

Reproductive-Related Factors Influencing Pregnant Women Satisfaction Towards Vaccination Services

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ABSTRACT

Background & Objective: Antenatal care service satisfaction is a measure of the degree to which a woman seeking care is happy with the antenatal care service provided to her. As well as, the pregnant women satisfaction is a first indicator about the quality of antenatal care. This study aimed to identify if the reproductive factors can predict the level of satisfaction towards ANC.

Materials & Methods: A descriptive cross-sectional study conducted in the city of Diwaniyah in primary health care centers for the period from October 1st, 2022 to March 1st, 2023. The study sample consisted of 150 pregnant women who were selected according to a non-probability sampling approach. The questionnaire was validated according to experts and its reliability was verified through a pilot study. The total number of items included in the questionnaire was 38 items. Data were collected using interviews and analyzed by applying descriptive and inferential statistical analysis.

Results: The results of the study indicate that the average age of pregnant women is 27.8 years, (30%) of primary school graduates, and (62%) of housewives, (34.7%) of them expressed more than 900,000 Iraqi dinars as a monthly income, and (60.7%) of them live in the regions Urban area. The results showed that the level of satisfaction was relatively moderate (48%). The reproductive related factors of pregnant women such as number of abortions, number of visits to ANC and gestational age are predicted variables of satisfaction.

Conclusion: The most of influencing related factors are number of abortions, number of visits of ANC and gestational age are considered predicted the level of satisfaction. Decision makers in the Health Directorate should be employed based on quality guidelines in order to improve antenatal care services compared to international standards and take into consideration reproductive characteristics in providing those services.

Keywords: Pregnant Women, Satisfaction, Vaccination Services



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Introduction

Pregnancy and childbirth, which is a huge phenomenon, make pregnant women and their families all over the world. Maternal deaths make for more than 99% of all fatalities in low- and middle-income countries (1). Although maternal mortality rates in sub-Saharan Africa decreased by over 44% by 2015, they remain unacceptably high (2). Insufficient access to high-quality prenatal care and low satisfaction are major contributors to these preventable mother fatalities (3). Antenatal vaccinations are administered through primary care, and it is the women's obligation to schedule this appointment. This makes vaccination logistically difficult and makes it less clear who is in charge of talking about vaccine advice. Delivering vaccines under the supervision of a midwife during standard prenatal care is one method to promote antenatal vaccine uptake, as studies have revealed that this increases women's willingness to receive

vaccinations (4). More and more National Health Service (NHS) trusts are already providing vaccinations as part of standard prenatal care (5, 6). The World Health Organization (WHO) estimates that only 61.8% of pregnant women attended at least four ANC visits between 2010 and 2016, which limits the window of opportunity for immunization. This necessitates a greater comprehension of the most effective methods for immunizing expectant mothers as well as the advantages of using ANC services as a delivery vehicle (7). Over the past 20 years, as awareness of women using healthcare services has grown, so has the need for healthcare service delivery in public health. Women's satisfaction is ultimately used as a gauge of the antenatal care quality, which is a crucial aspect of service evaluation (8). Antenatal care coverage is incredibly low in low- and middle-income countries, including Iraq. The demographic,

provider, and facility factors that might be addressed to increase satisfaction may depend heavily on how satisfied pregnant women self-reported they were with their vaccination services. How satisfied women are with the antenatal care's quality is a key element in predicting whether they will use and keep using the service (9). This service evaluation sought to analyze factors influencing pregnant women's decisions to accept vaccination within the prenatal vaccination clinic, determine the uptake of vaccinations in a midwife-led vaccination program, and find ways to improve antenatal vaccination services (10).

Methods

The descriptive cross-sectional study design technique was adopted by standard questioning individuals of the study population with the sole purpose of describing the examined phenomena in terms of its nature and degree of presence was conducted during the period from October 1st 2022 to March 1st 2023. The study was carried out in Diwaniyah city at Diwaniyah First and Second Primary Health Care Sectors. A total of (6) primary health care centers were selected for the purpose of the study by probability sampling approach (systematic sample).

The study sample included in present study are pregnant women is selected according to non-probability sampling approach with a total of (150) women who are attended primary health care centers in Diwaniyah City by the Convenience sample. These sample is distributed into 6 primary health care centers according Diwaniyah Health Directorate.

This questionnaire consists of two part include the followings.

Part I: Socio-demographic variables include age, education level, occupation, monthly income and residents. Reproductive related factors include (type of pregnancy, number of live births, stillbirth, abortion, number of antenatal visits, trimesters of pregnancy and pregnancy complication).

Part II: The antenatal care questionnaire which constructed according to previous literature. The questionnaire was validated by experts and then its reliability was verified through a pilot study The Cronbach-alpha value in current was 0.90 which indicate the higher reliability.

The researcher interviewee the participants (pregnant women), explained the instructions, answered their questions regarding the form, urged them to participate and thanked them for the cooperation. The interview techniques used on individual bases, and each interview (15-20) minutes after taking the important steps that must be included in the study design.

The IBM SPSS 20.0 program was used for all the analyses that follow. Numbers and percentages (No. and %) were used to categorize the variables, while the mean and standard deviation were used to characterize the continuous variables (mean and SD). Simple Liner Regression to predict study variables. Statistical significance was defined as a two-tailed *P* .05.

Table 1. Socio-Demographic Characteristics

Variables	Classification	No.	%
Age /years	<20 years old	27	18.0
	20-29 years old	65	43.3
	30-39 years old	47	31.3
	40 and older	11	7.3
	27.8 ± 7.077		
Education level	Illiterate	18	12.0
	Read & write	7	4.7
	Primary school	45	30.0
	Middle school	17	11.3
	Secondary school	25	16.7
	College	38	25.3
Occupation	Employee	49	32.7
	Housewife	93	62.0
	Students	5	3.3
	Retired	3	2.0

Variables	Classification	No.	%
Monthly income	<300 Thousand IQD	26	17.3
	300-600 Thousand IQD	47	31.3
	601-900 Thousand IQD	25	16.7
	>900 Thousand IQD	52	34.7
Residents	Urban	91	60.7
	Rural	59	39.3

No= Number; %= Percentage

Results

[Table 1](#), results show the characteristics of the participants, the average age is 27.8 years, and the age group 20-29 years was the highest recorded (43.3%). Regarding educational level, most of the participants were primary school graduates (30%). In terms of occupation, more than half of the participants were

housewives (62%). Findings related to monthly income; pregnant participants expressed IQD 900,000 (34.7%). In terms of population, the urban population was the majority (60.7%) compared to the rural population (38.3%).

Table 2. Reproductive-related Factors

Reproductive Elements	Classification	No.	%
Type of Pregnancy	Intended	109	72.7
	Unintended	41	27.3
Number of pregnancies	1-2	90	60.0
	3-4	41	27.3
	>4	19	12.7
	None	62	41.3
Number of live births	1	36	24.0
	2	25	16.7
	3	21	14.0
	>3	6	4.0
Number of stillbirths	None	138	92.0
	1	11	7.3
	2	1	.7
Number of abortions	None	133	88.7
	1	17	11.3
	Once	16	10.7
Number visit to the health center	Twice	55	36.7
	Three	61	40.7
	Four	14	9.3
	Five	4	2.7
Trimesters of Pregnancy	First trimester (12 weeks or less)	10	6.7
	Second trimester (13-27 weeks)	71	47.3
	Third trimester (28 weeks and over)	69	46.0

The results show the reproductive characteristics of the participants, (72.7%) their pregnancies were intended, (60%) they had 1-2 pregnancies, (41.3%) they did not have any live births, and (92%) they did

not have any stillbirths, (88.7%) had not had a miscarriage, (40.7%) had 3-time antenatal care visits, (46%) at the time of data collection were pregnant in their third trimester and (58%).

Table 3. Overall Pregnant Women Satisfaction towards Vaccinations Services

	Rating	No.	%	M (\pm SD)
Satisfaction Levels	Unsatisfied	57	38.0	9.16 \pm 3.01
	Somehow Satisfied	58	38.7	
	Satisfied	35	23.3	
	Total	150	100.0	

The results demonstrated that (48.7%) of pregnant women expressed a somehow satisfied towards vaccinations services 9.16 (SD=3.01).

Table 4. Liner Regression among the Study Variables in Predict the Pregnant Women Satisfaction

Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Type of Pregnancy	-.054-	.129	-.040-	-.416-	.678
Number of pregnancies	.236	.201	.279	1.176	.242
Number of live births	.020	.095	.040	.207	.836
Number of stillbirths	.173	.199	.088	.866	.388
Number of abortions	-.481-	.210	-.254-	-2.295-	.023
Number visit to the ANC	.307	.058	.459	5.271	.000
Trimesters of Pregnancy	-.263-	.128	-.464-	-2.493-	.020

Dependent Variable: Satisfaction

The results confirmed that the linear regression test indicated that the number of abortion ($p = .023$), number of visits ($p = .000$) and trimester of pregnancy ($p = .020$) among pregnant women can predict their satisfaction towards quality of antenatal care services.

Discussion

Vaccination services is a measure of the degree to which a woman seeking care is happy with the antenatal care service provided to her. As well as, the pregnant women satisfaction is a first indicator about the quality of antenatal care. This study aimed to assess pregnant women satisfaction towards vaccination services and its influencing reproductive related factors.

The results show the average age is 27.8 years, the age group 20-29 years was the highest recorded (43.3%). These findings come in line with findings from Basra City, the majority of participants were young (11). As well as, those age groups were mostly

visited primary health care centers in Iraq (12, 13). Regarding educational level, most of the participants were primary school graduates (30%). These findings supported by findings of study conducted at primary health care centers in Baghdad city, demonstrated that the majority of participants are elementary school (14). Also, the findings from Hilla city, the majority of those who attended primary health care centers were primary school graduated (15). In terms of occupation, more than half of the participants were housewives (62%). These findings are supported by findings from Al-Rusafa Districtin Baghdad City, the most of the participants who visited primary health care centers were housewife (16). Also, Primary Health Care Centers in Karbala City, half of the participants were housewife (17). Findings related to monthly income; pregnant participants expressed IQD 900,000 (34.7%). The findings for coming with Al-Rusafa Districtin Baghdad City, also expressed that the monthly income was middle class (16). While, half of participants make 300-600 IQD among women attended primary health care centers at Abo Ghareeb, Ramadi Governorate

(18). The differences are due to the security situation in the regions, which affects the economic situation. In terms of residents, the urban population was the majority (60.7%) compared to the rural population (38.3%). These findings for coming with findings from Bagdad city, the majority of participants attended primary health care centers were urban (19).

The current study, pregnant women satisfaction toward vaccination services was suboptimal. The reason for this may be the inadequacy of those services that do not meet their needs. Primary health care providers should focus on improving facilities to increase satisfaction with those services. The benefits of high-satisfaction services must be preserved along with the much-needed improvements in vaccine-driven services. This result is in line with research carried out in Gondar (20), Chench, Demba Gofa in Ethiopia (21, 22), as well as in Kenya (23). Lack of supplies, running out of vital medications, a lack of an ANC waiting space, no water supply, and insufficient energy in the facilities could all lead to lower satisfaction (24).

It is observed that the number of antenatal visits showed a significant association and can predict their satisfaction towards quality of antenatal care services ($\beta = .459$; $p = .000$). This means that the higher the number of visits, the higher the level of satisfaction. Women who made four or more antenatal visits were positively and significantly associated with the low versus moderate or high satisfactions category. A previous study conducted in Southern Ethiopia has also reported a similar finding (6). The positive association in this regard could be due to developing awareness through repeated visiting. The repeated ANC visits could further improve the relationship between providers and women in a positive direction, which in turn made them feel good towards the services and positive correlation between patients' satisfaction and health care utilization (25, 26).

In the meantime, findings from public hospital in Myanmar emphasized that the pregnant women with frequent ANC visits had higher satisfaction than that with few visits. Surprisingly, pregnant women with many visits were more likely to have complied with information for regular follow-up meanwhile they were satisfied. Perhaps the justification was that pregnant women with frequent visits were familiar with the hospital environment and care providers (9). Furthermore, this was in agreement with findings in Nigeria (4), Riyadh (27) and Ethiopia (28) in which pregnant women's satisfaction was significantly higher among women who had more visits. The positive association could be due to developing awareness of its importance by repeated visits, increasing client needs, and effective response to this need by the healthcare professional. Moreover, a satisfied woman is more likely to increase compliance with ANC visits (29). In more recent, Seyoum (29), found that antenatal care service satisfaction among women having one visit is lower than women having more than one. The

awareness of the importance of ANC services may increase with repeated visits. The service, advice, and building of the relationship between the client and antenatal care providers as the number of visits increases may increase satisfaction with the antenatal care services. Repeated visits may offer women the chance to ask her concerns and increase awareness of its importance. Development of positive relationships between providers and client, increasing client needs, and effective response to this need by the healthcare professional may also increase maternal satisfaction with antenatal care service (30).

It is observed that the trimester of pregnancy (gestational age) showed a significant negative association and can predict pregnant women satisfaction towards vaccinations services ($\beta = -.464$; $p = .020$). This means that the higher gestational age, the lower the level of satisfaction. A notable this finding in this study was the inverse relation between gestation age and level of satisfaction. The possible reason for this negative association could be related to the fact that the late trimester is a time when more complications can occur (31). These complications could let expectant mothers demand extra care and support; hence, they might be dissatisfied if the service was not to their expectations.

It is observed that the number of abortions showed a significant negative association and can predict pregnant women satisfaction towards vaccinations services ($\beta = -.452$; $p = .023$). Pregnant women who had abortion were twice as likely to be satisfied with antenatal care services as their counterparts. This result is consistent with the results of a study conducted in the city of Jimma (32). The possible reason may be that the number of abortions, which may lead to higher expectations from ANC services that they need, and the service time they receive is less than their expectations, there is a chance of dissatisfaction with the service.

This finding is not without certain limitations. First, it is a cross-sectional study design, and the cause-effect relationship for all significant associations may not be established. Second, we included pregnant women irrespective of previous exposure, so women who were on their first visit could not be able to judge the quality of some components of services accurately. Finally, we included only public health facilities in the study setting. This may not be representative of pregnant women who are attending private facilities.

Conclusion

The most of influencing related factors are number of abortions, number of visits of ANC and gestational age are considered predicted the level of satisfaction. Decision makers in the Health Directorate should be employed based on quality guidelines in order to improve antenatal care services compared to international standards and take into consideration

reproductive characteristics in providing those services.

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Conflict of Interest

The authors declare that there is no conflict of interests.

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