



Article

The Association between Pregnant Women's Satisfaction and Antenatal Care Service in Maysan Public Health Centers

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Abstract: Pregnancy is a very important and special event from both social and medical points of view. Maternal satisfaction with antenatal care (ANC) services has been linked to the quality of the provided services and the extent to which specific maternal needs are met. This study aimed to evaluate pregnant women's satisfaction with antenatal care services at primary health care centers in Maysan city. This study aimed to evaluate pregnant women's satisfaction with antenatal care services at primary health care centers in Maysan city. This quantitative descriptive study was conducted from January 2d to February 19th, 2024. The sample of study included a purposeful (nonprobable) sample method and included 390 pregnant women who visited primary health care centers. The study instrument includes participants' sociodemographic characteristics, reproductive characteristics, The Measure of patient satisfaction with the provided care. Data were collected through self-report and analyzed using the statistical package for social science, IBM version 27. The results show that the multiple regression model negatively predicts women's satisfaction with antenatal care services at primary health care centers (p value = .006). This study concluded revealed that antenatal care services at primary health care centers negatively predict women's satisfaction with these services.

Keywords: Association, Antenatal care, Pregnant women, Satisfaction.

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1. Introduction

Antenatal care (ANC) plays a critical role in preventing maternal morbidity and mortality. It offers a range of services that include administering preventive measures such as immunizations, educating pregnant women on healthy behaviors during pregnancy and identifying and managing potential complications [1].

Moreover, antenatal care (ANC) is an essential health treatment to help mothers and babies live longer lives. The World Health Organization (WHO) defines adequate prenatal care as at least four health care visits throughout pregnancy for pregnant women who do not experience perinatal difficulties [2].

Prenatal care is also an efficient prenatal care service for reducing complications during pregnancy, increasing birth weights, and decreasing perinatal, neonatal, infant and child mortality [3]. Despite its benefits, the perceptions and experiences of pregnant women significantly influence the utilization of ANC services [4].

Patient satisfaction is defined as the individual's positive evaluation of a distinct dimension of health care. Client satisfaction measures the ability of utilities to meet

consumers' suggestions and is a significant factor in the selection of health facilities and the future use of services, which are determined by the individual's perceptions, attitudes, and comparison processes [5].

Satisfaction has been said to be a major predictor of the use of services, as it is essential if clients are to utilize services, comply with treatments and maintain a continuing relationship with practitioners [6]. Women's satisfaction is ultimately used as a gauge of antenatal care quality, which is a crucial aspect of service evaluation [7].

Low satisfaction rates with the quality of care offered at ANC facilities can discourage women from attending ANC visits, leading to missed opportunities for preventive measures and timely management of high-risk pregnancies [8]. Improving women's health and maintaining healthy behaviors before or during pregnancy is particularly important until nearly half of pregnancies (49%) are unintended and correlated with insufficient information about the risk factors that place them at constant risk [9].

The quality of primary health care services is one of the most important areas in the health services sector. There are several people who can be of high value for public health and private health, and these indicators are the most prominent [10]. Iraq is a country with a high maternal mortality and neonatal mortality ratio (35/100 000) and a high neonatal mortality rate (23/1000). Poverty and adverse socioeconomic conditions lead to early marriage and disruption of education, teenage pregnancy and childbirth, high maternal and neonatal mortality with morbidity and more children born to live in these adverse conditions [11].

A significant number of women die globally because of birth and pregnancy-related complications [12]. In addition, pregnancy health care is the key entry point at which a pregnant woman receives a broad range of health promotion and preventive services that support the health of the mother and the baby [13]. Aims and objectives of this study aimed to evaluate pregnant women's satisfaction with antenatal care services at primary health care centers in Maysan city.

2. Materials and Methods

The study Design

A quantitative design (descriptive study). This study was conducted from January 2ed to February 19th, 2024, to assess pregnant women's satisfaction with antenatal care services at primary health care centers in Maysan city.

Ethical considerations.

This research was confirmed by the Committee of Scientific Research at the College of Nursing, University of Baghdad. The official reference number is (2), dated November 22th, 2023. After obtaining the approval of the Ministry of Planning (Central Statistical Organization), official approval was obtained from the Maysan Health Department. Approval was obtained from the targeted (Human Developmental and Training Center) to obtain official permission to carry out the study at all primary health care centers in Maysan city, Iraq.

Setting of the Study

This study was conducted in primary health care centers in Maysan city.

The Study Samples

The sample of study included a purposeful (nonprobable) sample method and included 390 pregnant women who visited primary health care centers.

The selection criteria were designed as follows:

Inclusion criteria:

Were all pregnant women who age ≥ 15 years old, primiparous and multiparous who visited primary health care centers.

Exclusion criteria:

Non-pregnant woman, Pregnant women who have any mental disability, deaf, those under the age of fifteen years and those who declined participation

Materials & Measures

To evaluate pregnant women's satisfaction with antenatal care, a questionnaire was constructed by the authors. The researcher emailed the authors who constructed the questionnaire. All were contacted and granted permission to use the questionnaire in research. Official permission was given by the corresponding author of the questionnaire [14]. Which mainly consisting of four parts. The demographic data section was designed to obtain the data of participants in the study. These data included 7 items: age, social status, area of residence, educational level, number of pregnancies, PHC visits, and economic status. The data were collected via a self-reported interview questionnaire. Reproductive Information was collected via a 4-item self-reported interview questionnaire: which include current gestational age, number of births, number of abortions, and pregnancy type. Services and management this part consisted of 10 items, including pregnant woman's weight, height, and blood pressure. Moreover, blood tests, ultrasound, urine tests, and physical examination results were also logged. Furthermore, whether the patient was taking an iron or folic acid prescription, or any other medication was also considered. The level of ANC services was scored by rating (1) for the yes answer and (2) for the no answer. Patient satisfaction with the provided care should be assessed to provide a clear image of the quality of the provided care. This part consists of 13 items. The Satisfaction Category for Disagree, Neutral and Agree, Disagree Scored by Rating (1), Neutral Scored by Rating (2) and agree Scored by Rating (3). The total score is 13-39.

The face validity of the study instrument was determined by a panel of 8 experts. They were all faculty members from the College of Nursing/University of Baghdad. To review the content of the questionnaire, those experts were provided with a print of study instrument and asked to review and evaluate the instrument for its content clarity and adequacy.

Samples were collected daily during the official working days. The questionnaire lasted for 10-15 minutes for each pregnant woman. Women were informed that they could interrupt the interview and withdraw whenever they wanted to answer or felt it difficult to complete the questionnaire. Both self-report and interview approaches were used for data collection.

Statistical analysis:

Data were analyzed using the statistical package for social science (SPSS) for windows, version 27. The descriptive statistical measure of frequency and percent were used to describe participants' sociodemographic characteristics. The arithmetic mean and standard deviation were also used.

3. Results**Table 1.** Sociodemographic characteristics of Study Sample

| Variable | Frequency | Percent |
|---|-----------|---------|
| Age (Years): Mean (SD): 24.62 \pm 5.66 | | |
| 15-21 | 124 | 31.8 |
| 22-28 | 179 | 45.9 |
| 29-35 | 70 | 17.9 |
| 36-43 | 17 | 4.4 |

| | | |
|--|-----|-------|
| Marital Status | | |
| Married | 390 | 100.0 |
| Residency | | |
| Urban | 327 | 83.8 |
| Rural | 63 | 16.2 |
| The highest level of education attained | | |
| Unable to read and write | 51 | 13.1 |
| Read and write | 66 | 16.9 |
| Elementary | 170 | 43.6 |
| Middle | 59 | 15.1 |
| High | 11 | 2.8 |
| Diploma | 8 | 2.1 |
| Bachelor's degree | 25 | 6.4 |
| Monthly Income (Iraqi Dinar) | | |
| <300.000 | 121 | 31.0 |
| 301.000 - 600.000 | 167 | 42.8 |
| 601.000-900.000 | 52 | 13.3 |
| 901.000-1200.000 | 50 | 12.8 |

SD: Standard deviation

The mean age is 24.62 ± 5.66 ; less than half aged 22-28 years ($n = 179$; 45.9%), followed by those aged 15-21 years ($n = 124$; 31.8%), and those aged 29-35 years ($n = 70$; 17.9%), and those who age 36-43-years ($n = 17$; 4.4%). The study results reveal that all women are married ($N = 390$; 100.0%). The majority reported that they have been living in urban areas ($n = 327$; 83.8%) compared to those who have been living in rural areas ($n = 63$; 16.2%). Concerning the highest least level of education women attained, more than two-fifths are elementary school graduates ($n = 170$; 43.6%), followed by those who read and write ($n = 66$; 16.9%), those who are middle school graduates ($n = 59$; 15.1%), those who are unable to read and write ($n = 51$; 13.1%), those who hold bachelor's degree ($n = 25$; 6.4%), those who are high school graduates ($n = 11$; 2.8%), and those who hold diploma degree ($n = 8$; 2.1%). Regarding family's monthly income, more than two-fifths reported that their monthly income ranges between 301.000 - 600.000 ID ($n = 167$; 42.8%), followed by those whose monthly income is less than 300.000 ID ($n = 121$; 31.0%), those whose monthly income ranges between 601.000-900.000 ID ($n = 52$; 13.3%), and those whose monthly income ranges between 901.000-1200.000 ID ($n = 50$; 12.8%).

Table 2. Participants' reproductive profile

| Variable | Frequency | Percent |
|--|-----------|---------|
| Gravidity | | |
| 1 | 171 | 43.8 |
| 2 | 85 | 21.8 |
| 3-4 | 82 | 21.0 |
| 5-6 | 36 | 9.2 |
| ≥ 7 | 16 | 4.1 |
| Is this your first antenatal visit at this facility for this pregnancy? | | |
| Yes | 183 | 46.9 |
| No | 207 | 53.1 |
| Current gestational age (Weeks) | | |
| 4-13 | 22 | 5.6 |
| 14-27 | 259 | 66.4 |
| 28-39 | 109 | 28.0 |
| Parity | | |

| | | |
|--------------------------|-----|------|
| 0 | 192 | 49.2 |
| 1 | 81 | 20.8 |
| 2 | 56 | 14.4 |
| 3-4 | 44 | 11.3 |
| 5-6 | 13 | 3.3 |
| ≥ 7 | 4 | 1.0 |
| Type of pregnancy | | |
| Planned | 318 | 81.5 |
| Not planned | 72 | 18.5 |

The study results display that more than two-fifths have one pregnancy (n = 171; 43.8%), followed by those who have two pregnancies (n = 85; 21.8%), those who have 3-4 pregnancies (n = 82; 21.0%), those who have 5-6 pregnancies (n = 36; 9.2%), and those who have seven or more pregnancies (n = 16; 4.1%). When questioned about (Is this your first antenatal visit at this facility), more than two-fifths reported that this is not so (n = 207; 53.1%) compared to those who reported that this is so (n = 183; 46.9%). Concerning current gestational age, this age ranges between 14-27 weeks for most women (n = 259; 66.4%), followed by 28-39 weeks (n = 109, 28.0%), and 4-13 weeks (n = 22; 5.6%). Concerning parity, around half are nulliparous (n = 192; 49.2%), followed by those who gave to one birth (n = 81; 20.8%), those who gave to two births (n = 56; 14.4%), those who gave to 3-4-births (n = 44; 11.3%), those who gave birth to 5-6 births (n = 13; 3.3%), and those who gave to 7 or more births (n = 4; 1.0%). Regarding the type of pregnancy, the majority reported that it is planned (n = 318; 81.5%) compared to not planned (n = 72; 18.5%).

Table 3. Levels of women's satisfaction with antenatal care services at primary healthcare centers

| Satisfaction | Frequency | Percent |
|--------------------|-----------|---------|
| Dissatisfied | 2 | 0.5 |
| Somewhat satisfied | 331 | 84.9 |
| Satisfied | 57 | 14.6 |

The study revealed that most women were somewhat satisfied with antenatal care services at primary healthcare centers (n = 331; 84.9%), followed by those who were satisfied with them (n = 57; 14.6%) and those who were dissatisfied with them (n = 2; 0.5%).

Table 4: Differences in women's satisfaction with antenatal care service at primary health care centers between residency groups

| Ranks | | | | | Mann-Whitney U | Asymp. Sig. (2-tailed) |
|----------------------|-------|-----------|--------------|----------|----------------|------------------------|
| Residency | N | Mean Rank | Sum of Ranks | | | |
| Patient Satisfaction | Urban | 327 | 195.09 | 63793.50 | 10165.500 | .867 |
| | Rural | 63 | 197.64 | 12451.50 | | |
| | Total | 390 | | | | |

The study results reveal that there is no statistically significant difference in women's satisfaction with antenatal care service at primary health care centers between residency groups.

Table 5: Differences in women's satisfaction with antenatal care service at primary health care centers among level of education groups

| | | Ranks | | | | |
|-------------------------|---|-------|--------------|----------------------|----|----------------|
| Patient Satisfaction | What is the highest education you ever attended? | N | Mean Rank | Kruskal- Wallis H | df | Asymp. Sig. |
| | Unable to read and write | 51 | 184.00 | 2.735 | 6 | .841 |
| | Read and write | 66 | 188.58 | | | |
| | Elementary | 170 | 201.16 | | | |
| | Middle | 59 | 199.07 | | | |
| | High | 11 | 164.14 | | | |
| | Diploma | 8 | 224.13 | | | |
| | Bachelor's degree | 25 | 194.94 | | | |
| | Total | 390 | | | | |

No statistically significant difference in women's satisfaction with antenatal care service at primary health care centers among level of education groups.

Table 6: Differences in women's satisfaction with antenatal care service at primary health care centers between antenatal visit number groups

| | | Ranks | | | | |
|----------------------|---|-------|-----------|--------------|----------------|------------------------|
| | Is this your first antenatal visit at this facility for this pregnancy? | N | Mean Rank | Sum of Ranks | Mann-Whitney U | Asymp. Sig. (2-tailed) |
| Patient Satisfaction | Yes | 183 | 187.89 | 34383.50 | 17547.500 | .202 |
| | No | 207 | 202.23 | 41861.50 | | |
| | Total | 390 | | | | |

The study results reveal that there is no statistically significant difference in women's satisfaction with antenatal care service at primary health care centers between antenatal visit number groups.

Table 7: Differences in women's satisfaction with antenatal care service at primary health care centers among family's monthly income groups

| Kruskal-Wallis Test | | | | | | |
|----------------------|-------------------|-----|-----------|------------------|----|-------------|
| Patient Satisfaction | Ranks | | Mean Rank | Kruskal-Wallis H | df | Asymp. Sig. |
| | Monthly Income | N | | | | |
| | <300.000 | 121 | | | | |
| | 301.000 - 600.000 | 167 | | | | |
| | 601.000-900.000 | 52 | | | | |
| | 901.000-1200.000 | 50 | | | | |
| Total | 390 | | | | | |

There is a statistically significant difference in women's satisfaction with antenatal care service at primary health care centers among family's monthly income groups (p-value = .004).

Table 8: Differences in women's satisfaction with antenatal care service at primary health care centers between type of pregnancy groups

| | | | | | Mann-Whitney U | Asymp. Sig. (2-tailed) |
|-------------------|---|-----------|--------------|--|----------------|------------------------|
| Ranks | | | | | | |
| Type of Pregnancy | N | Mean Rank | Sum of Ranks | | | |

| | | | | | | |
|--------------|-------------|-----|--------|----------|----------|------|
| Patient | Planned | 318 | 186.64 | 59350.50 | | |
| Satisfaction | Not planned | 72 | 234.65 | 16894.50 | 8629.500 | .001 |
| | Total | 390 | | | | |

There is a statistically significant difference in women's satisfaction with antenatal care service at primary health care centers between type of pregnancy groups (p-value = .001).

4. Discussion

Pregnancy is a very important and special event from both social and medical points of view. Maternal satisfaction with antenatal care (ANC) services has been linked to the quality of the provided services and the extent to which specific maternal needs are met [15]. The result illustrated by the frequency and percentage in the presented tables, in terms of age (table 1), the researcher found that, most pregnant women were in the age group of (22-28) years at the time of data collection. Followed by those aged (15-21) years. This result is supported by another study in that most of the study sample is within the age group of (20-30) years old [16]. Regarding marital status, the study findings showed that all women participants are married (100.0%). The results are because most of the women got married at an early age according to the prevailing social customs and traditions of the Iraqi family. The fact that most of the Iraqi people are Muslim, and the Islamic religion encourages early marriage [17]. Like the results of a study conducted in Nigeria it was found that the most of participants, three-hundred-sixty-five (94.3%) were married [18].

In terms of residency, most of the study sample (83.8%) were from urban area; this result is supported by a previous study in Erbil governorate, Iraq (2014) their result indicated that most of the participants were urban area, (75.9%) [19]. Related to the educational level, it has been found that less than half are elementary school graduates (43.6%), compared to those who read and write (16.9%); this result was supported by a study in Iraq regarding educational levels most of the sample (43.6%) primary educational, [20]. Another study which agrees with the present study [21]. Regarding monthly income, more than two-fifths reported that their monthly income ranges between (301.000 – 600) Iraqi dinars per month (Table 4-1). This finding is not supported by a descriptive study conducted in Iraq, which indicates most of the participants had a monthly income of less than 300,000 Iraqi dinars [20].

In the present study, it was authenticated the majority of participants (43.8%) have one pregnancy, (table 2) these result is supported by the present result indicated that the majority of this subjects (42.3 %) were one gravida. The results showed that the ideal period for women between the ages of (21-25) years, early marriage [22].

Regarding the number of antenatal care (ANC) visits, The findings disagree with study in Ethiopia ;Jimma Twon, which show the majority of women attended the first antenatal visit (38.9 %), followed by (27.9%) in the second [23][15][24] .

In terms of current gestational age, the findings of the present study show that the majority of the pregnant woman (66.4%) were the second trimester, another study indicated that the majority of these subjects (67.8%) were the second trimester. It is considered critical for pregnancy stages of embryo formation. Pregnant needs special attention to nutrition and health status monitor and follow up the scheduled tetanus vaccine and prevent anemia [25].

Concerning parity, type of pregnancy, the study findings disagree with the study in Ethiopia, which shows that the most of pregnant woman (36.6 %) were multipara [26].

In the present study, there was a somewhat satisfactory level of satisfaction with ANC services (84.9%) related to management and treatment, counseling, and other services (tabl 3). Consistent results were revealed in Al-Amara city, Iraq, where mothers' degree of satisfaction with ANC services was with counseling, at level (85.7%) of

satisfaction related to different domains of services, such as registration services, diagnostic and treatment, laboratory tests, vaccines, educational cessation, and communication with providers [27]. The current findings also match those of the study of Mansour S et al. (2012) in Al-Madinah Al-Munawaroh, Saudi Arabia, about women's satisfaction with the quality of antenatal care at primary health care centers. The study indicated that nearly two-thirds (62%) of the participants were satisfied with the overall aspects of antenatal care services[28]. Moreover, the present finding is consistent with the findings of Emelumadu O et al. (2014). They conducted a study titled Perception of Quality of Maternal Healthcare Services among Women Utilizing Antenatal Services in Selected Primary Health Facilities. This study concluded that most women were satisfied with the care they received at health facilities[29]. Furthermore, the current findings disagree with those of Abebe S et al. (2017), who studied the quality of antenatal care services in public health facilities in Ethiopia. A total of 52.6% of the respondents were satisfied with the service provided. Specifically, almost three-fifths (63.4%) of the present study subjects were unsatisfied with the centers' accessibility [30]. The results of the present study disagreed with the findings of Montasser N et al. (2012). They conducted a study on Egyptian women's satisfaction with and perceptions of antenatal care in Shawa village, Dakahlia governorate, Egypt. Their results revealed that nearly three-quarters (72.2%) of their study participants were not satisfied with the accessibility of ANC s[31]. The present finding disagrees with the study of Edie G et al. (2015) about perceptions of antenatal care services by pregnant women attending governmental health centers in the Buea Health District, Cameroon, where they found that only 20% of their study subjects were satisfied with the centers' infrastructure [32].

Concerning to table(4 to 8). The differences in pregnant women's satisfaction with antenatal care service between the groups of residencies, level of education, number of antenatal visits, and monthly income. The study results reveal that there is no statistically significant difference with antenatal care service between the groups of residencies, level of education, number of antenatal visits, while there is a statistically significant difference with monthly income and type of pregnancy. These results are similar with study conducted in Cameroon in 2014 which, noted no association between clients' level of education and satisfaction [33]. While inconsistent with studies in Vietnam. That urban residents were significantly more satisfied with ANC services.

According to a study by Nnebue, on satisfaction with the quality of maternal health care services in Nigeria, the level of satisfaction was not found to be different among women of different socio-economic groups [34].

Moreover, a satisfied woman is more likely to increase compliance with ANC visits. More recently, Seyoum, found that antenatal care service satisfaction among women having one visit is lower than among women having more than one [35].

5. Conclusion

The article evaluates the satisfaction levels of pregnant women with antenatal services at public health centers in Maysan city, Iraq. The study involved 390 pregnant women and employed a quantitative descriptive method. The results indicated that most women were "moderately satisfied" with the services received, with only a few reporting being very satisfied or dissatisfied. The study also found no significant differences in satisfaction levels based on residence, education level, or the number of antenatal visits. However, satisfaction significantly varied based on family monthly income and whether the pregnancy was planned. In conclusion, antenatal services in Maysan are generally well-received by pregnant women, but there are areas that need improvement to enhance overall satisfaction, particularly in relation to socio-economic conditions.

6. Recommendations

- a. The Ministry of Health should provide more support and attention to the antenatal care units.
- b. Paying attention to the educational and training courses for the health team, especially the nurses who work in pregnancy care units in order to monitor the health status.

7. Conflict of Interest

Nothing will happen to hurt anybody

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