |
| -Number of living children | | |
| None | 105 | 27.3 |
| One to Three | 263 | 68.5 |
| More than three | 16 | 4.2 |
| -Time of first antenatal visit at previous pregnancy (weeks) | | |
| <12 | 281 | 73.2 |
| ≥12 | 103 | 26.8 |
| Previous Complications | | |
| No | 171 | 44.5 |
| Yes | 213 | 55.5 |
| | | |

Table 3. Sociocultural factors of the studied women

| Items | NO. (384) | % |
|---|---|---|
| -Fear of disclosure | | |
| Yes | 286 | 74.5 |
| No | 98 | 25.5 |
| -Fear of evil eye | | |
| Yes | 323 | 84.1 |
| No | 61 | 15.9 |
| -Fear of witch craft | | |
| Yes | 23 | 6.0 |
| No | 361 | 94.0 |
| -Husband support | | |
| Yes | 51 | 13.3 |
| No | 333 | 86.7 |
| -Sex of health care provider | | |
| Male | 321 | 83.6 |
| Female | 63 | 16.4 |

Table4. Health system factors of the studied pregnant women

| Items | No. (384) | % |
|---|---|---|
| Quality of services received during ANC: | | |
| -Blood pressure checked during pregnancy | | |
| | | |
| Yes | 208 | 54.2 |
| No | 176 | 45.8 |
| -Blood sample taken during pregnancy | | |
| Yes | 176 | 45.8 |
| No | 208 | 54.2 |
| -Weighed during pregnancy | | |
| Yes | 237 | 61.7 |
| No | 147 | 38.3 |
| -Told about complication | | |
| Yes | 151 | 39.3 |
| No | 233 | 60.7 |
| -Given or instructed to take iron tablets | | |
| Yes | 170 | 44.3 |
| No | 214 | 55.7 |
| -Received at least one tetanus injection | | |
| Yes | 164 | 42.7 |
| No | 220 | 57.3 |
| -Cost of the services | | |
| Suitable | 198 | 51.6 |
| Unsuitable | 186 | 48.4 |
| -Shortage of health care providers | | |
| -Overcrowding | | |

| | | |
|---|---|---|
| Yes | 204 | 53.1 |
| No | 180 | 46.9 |
| **-Long stay** | | |
| Yes | 204 | 53.1 |
| No | 180 | 46.9 |
| **-Attitude of health care provider** | | |
| Positive attitude | 59 | 15.4 |
| Negative attitude | 325 | 84.6 |

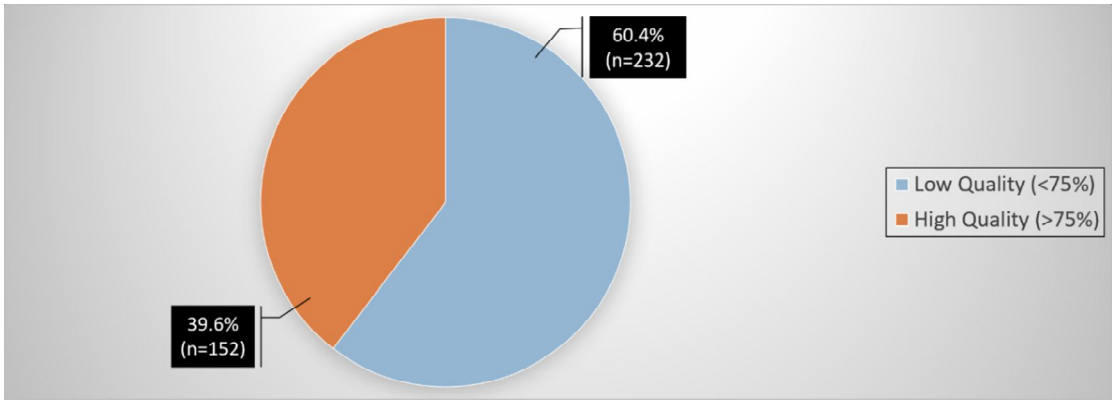


Figure1. Total score of quality of services received during ANC among the studied women

Table 5. Association between the studied women's socio-demographic characteristics and their first antenatal visit at present pregnancy

| Items | Early ANC visit (< 12weeks) (n=110) | | Late ANC visit ≥12weeks) (n=274) | | Significance test | |
|---|---|---|---|---|---|---|
| | N | % | n | % | $X^2$ | P |
| **-Age (Years)** | | | | | | |
| < 25 | 54 | 49.1 | 56 | 20.4 | | |
| 25 – 30 | 33 | 30.0 | 106 | 38.9 | | |
| > 30 | 23 | 20.9 | 113 | 41.2 | 33.169 | <0.001** |
| **-Woman's educational level** | | | | | | |
| Cann't read or write | 7 | 6.4 | 129 | 47.1 | | |
| Middle education | 38 | 34.5 | 87 | 31.8 | | |
| High education | 65 | 59.1 | 58 | 21.1 | 72.170 | <0.001** |
| **-Husband educational level** | | | | | | |
| Cann't read or write | 5 | 4.5 | 148 | 54.0 | | |
| Middle education | 35 | 31.8 | 98 | 35.8 | | |
| High education | 70 | 63.6 | 28 | 10.2 | 136.319 | <0.001** |
| **-Woman Occupational status** | | | | | | |
| Working | 66 | 60.0 | 14 | 5.1 | | |
| Housewife | 44 | 40.0 | 260 | 94.9 | 143.386 | <0.001** |
| **-Husband occupation** | | | | | | |
| Employed | 65 | 59.1 | 81 | 29.6 | | |
| Not employed | 45 | 40.9 | 193 | 70.4 | 29.043 | <0.001** |
| **-Income** | | | | | | |
| Enough >4000 | 79 | 71.8 | 101 | 36.9 | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Not enough □4000 | 31 | 28.2 | 173 | 63.1 | 38.516 | <0.001** |
| **-Distance for health system** | | | | | | |
| Far | 31 | 28.2 | 242 | 88.3 | | |
| Near | 79 | 71.8 | 32 | 11.7 | 138.136 | <0.001** |
| **-Transport cost** | | | | | | |
| Suitable | 72 | 65.5 | 34 | 12.4 | | |
| Expensive | 36 | 32.7 | 239 | 87.2 | | |
| Don't pay | 2 | 1.8 | 1 | 0.4 | 114.684 | <0.001** |
| **-Family size** | | | | | | |
| < 3 | 79 | 71.8 | 24 | 8.8 | | |
| 3 – 5 | 23 | 20.9 | 236 | 86.1 | | |
| > 5 | 8 | 7.3 | 14 | 5.1 | 166.504 | <0.001** |
| **-Residence** | | | | | | |
| Urban | 69 | 62.7 | 1 | 0.4 | | |
| Rural | 41 | 37.3 | 273 | 99.6 | 204.782 | <0.001** |

** Highly statistically significant differences (p < 0.001)

**Table 6. Association between the studied women's obstetric history and their first antenatal visit at present pregnancy**

| Items | Early ANC visit (n=110) | | Late ANC visit (n=274) | | Significance test | |
|---|---|---|---|---|---|---|
| | N | % | n | % | $X^2$ | P |
| **Gestational Age** | | | | | | |
| < 25 | 69 | 62.7 | 15 | 5.5 | | |
| ≥ 25 | 41 | 37.3 | 259 | 94.5 | 150.545 | <0.001** |
| **Gravidity** | | | | | | |
| One | 73 | 66.4 | 4 | 1.5 | | |
| Two | 28 | 25.5 | 91 | 33.2 | | |
| Three or more | 9 | 8.2 | 179 | 65.3 | 218.769 | <0.001** |
| **History of abortion** | | | | | | |
| None | 24 | 21.8 | 262 | 95.6 | | |
| One | 47 | 42.7 | 12 | 4.4 | | |
| Two or more | 39 | 35.5 | 0 | 0.0 | 229.669 | <0.001** |
| **Type of pregnancy** | | | | | | |
| Planned | 110 | 100.0 | 136 | 49.6 | | |
| Unplanned | 0 | 0.0 | 138 | 50.4 | 86.480 | <0.001** |
| **Previous cesarean section** | 87 | 79.1 | 164 | 59.9 | 12.830 | <0.001** |
| **Previous still birth** | 34 | 30.9 | 20 | 7.3 | 36.204 | <0.001** |
| **History of child death** | 16 | 14.5 | 8 | 2.9 | 18.105 | <0.001** |
| **Number of living children** | | | | | | |
| None | 96 | 87.3 | 9 | 3.3 | | |
| One to Three | 11 | 10.0 | 252 | 92.0 | | |
| More than three | 3 | 2.7 | 13 | 4.7 | 280.252 | <0.001** |
| **Previous Complications** | | | | | | |
| No | 30 | 27.3 | 141 | 51.5 | | |
| Yes | 80 | 72.7 | 133 | 48.5 | 18.589 | <0.001** |

** Highly statistically significant differences (p < 0.001)

Table 7. Association between the studied women's sociocultural factors and their first antenatal visit at present pregnancy

| Items | Early ANC visit (n=110) | | Late ANC visit (n=274) | | Significance test | |
|---|---|---|---|---|---|---|
| | n | % | n | % | $X^2$ | P |
| Fear of disclosure | 96 | 87.3 | 190 | 69.3 | 13.275 | <0.001** |
| Fear of evil eye | 102 | 92.7 | 221 | 80.7 | 8.558 | 0.003* |
| Fear of witch craft | 2 | 1.8 | 21 | 7.7 | 4.764 | 0.029* |
| Lack of Husband support | 74 | 67.3 | 259 | 94.5 | 50.615 | <0.001** |
| Sex of health care provider | | | | | | |
| Male | 68 | 61.8 | 253 | 92.3 | | |
| Female | 42 | 38.2 | 21 | 7.7 | 53.300 | <0.001** |

* Statistically significant differences ($p < 0.05$)

** Highly statistically significant differences ($p < 0.001$)

Table 8. Association between the health system factors and the studied pregnant women first antenatal visit at present pregnancy

| Items | Early ANC visit (< 12weeks) (n=110) | | Late ANC visit □12weeks)(n=274) | | Significance test | |
|---|---|---|---|---|---|---|
| | n | % | n | % | $X^2$ | P |
| -Quality of services received during ANC | | | | | | |
| Low Quality | 40 | 36.4 | 192 | 70.1 | | |
| High Quality | 70 | 63.3 | 82 | 29.9 | 37.294 | <0.001** |
| -Cost of the services | | | | | | |
| Suitable | 74 | 67.3 | 124 | 45.3 | | |
| Unsuitable | 36 | 32.7 | 150 | 54.7 | 15.234 | <0.001** |
| -Shortage of health care providers | | | | | | |
| | | | | | | |
| Overcrowding | 42 | 38.2 | 138 | 50.4 | 4.678 | 0.031* |
| | | | | | | |
| | | | | | | |
| -Long stay | 30 | 27.3 | 174 | 63.5 | 41.374 | <0.001** |
| -Attitude of health care provider | | | | | | |
| Positive attitude | 24 | 21.8 | 35 | 12.8 | | |
| Negative attitude | 86 | 78.2 | 239 | 87.2 | 4.937 | 0.026* |

* $p < 0.05$ Statistically significant differences

** $p < 0.001$ highly statistically significant differences

## 5. Discussion

The present study aimed to assess late antenatal visit and associated factors among pregnant women. This aim was achieved through the present study findings which revealed that there was a statistically significant association between the studied women's first antenatal visit and their sociodemographic, obstetric, sociocultural and health system factors. Therefore, the findings of the present study answered the research question which is; what are factors associated with late initiation of antenatal visit among pregnant women attending antenatal clinics?

The results of the current study revealed a highly statistically significant association. between the studied women's sociodemographic characteristics and their first ANC visit as pregnant woman aged > 30 years, those who and their husbands cann't read &write, housewives, their husbands

weren't employed, hadn't enough income, their distance was far from health system, had expensive transport cost, their family size3-5 and from rural area attended their first ANC visit late (after 12weeks). This can be explained as younger women are more interested in follow up of their pregnancy, educated women had increased awareness of the importance of early ANC follow up, employment allow sharing experience with others, enough income reduce financial constraints and near distance from health facility reduce the transport cost thus allowing for early ANC visit.

The present study findings agreed with **Namani, Onwusulu, Offor, & Ekwebene. (2022)** studied Pregnant women at a tertiary health facility in Nigeria regarding the timing and related factors of antenatal booking who found that while nearly two thirds of participants older than 30 years had their first ANC visit late, age groups 25 to 29 had very high odds of early booking. Also, ***Tungaraza &Joho.( 2022)*** cross-sectional study entitled "self-determination theory in explaining antenatal care booking". They reported that working or self-employed pregnant women were approximately six times more likely to have an timely ANC than those who weren't.

Also, the current study findings was in congruent with ***Woldeamanuel & Belachew, (2020*** ) study to evaluate the risks related to the frequency of antenatal visit, the quantity of prenatal care supplies obtained and the timing of the first prenatal visits in Ethiopia.They found that factors such as living in a rural area, having a low household income, not having mothers or partners who are educated, not being exposed to the media, having mothers who lack decision-making power, and living far from the nearest medical facility have a significant impact on delaying the timing, numbers and terms of ANC visits.

This may be due to the fact that many older women in developing nations spend most of their time engaged in agricultural work, taking care of their homes and raising their children which may reduce the amount of time they have available for antenatal care, working or being self-employed increases one's income and encourages women to be independent allowing them to use ANC services more effectively than women who rely on their husbands or other support systems. When women have a stable source of income through a job, they tend to have more control over their lives.

Also, educated mothers have better access to information, had the ability to make decisions about their own health care and the capacity to modify traditional beliefs about using the ANC service in comparison to uneducated mothers. The chance of timely ANC scheduling was two times higher for women with a secondary education.

The results of the current study showed a statistically significant association between the studied women's obstetric history and their first antenatal visit at present pregnancy as pregnant women at ≥ 25 weeks gestation, who were gravida three or more with no history of previous abortion, had unplanned pregnancy, had one to three living children attended their first antenatal visit late after 12 weeks. Also, the pregnant women who had previous cesarean section, previous stillbirth, had history of child death and who had previous pregnancy complications attended their first antenatal visit early before 12 weeks.

In agreement with the findings of the present study **Namani, et al., (2022)** indicated that people with grand multipara and an interpregnancy gap of below five years had a higher risk of making a late booking. Due to their larger level of experience, high parity women may have a tendency to depend on their knowledge from prior pregnancies and disregard the necessity for antenatal care. Additionally, pregnant women without a history of medical conditions were 2.88 times more likely than those with a history of illnesses to initiate their ANC visits late. When compared to pregnant women with a history of pregnancy problems, individuals without that history were 2.34 times more likely to reschedule their prenatal visits. Compared to other pregnant women, those who had previous abortions or stillbirths were more likely to seek ANC services early.

The present study findings were also in the same line with **Alene, Olayemi, & Berhane. (2021)** study about pregnancy-related timing and variables linked to early prenatal visits among women in west Gojjam, northwest Ethiopia. In comparison to primiparous and multiparous women, they found that mothers who were nulliparous were twice as likely to begin prenatal care early. Moreover, half of the late-booked participants were multiparous, and three-quarters were multigravida.

This may be because prior healthy pregnancies helped women gain confidence and made them less anxious to begin prenatal care at an early stage. Multiparous women were typically confident and thought that because they had delivered multiple times before, they didn't need to schedule antenatal care in advance because they were knowledgeable about pregnancy and delivery. This also might be because first-time mothers are unfamiliar with the process of becoming pregnant and the accompanying signs and symptoms. They are also more likely to ask for advice and support, starting antenatal care earlier than women with prior experience.

The results of the current study revealed a statistically significant association between the sociocultural characteristics of the studied women and their first ANC visit at the present pregnancy. as more than two thirds of pregnant women had their first ANC visit late due to fear of disclosure, the majority of them attended late due to fear of evil eye and most of them attended late due to presence of male health care provider and lack of husband support.

The current study finding was also consistent with ***Ampim, Blystad, Kpoor & Haukanes. (2021)*** study to assess men's experiences of antenatal care services in urban Ghana. They showed that only a small percentage of of pregnant women's husbands visited the ANC, and those who did participated only partially in the clinic's activities. Also, ***Mgata & Maluka. (2019)*** qualitative study for assessing reasons why antenatal care in Dar EL Salaam, Tanzania was started late. According to their findings, teenagers and younger women often delay attending ANC visits because they are more likely to hide their pregnancies in order to avoid issues like exclusion from school and stigmatization. Many women were anxious to report their pregnancies early due to fear of witchcraft especially in the first trimester and women who weren't able to get new clothes on time were forced to delay ANC attendance. They also reported that HIV-positive pregnant women were afraid to begin prenatal care because of fear of stigma.

This may be explained as they waited to publicize their pregnancy because they felt embarrassed or shy when the pregnancy was still in its early stages, some women believed that the community criticized them for starting prenatal care early and saw it as a show of pride. Also, they wanted to delay making the pregnancy public, due to their fear of suspected enemies who could harm their unborn fetus. In addition, their husbands' ignorance of the best booking time and the presence of a male healthcare professional caused them to be less supportive of their wives' early initiation of prenatal care.

The present study findings revealed that there was a statistically significant association between health system factors & the studied women's first antenatal visit at present pregnancy as pregnant women who reported low quality ANC services, the cost of the service was unsuitable for them, reported overcrowding, long stay and negative attitude of health care provider attended their first antenatal visit late .

This finding was in the same line with, ***Tungaraza & Joho. (2022)*** who reported that, those who got advise from healthcare professionals were twice as likely to make an early ANC booking compared to those who went based on prior experience. Due to a lack of necessary equipments, community health centers were still having trouble offering acceptable ANC services to expectant mothers. This resulted in higher costs, poorer ANC quality, and lower usage of the services. Additionally, they stated that they lacked test kits to determine a woman's hemoglobin level or determine if she has pre-eclampsia.

Also, ***Mgata & Maluka .(2019)*** revealed that the lack of health providers led to long waiting times, which were intolerable. The respondents complained about how some health care workers treated them disrespectfully by shouting at them and speaking to them as if they were children, even though the mothers were older than the health care worker. This behavior discouraged early attendance.

Moreover ***Ali et al. (2018)*** found that women reported starting ANC later than expected because they thought the healthcare facility's services were of poor quality. The women's complaints mainly were related to a shortage of services, being sent home without care due to a staffing shortage, and having to pay for medications, cards, or diagnostic tests even though the services were meant to be free of charge. The women were thus forced to delay providing care since they needed to make arrangements and earn money to pay for the expenditures. This may be because participants perceived the booking system to be user-unfriendly and complained that the area is too crowded and there are too many unpleasant service providers. Also, from the first month of pregnancy, they have to wait in extremely large lines when they arrive which is extremely stressful for them.

Therefore, assessment of the associated factors for late antenatal visit among pregnant women could help in increasing the utilization of antenatal care thus reducing the maternal and neonatal morbidity and mortality.

## 6. Conclusion

The present study question was answered where, there was a statistically significant association between the studied women's first antenatal visit and their sociodemographic, obstetric, sociocultural and health system factors .

## 7. Recommendations

**Based on the study finding, the following is recommended**

- Increasing awareness of pregnant women about the importance of early attendance to antenatal clinics.
- More efforts are needed for improving the quality of antenatal health services to encourage early attendance.
- Increasing awareness of pregnant women to enable them focusing on reporting positive outcomes of health services to other women to encourage their early ANC attendance.

## 8. Acknowledgements

- The authors would like to acknowledge every pregnant woman who took part in this study.

## 9. Conflicts of interests

-Authors observed that there was no conflict on this study

## 10. Limitations of the study:

- Some pregnant women refused to participate on the study as they were tired and fear of overcrowding and covid 19 infection.

## 11. References

**Ahinkorah, B. O., Seidu, A. A., Budu, E., Mohammed, A., Adu, C., Agbaglo, E., ... & Yaya, S. (2022)**. Factors associated with the number and timing of antenatal care visits among married women in Cameroon: evidence from the 2018 Cameroon Demographic and Health Survey. *Journal of Biosocial Science*, *54*(2), 322-332.

**Ali, N., Elbarazi, I., Alabboud, S., Al-Maskari, F., Loney, T., & Ahmed, L. A. (2020).** Antenatal Care Initiation Among Pregnant Women in the United Arab Emirates: The Mutaba'ah Study. Frontiers in Public Health, 8, 211.

***Alene, A. G., Olayemi, O. O., & Berhane, Y. (2021).*** Timing and factors associated with early antenatal visits among pregnant women in west Gojjam, northwest Ethiopia. *African Journal of Midwifery and Women's Health*, *15*(2), 1-11.

**Ampim, G. A., Blystad, A., Kpoor, A., & Haukanes, H. (2021).** "I came to escort someone": Men's experiences of antenatal care services in urban Ghana—a qualitative study. Reproductive Health, 18(1), 1-12.

**Belay, A., Astatkie, T., Abebaw, S., Gebreamanule, B., & Enbeyle, W. (2022).** Prevalence and factors affecting the utilization of antenatal care in rural areas of Southwestern Ethiopia. *BMC pregnancy and childbirth*, *22*(1), 1-8.

***Funsani, P., Jiang, H., Yang, X., Zimba, A., Bvumbwe, T., & Qian, X. (2021).*** Why pregnant women delay to initiate and utilize free antenatal care service: a qualitative study in the southern district of Mzimba, Malawi. Global Health Journal ,5(2), 74-78.

***Ismainar, H., Subagio, H. W., Widjanarko, B., & Hadi, C. (2020).*** To What Extent Do Ecological Factors of Behavior Contribute to the Compliance of the Antenatal Care Program in Dumai City, Indonesia?. Risk Management and Healthcare Policy, 13, 1007.

**Laksono, A. D., Rukmini, R., & Wulandari, R. D. (2020)**. Regional disparities in antenatal care utilization in Indonesia. *PLoS One*, *15*(2), e0224006

**Mgata, S., &Maluka, S. O. (2019).** Factors for late initiation of antenatal care in Dar es Salaam, Tanzania: A *qualitative* study. BMC pregnancy and childbirth, *19*(1), 415.

**Maluka, S. O., Joseph, C., Fitzgerald, S., Salim, R., & Kamuzora, P. (2020).** Why do pregnant women in Iringa region in Tanzania start antenatal care late? A qualitative analysis. BMC pregnancy and childbirth, 20(1), 1-7.

**Manyeh, A. K., Amu, A., Williams, J., & Gyapong, M. (2020).** Factors associated with the timing of antenatal clinic attendance among first-time mothers in rural southern Ghana. BMC pregnancy and childbirth, 20(1), 1-7.

**Namani, C. P., Onwusulu, D. N., Offor, C. C., & Ekwebene, O. C. (2022)**. Timing and associated factors of antenatal booking among pregnant women at a tertiary health institution in Nigeria: A cross-sectional study. *J Clin Images Med Case Rep*, *3*(2), 1646.

**Tessema, Z. T., Teshale, A. B., Tesema, G. A., & Tamirat, K. S. (2021).** Determinants of completing recommended antenatal care utilization in sub-Saharan from 2006 to 2018: evidence from 36 countries using demographic and health surveys. *BMC Pregnancy and Childbirth*, *21*(1), 1-12.

***Tungaraza, M. B., & Joho, A. A. (2022).*** Use of Self-Determination theory in explaining antenatal care Booking: A Cross-Sectional study. *International Journal of Africa Nursing Sciences*, *16*, 100415.

**Wolde, H. F., Tsegaye, A. T., & Sisay, M. M. (2019).** Late initiation of antenatal care and associated factors among pregnant women in Addis Zemen primary hospital, South Gondar, Ethiopia. *Reproductive health*, *16*(1), 1-8.

***Woldeamanuel, B., & Belachew, T. (2020).*** Risk factors associated with frequency of antenatal visits, number of items of antenatal care contents received and timing of first antenatal care visits in Ethiopia: multilevel mixed- effects analysis ,2020.