Satisfaction with focused and risk approach antenatal care services among pregnant women attending primary health care centers in Erbil city
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Introduction

Antenatal care (ANC) has been a routine practice throughout the world since early 20th Century. Quality of ANC is an important determinant of pregnancy outcome and has been designated one of the four pillars of safe motherhood along with clean and safe delivery, essential obstetric care, and family planning which could contribute to the reduction of maternal mortality. Client satisfaction with the quality of care which reflects goals or preferences are met by the health care provider and or service, is an integral part of the quality assurance process of health delivery.

The traditional risk approach to ANC, which is based on European models assumes that better care is achieved by frequent routine visits. However, evidence-based research has found the practice of the traditional approach to ANC based on the European models to be wasteful and misleading. Women are classified by risk status to determine their chances of complications and the levels of care needed.

Focused ANC recognizes that every pregnant woman is at risk for complications and should receive the same basic care and monitoring for complications. Evaluating to what extent patients are satisfied with health services is clinically relevant, as satisfied patients are more likely to comply with treatment, take an active role in their own care, to continue using medical care services, and recommend center’s services to others. Despite the fact that client satisfaction is essential for further improvement of the quality of care, little is known about the quality and associated factors of satisfaction in Erbil city and Kurdistan region of Iraq. This study, therefore, would have a certain contribution in closing this gap.

Methods

This cross-sectional study was conducted at two PHC centers in Erbil city, Brayati PHC center which provides focused ANC services and Nazdar Bamerni PHC center which provides risk approach ANC services. The study was carried out between January 1 and December 31, 2015. A convenience sample of 300 pregnant women (150 pregnant women from each PHC centers) was collected. All pregnant women attended the PHC centers for ANC services in their second trimester of pregnancy (16 weeks and after) during the study period were included in the study. A designed questionnaire was constructed for data collection depending on an extensive review of relevant literature. Clients satisfaction with nine items of ANC “clinical” services that included: (1) explanation of complications, (2) immunization of pregnant women, (3) checking of blood pressure and body weight, (4) fixing next appointment, (5) education about importance of breastfeeding, (6) instructions about hygiene, (7) understanding of instructions, (8) full child immunization, and (9) doctor’s explanation of examination results was recorded. A score of 2 was given for every “yes” response and 0 for “no” response. Satisfaction with other components of ANC including clinic, attending doctors, attending nurse, waiting time, laboratory services, and pharmacy support was recorded. A score of 2 was given for “excellent” response, 1 for “good,” and 0 for “poor” and “very poor” satisfaction. Therefore, the overall score was 30 (18+12). The total satisfaction score was categorized into two groups, low level of satisfaction (less than the median score of total scores) and a high level of satisfaction (equal and more than median of total scores).

Results

Women attending focused antenatal care were highly satisfied with services provided to them while those attending risk approach standard antenatal care were less satisfied with services. Further improvement of focused antenatal care services in Erbil is required.

Conclusion

Women attending focused antenatal care were highly satisfied with services provided to them while those attending risk approach standard antenatal care were less satisfied with services. Further improvement of focused antenatal care services in Erbil is required.

Keywords personal satisfaction, pregnancy, risk, health services

Objectives

Client satisfaction is essential for further improvement of the quality of health care. This study aimed to assess the satisfaction with focused and risk approach antenatal care services among pregnant women in Erbil city of Iraq.

Methods

This cross-sectional study was conducted at two primary health care centers in Erbil city, one provides focused antenatal care services and the other provides risk approach antenatal care services. A convenience sample of 300 pregnant women (150 pregnant women from each center) participated in the study. An especially designed questionnaire was used for data collection.

Results

Around 61% of women attending focused antenatal care were very satisfied with care, while only 12% of women attending risk approach standard antenatal care were very satisfied with antenatal care (P<0.001). The perceived causes of dissatisfaction included crowding in the clinic in the morning, unfavorable waiting area, and unavailability of daily sonar exam. A significantly higher proportion (P<0.001) of the high level of satisfaction (78%) was reported among women attending focused antenatal care than risk approach standard antenatal care (38%).

Conclusion

Women attending focused antenatal care were highly satisfied with services provided to them while those attending risk approach standard antenatal care were less satisfied with services. Further improvement of focused antenatal care services in Erbil is required.

Keywords personal satisfaction, pregnancy, risk, health services
Verbal informed consent was obtained from each participant before being enrolled in the study. The study was approved by the Research Ethics Committee at the author’s institute. Data were analyzed using Statistical Package for Social Sciences (SPSS) version 19. Chi-square test of association was used to compare between two proportions. When the expected count of more than 20% of cells of the table was less than 5, Fisher’s exact test was used. Mann–Whitney test was used to compare the mean ranks of satisfaction scores of the two study groups. A p-value ≤0.05 was considered statistically significant.

Results

Sociodemographic characteristics of participants
The highest proportion of pregnant women was in their third decade of life (59.3%). The mean age ± SD of women attending Nazdar Bamerni center was 26.39 ± 5.51 while that of women attending Brayati center was 26.89 ± 6.02. With regard to occupation, 77% of pregnant women were housewives. There was no statistically significant variation in the sociodemographic characteristic of women attending the two centers with the exception of occupation (p=0.028). Details are shown in Table 1.

Satisfaction with different components of ANC
In general, attending women were highly satisfied with the different components of “clinical” ANC services and relatively less satisfied with the other six components of ANC. A statistically significant variation was demonstrated between the two PHC centers in the following items of ANC: explanation of complication (p=0.01), immunization of pregnant women (p=0.042), education about breastfeeding (p=0.047), doctors explanation of examination results (p=0.002), clinic infrastructure (p<0.001), attending doctors (p<0.001), attending nurses (p<0.001), waiting time (p<0.001), and laboratory services (p<0.001). Details are shown in Table 2.

Perceived causes of dissatisfaction
Generally, relatively high proportions of women reported dissatisfaction with the presence of unfavorable waiting area and crowding in the clinic in the morning. A statistically significant variation between the two PHC centers regarding crowding in the clinic in the morning (p=0.008) and unavailability of daily ultrasound examination (p<0.001) was demonstrated (Table 3).

Suggestions for improvement of ANC at PHC centers
A very high proportion of women in both health care centers reported the need for giving information related to pregnancy during the waiting time. A significantly higher proportion of women attending Nazdar Bamerni HC center reported the need for avoidance of too much talking between staffs and giving more attention to clients (p<0.001), providing appropriate waiting room (p=0.01), and the need for improvement of behavior of supporting staff (p=0.001). Details are shown in Table 4.

The overall and level of satisfaction with antenatal care
Around 61% of women attending Brayati PHC center were very satisfied with care while only 12% of women attending Nazdar Bamerni PHC center were very satisfied with ANC (p<0.001). A significantly higher proportion (p<0.001) of the high level of satisfaction (78%) was reported among women attending Brayati PHC center than Nazdar Bamerni PHC center (38%). Details are shown in Table 5.

Discussion
Assessment of client satisfaction offers a way of optimizing health status and prevents waste of medical resources.  

| Table 1. Sociodemographic characteristics of participants |
|----------------------------------------------------------|
| Variables | Nazdar PHC No. (%) | Brayati PHC No. (%) | Total No. (%) | p-value |
| Age groups (years) | | | | |
| <20 | 15 (10.0) | 14 (9.33) | 29 (9.7) | |
| 20–29 | 95 (63.33) | 83 (55.33) | 178 (59.3) | 0.22 |
| 30–39 | 39 (26.0) | 48 (32.0) | 87 (29.0) | |
| ≥40 | 1 (0.67) | 5 (3.33) | 6 (2.0) | |
| Occupation | | | | |
| Housewife | 109 (72.66) | 122 (81.3) | 231 (77.0) | |
| Employed (public or private) | 28 (18.66) | 25 (16.7) | 53 (17.7) | 0.028 |
| Others including students | 13 (8.66) | 3 (2.0) | 16 (5.3) | |
| Educational level | | | | |
| No formal education | 13 (8.7) | 15 (10.0) | 28 (9.3) | 0.86 |
| Primary school | 44 (29.3) | 42 (28.0) | 86 (28.7) | |
| Secondary school | 44 (29.3) | 49 (32.7) | 93 (31.0) | |
| Higher education* | 49 (32.7) | 44 (29.3) | 93 (31.0) | |
| Marital status | | | | |
| Married | 150 (100) | 149 (99.3) | 299 (99.7) | 1.00 |
| Widowed | 0 (0.0) | 1 (0.7) | 1 (0.3) | |
| Average monthly family income | | | | |
| Not enough | 56 (37.3) | 72 (48.0) | 128 (42.7) | |
| Marginally enough | 61 (40.7) | 46 (30.7) | 107 (35.7) | 0.17 |
| Enough | 27 (18.0) | 23 (15.3) | 50 (16.7) | |
| More than enough | 6 (4.0) | 9 (6.0) | 15 (5.0) | |
| Total | 150 (100.0) | 150 (100.0) | 300 (100.0) | |

* Diploma, bachelor & post graduate degrees.
Recognition of quality shortcomings in health care in developing countries has motivated new efforts to measure and monitor health service quality via surveys of health care providers and their clients. Among these tools, client survey is intended to measure user satisfaction with, or perceptions of, overall service quality or specific aspects of quality. ANC is the key entry point for a pregnant woman to receive a broad range of health promotion and preventive services which promote the health of the mother and the baby.

Table 2. Satisfaction with the different components of antenatal care services

| Component                        | Nazdar PHCC No. (%) | Brayati PHCC No. (%) | Total No. (%) | p-value |
|----------------------------------|---------------------|----------------------|---------------|---------|
| Explanation of complication      | 137 (91.3)          | 147 (98.0)           | 284 (94.7)    | 0.01    |
| Immunizations of pregnant women  | Yes 144 (96.0)      | 135 (90.0)           | 279 (93.0)    | 0.042   |
| Checking blood pressure and body weight | Yes 150 (100.0) | 150 (100.0)         | 300 (100.0)   |         |
| Fixing next appointment          | Yes 149 (99.3)      | 150 (100.0)          | 299 (99.7)    | 1.00    |
| Education about importance of breast feeding | Yes 140 (93.3) | 147 (98.0)           | 287 (95.7)    | 0.047   |
| Instructions about hygiene       | Yes 145 (96.7)      | 150 (100.0)          | 295 (98.3)    | 0.06    |
| Understanding of instructions    | Yes 146 (97.3)      | 150 (100.0)          | 296 (98.7)    | 0.122   |
| Full child immunization          | Yes 74 (49.3)       | 90 (60.0)            | 164 (54.7)    | 0.064   |
| Doctors explanation of examination results | Yes 138 (92.0) | 149 (99.3)           | 287 (95.7)    | 0.002   |
| Clinic infrastructure            | Excellent 21 (14.0) | 99 (66.0)            | 120 (40.0)    | <0.001  |
| Attending doctors                | Excellent 21 (14.0) | 99 (66.0)            | 120 (40.0)    | <0.001  |
| Attending nurse                  | Excellent 21 (14.0) | 98 (65.3)            | 119 (39.6)    | <0.001  |

Table 3. Perceived causes of dissatisfaction

| Causes of dissatisfaction | Nazdar PHCC No. (%) | Brayati PHCC No. (%) | Total No. (%) | p-value |
|---------------------------|---------------------|----------------------|---------------|---------|
| Poor laboratory services  | Yes 0 (0)           | 0 (0)                | 0 (0)         |         |
| Crowding in the clinic in the morning | Yes 107 (71.3) | 85 (56.7)            | 192 (64.0)    | 0.008   |
| Long waiting time         | Yes 22 (14.7)       | 16 (10.7)            | 38 (12.7)     | 0.298   |
| Not listening to complaints of pregnant women | Yes 1 (0.7) | 0 (0.0)              | 1 (0.3)       | 1.00*   |
| Unavailability of daily sonar exam. | Yes 81 (54.0) | 2 (1.3)              | 83 (27.7)     | < 0.001 |
| Unfavorable waiting area  | Yes 94 (62.7)       | 79 (52.7)            | 173 (57.7)    | 0.08    |

Recognition of quality shortcomings in health care in developing countries has motivated new efforts to measure and monitor health service quality via surveys of health care providers and their clients. Among these tools, client survey is intended to measure user satisfaction with, or perceptions of, overall service quality or specific aspects of quality. ANC is the key entry point for a pregnant woman to receive a broad range of health promotion and preventive services which promote the health of the mother and the baby.
The result of this study revealed that majority of women were in the age group 20–30 years. This result was supported by another study carried out in Egypt. About satisfaction with different components of ANC; in the study, more than 90% of pregnant women attending both HC centers were satisfied with an explanation about complications. This finding is much higher than that revealed in Basrah study where nearly 67% of women reported that they were satisfied with an explanation about complications. Satisfaction with immunization of pregnant women was significantly more reported (96%) in Nazdar Bamerni PHCC. The study in Basrah (standard ANC) revealed that nearly 88% of women were satisfied with service of immunization of pregnant women. Majority of women (98%) attending focused ANC were satisfied with education about the importance of breastfeeding. There were significant variations between the two PHCCs regarding the explanation of complications, immunization of pregnant women, and education about the importance of breastfeeding, which indicate that the services provided by Brayati PHCC were better than Nazdar Bamerni PHCC. A higher proportion (60%) of clients attending focused Brayati PHCC were satisfied with service of full child immunization. However, nearly 79% of clients in Basrah reported they were satisfied with service of full child immunization. This means that there is a need for further improvement of child immunization in Erbil. Doctors explanation of examination results in Brayati PHCC is better than in Nazdar Bamerni PHCC with highly statistical significant variations between the two PHCCs; indicating that services provided by Brayati PHCC are of better quality than those of Nazdar Bamerni PHCC.

Excellent satisfaction with the clinic, attending doctors, attending nurse, waiting time, and laboratory was reported in Brayati PHCC, while good satisfaction was reported in Nazdar Bamerni PHCC with highly statistically significant variations between the two PHC centers. These findings indicate that women preferred the services provided by Brayati PHCC, which adopted the focused ANC.

Regarding perceived causes of dissatisfaction, crowding in the clinic in the morning was more reported in Nazdar Bamerni PHCC, around 71% more than in Brayati PHCC (56.7%) indicating that there is a need to decrease crowding in both PHCCs in the morning. This finding was supported by other study conducted in Bangladesh, 25% of women reported dissatisfaction with crowding in the clinic in the morning. Nearly 63% of pregnant women from Nazdar Bamerni PHCC and 52.7% from Brayati PHCC reported unfavorable waiting area. These proportions are much higher than those reported in South Ethiopia (4.3%). This means that there is a need for improvement of waiting area and increasing waiting space. More than half of women attending Nazdar Bamerni PHCC and only 1.3% from Brayati PHCC reported unavailability of daily sonar exam. Six percent of women from Musandam region of Oman reported an absence of sonar exam. According to suggestions for improvement of ANC at PHCCs, nearly 15% of pregnant women from Nazdar Bamerni PHCC and only 1.3% from Brayati reported the need for avoidance of too much talking between staffs and giving more attention to the clients with significant variations between the two PHCCs. In Ethiopia, nearly 12% of women reported avoidance of too much talking between staffs and giving more attention to the client. Nearly 63% of pregnant women from Nazdar Bamerni

### Table 4. Suggestions for improvement of ANC at PHC centers

| Suggestions for improvement of ANC | Nazdar PHCC | Brayati PHCC | Total | p-value |
|-----------------------------------|------------|-------------|-------|---------|
| Avoidance of too much talking between staffs and giving more attention to clients | 22 (14.7) 2 (1.3) 24 (8.0) | 128 (85.3) 148 (98.7) 276 (92.0) | | <0.001 |
| Giving information related to pregnancy during waiting time | 143 (95.3) 140 (93.3) 283 (94.3) | 7 (4.7) 10 (6.7) 17 (5.7) | | 0.45 |
| Improving ventilation system of the clinics and waiting space | 94 (62.7) 73 (48.7) 167 (55.7) | 56 (33.3) 77 (51.3) 133 (44.3) | | 0.01 |
| Minimize waiting time | 24 (16.0) 16 (10.7) 40 (13.3) | 126 (84.0) 134 (89.3) 260 (86.7) | | 0.17 |
| Improvement of behavior of supporting staff | 29 (19.3) 1 (0.7) 30 (10.0) | 121 (80.7) 149 (99.3) 270 (90.0) | | 0.001 |

### Table 5. Overall and level of satisfaction with ANC provided at both PHC centers

| Variable | Nazdar PHCC | Brayati PHCC | Total | p-value |
|----------|-------------|-------------|-------|---------|
| Overall satisfaction | 20 (13.3) 3 (2.0) 23 (7.67) | 112 (74.7) 55 (36.7) 167 (55.66) | | <0.001 |
| Satisfied | 18 (12.0) 92 (61.3) 110 (36.67) | |  | |
| Very satisfied | 93 (62.0) 33 (22.0) 126 (42.0) | 57 (38.0) 117 (78.0) 174 (58.0) | | <0.001 |
| Total | 150 (100.0) 150 (100.0) 300 (100.0) |  |  |  |

1. Calculation of scores depend on median of total scores (median=24)
2. Low level of satisfaction: ≥median of total scores
3. High level of satisfaction: ≤median of total scores

Risk approach is not an efficient or effective strategy for reduction of maternal mortality because risk factors cannot predict the occurrence of complications. Maternal and neonatal health programme promote the concept of focused ANC which emphasizes quality over quantity of visits.

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PHCC and nearly 49% from Brayati asked for provision of the appropriate waiting room (increased waiting space) with significant variations between the two PHCCs. In Ethiopia, 37% of women suggested providing an appropriate room (increase waiting space). Around 19% of clients from Nazdar Bamerni PHCC and only 0.7% of women from Brayati PHCC reported the need for improvement of behavior of support staff with higher statistical significant variations between the two PHCCs. Nearly 9% of women suggested improvement of support staff in south-west Ethiopia. The proportions of all suggestions of women were higher in Nazdar Bamerni PHCC than Brayati which mean that the services of focused ANC are better than risk approach of ANC. Regarding the overall satisfaction with ANC provided at both PHCCs as perceived by clients, around 61% of women attending Brayati PHCC were «very satisfied» with care while 74.7% of women from Nazdar Bamerni PHCC were «satisfied» with highly statistically significant variations between the two PHCCs. The satisfaction with focused ANC in the present study is higher than that reported in Malaysia (56.7%). The overall satisfaction with ANC provided at both PHCCs as perceived by clients was further incorporated by calculating the level of satisfaction by a median of total scores and mean of total scores. Women attending Brayati PHCC reported a high rate and high level of satisfaction and high mean scores of satisfaction than Nazdar Bamerni PHCC, which means the services provided by Brayati PHCC better than Nazdar Bamerni PHCC.

**Conclusion**

Women attending focused ANC (Brayati PHCC) are highly satisfied with services provided to them while those attending risk approach standard ANC (Nazdar Bamerni PHCC) are less satisfied with the services. Services provided by Brayati PHCC were better than those provided by Nazdar Bamerni PHCC. Perceived causes of dissatisfaction, crowding in the clinic in the morning, unfavorable waiting area, and unavailability of daily sonar exam. Further improvement of focused ANC services in Erbil is required. There should be an emphasis on child immunization in both HCCs. There is a need to decrease crowding in both HCCs in the morning. Further improvement of waiting area and an increase in the waiting space in both PHCCs is needed. Provision of sonar exam in all days of the week is important, avoidance of too much talking to each other, and giving more attention to the clients and behavior improvement of supporting staff in Nazdar Bamerni PHCC.

**Conflicts of interest**

The authors report no conflicts of interest.

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