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Satisfaction among Expectant Mothers with Antenatal Care Services in the Musandam Region of Oman

*Mohammed Ghobashi,[1] Rajiv Khandekar[2]

رضى الحوامل من خدمات ما قبل الولادة في منطقة مسندم في سلطنة عمان

محمد غباشة ، راجيف خانديكار

الملخص: الهدف: بما أن أخذ رأي المراجع مفيد في تحسين تقديم الخدمات الصحية، لذا كان من الضروري عمل تقييم دوري لذلك. هذه الدراسة تهدف الى معرفة مستوى الرضى عند الحوامل المراجعات للمراكز الصحية لوزارة الصحة في منطقة مسندم خلال سنة 2005. **الطريقة:** هذه دراسة مقطعية عن طريق مقابلة الأمهات الحوامل المراجعات للمراكزالصحية المختلفة في منطقة مسندم. جمع باحثون يتقنون اللغة العربية في ستة مراكز صحية بمسندم المعلومات المتعلقة بالمراجعات والخدمات المقدمة لهن ومستوى رضاهن عن تلك الخدمات. تم حساب الأرقام والنسب لأجابات الحوامل. **النتائج:** تم جمع المعلومات من ثلاث وثمانين امرأة مسجلة في ستة مراكز صحية بمسندم. كان مستوى الرضى ممتازا في 49 مشاركة (59% - فترة الثقة 95% هي 48.5 - 69.6). سبع وستون امرأة (81%) أظهرن سرورا لتقديم الخدمات الصحية في المراكز الصحية خلال فترة الحمل، خاصة لمواقف الأطباء والممرضات. كان السبب الرئيسي لعدم الرضى هو خدمات المختبرات والازدحام خلال ساعات الصباح. **الخلاصة:** أظهرت النساء المراجعات للمراكز الصحية الخاصة بالحوامل رضاهن بالخدمات المقدمة من قبل تلك المراكز في منطقة مسندم. لكن هناك مجال لتحسين تلك الخدمات. على وزارة الصحة استشارة المعنيين في تلك المراكزوالتركيز على تحسين الخدمات للنساء الحوامل.

مفتاح الكلمات: رعاية الحوامل، رضى المرضى، عمان.

ABSTRACT ***Objectives:*** As client feedback is useful to improve health service delivery, assessments should be undertaken periodically. This study aimed to determine the level of satisfaction among expectant mothers visiting health institutions for antenatal care services in the Ministry of Health, Musandam region of Oman in 2005. ***Methods:*** This was a cross sectional survey in a hospital set-up. Women registered in the antenatal clinics of different health institutions of Musandam region were interviewed. Arabic speaking investigators in six health institutions of Musandum region collected personal profiles, details of different antenatal services offered and responses regarding the satisfaction with these services. The number and percentage of responses were calculated to grade the level of satisfaction. ***Results:*** Eighty-three registered women who visited antenatal clinics in six health institutions were interviewed. The overall satisfaction for antenatal care was of excellent grade in 49 (59% - 95% confidence interval 48.5 - 69.6) participants. Sixty-seven (81%) women were happy with services at antenatal clinics mainly because of the attitude of the doctors and nursing staff. The leading causes of dissatisfaction were the laboratory services and overcrowding during morning hours. ***Conclusion:*** The women attending antenatal care services in Musandam were highly satisfied with the services offered; however, there was scope for further improvement. The Ministry of Health in consultation with the caregivers should focus on improving antenatal services.

Key words: Antenatal care; Patient satisfaction; Oman

Advances in Knowledge

- Reviewing the client's perspective should be an integral part of health programme management.
- Client satisfaction related to antenatal care services in the Musandam region of Oman was very good.
- Feedback of clients should be complemented by direct observations of process and resource evaluation.

[1]Directorate of Health Services, Ministry of Health, Musandam Governorate, Oman; [2]Eye & Ear Health Care, Non-Communicable Disease Control Section, Department of Non-Communicable Disease Control, Ministry of Health, Oman

**To whom correspondence should be addressed. Email: rajshpp@omantel.net.om*

- Communicating with clients in their native language could be the key to satisfying their antenatal service needs.
- Presence of community support group members or Arabic speaking health staff improves cooperation of participants in a study.

Applications to Patient Care

- Health staff should communicate effectively with expectant mothers during their antenatal visits, as this is key to improving their satisfaction.
- If possible, waiting time for laboratory tests results should be reduced and clients informed about the normal procedure and time needed for such tests.
- The process of health education for expectant mothers in Musandam should be reviewed and made more client-friendly.

Client satisfaction is the litmus test that enables health programmes to assess the impact of their services; hence, it is an integral part of the 'quality assurance process' of health delivery.[1] The satisfaction of female clients of antenatal care services has been studied in the past in other countries.[2-5] Dowswell et al.[6] performed a meta-analysis in 2001 to review the work of different researchers on this subject and suggested that more information is still needed. Apart from a thesis of a PhD student,[7] no such feedback has been obtained in the past in Oman. Our study focuses on a remote area of Oman, which has a predominantly Muslim health clientele. Analysing satisfaction levels with the free services offered in a remote region of a Middle Eastern country is a useful way to improve the services and can provide a model for others to follow. Musandam is the northern most region of Oman. As this region is surrounded by part of the United Arab Emirates, access to the rest of the regions of Oman is difficult. The Oman Ministry of Health (MoH) provides health services to the 28,378 residents of the region. There are three hospitals and three primary health centres.[7] Qualified medical doctors and nursing staff provide antenatal care services to expectant mothers in these institutions. Staff members were trained in different countries like India, Egypt, Pakistan and Iraq and many of them do not speak Arabic. Obstetricians provide high quality antenatal, natal and postnatal care at the regional hospital and one local hospital. The 6,136 women aged 15 to 49 years of age in Musandam could use these services. The health services charge US $ 2.5 as a case fee. The terrain is so difficult and diverse that the services are offered either by boats or helicopter in some areas of the region. Complicated cases are transported to the tertiary care unit situated nearly 500 kilometres away in Muscat. Ambulances for such critical cases have to travel over mountainous roads, thus imposing unavoidable but definite risks on the patients.

The national coverage of antenatal services in Oman is more than 99%. Around 97.5% of the expectant mothers give birth in the institutions while the rest deliver at homes under the supervision of a trained nurse.[8, 9]

In 2005, the staff of the MoH Maternal and Child Health Care Program evaluated the satisfaction of expectant mothers who visited the health institutes of Musandam region. The authors here present the outcome of this study and propose ways to improve the services. Following this study, the Mother and Child Health Program of Oman was encouraged to undertake similar surveys in other regions.

METHODS

This was a cross-sectional study approved by the ethical committee of the MoH of the Musandam region. As no biological product was taken solely for the purpose of research and the study was conducted within the health institutions as part of operational research to improve health care systems, we obtained verbal instead of written consent from the participants. The expectant mothers visiting health institutions of the region between 3 and 9 January 2005 were enrolled in the study. To represent nearly 423 annual deliveries taking place in the region, we selected a sample for our study. We assumed that an excellent grade of satisfaction for the antenatal care services would be 80% of clients. To achieve 90% power and 95% confidence in-

Table 1: ***Characteristics of the study population, Musandam region, Oman***

		No.	%
Age group	<20	4	4.8
	20 to 24	28	33.7
	25 to 29	26	31.3
	30 to 34	17	20.5
	35 and more	8	9.6
Wilayat	Khasab	50	60.2
	Deba	23	27.7
	Bukha	8	9.6
	Madaha	2	2.4
Nationality	Omani	66	79.5
	Non-Omani	17	20.5
Literacy level	Illiterate	13	15.7
	Can read & write	4	4.8
	School education	51	61.4
	Higher education	15	18.1
Babies in past	Aborted	25	30.1
	No babies	18	21.7
	1 to 3 babies	47	56.6
	4 or more babies	18	21.7
Married life (n = 76)	<1 year	10	12.0
	1 to 4.9 years	19	22.9
	5 to 9.9 years	15	18.1
	10 and more years	33	39.8
Occupation	Home maker	68	81.9
	Teacher	7	8.4
	Staff nurse	1	1.2
	X-ray technician	1	1.2
	In Air force	1	1.2
	Head teacher	1	1.2
	S. Nutrition	1	1.2
	Missing	3	3.6
Pregnancy stage	1st trimester	12	14.5
	2nd trimester	21	25.3
	3rd trimester	50	60.2
Total		83	

Table 2: ***Satisfaction with different components of antenatal care in the Musandam region of Oman***

Topic	Level of Satisfaction			
Satisfaction with	**Excellent**	**Good**	**Poor**	**Very Poor**
Clinic	62	21	0	0
Attending doctor	67	16	0	0
Attending nurse/midwife	72	11	0	0
Waiting time	11	62	8	2
Laboratory services	12	11	0	0
Pharmacy support	0	81	2	0
Total	49	34	0	0

Note: The option 'cannot say' was not ticked by any participant for any of the questions

terval of the study with a 10% acceptable error of margin, we needed to interview 78 clients. To compensate for possible refusals, we included five more women. In fact, in the field part of our study, all enrolled agreed to participate thus the final sample was 83 women.

The participants were selected in series in a health institution on a randomly selected day and were those coming for an antenatal visit. First, we randomly selected the health institution. Then we selected one day from five working days of the week to visit each institution. On that day, we enrolled the women in sequence (meaning pregnant women visiting the clinic one after another as they presented on the day that was randomly fixed for conducting the study in that institution.), as per the number required for that health institution. The numbers interviewed per health institution were based on the proportion of females in the 20 to 40 years age group in that catchment area.

Arabic speaking Omani nursing staff and medical orderlies were our study staff. The Community Support Group (CSG) members who were Omani nationals were also involved as they were known to most of the participants and hence we could reduce the risk of the impact of involving health staff in the study. These CSG members assured the participants that negative responses would not affect the service being offered to them. They were trained in the study methodology. A pilot study to test the methods and the questionnaire was carried out in Khasab hospital, Musandam, prior to the field work. This helped us in fine-tuning the questions to suit local Arabic words as well as standardising the method of conducting the interview.

During the study period, the staff visited the female waiting area of the antenatal clinics. They explained the purpose of the study to waiting expectant mothers and obtained their verbal consent to participate. Their replies were noted. The response of the person accompanying the patient was not noted, but also considered as additional feedback for administrators. The interview was conducted in a separate room. The available resources, personal care given by the attending staff and the time spent at six places namely reception, the nursing station, doctor's consultation room, laboratory, counselling and pharmacy were covered in the interview. A close-ended questionnaire was prepared to collect responses. Each question had five grades of response. We calculated cumulative points by summing up the responses addressing the same group of questions. To minimize the social desirability bias, we explained the purpose of the survey, involved the CSG members in the Arabic translation, explained the questions and options for responses, especially if the health staff was non-Arabic speaking, and strictly followed the cultural and social norms.

The identity of the participants was de-linked from the responses. The person analysing the data was unaware of the study area and the names of the participants. The data was computed using EPI Data. [10] The frequency and percentage proportions of the important outcomes were calculated using the Statistical Package for Social Studies (SPSS), Version 9. We used the parametric method of univariate analysis. Each strong positive response was given +2 points. A positive response was given +1 point. An equivocal response was awarded '0' score. A negative answer was considered as poor and was given '-1' score. Severe dissatisfaction was graded as 'very poor' and given a '-2' score. The overall satisfaction of the expectant mother was graded into 'Excellent', 'Good', 'Poor' and 'Very poor' categories by using the 25% percentile of the sum of response for different categories of antenatal services.

Table 3: ***Causes of satisfaction with antenatal care in the Musandam region***

Topic	Number	%	95% Confidence Interval
Reception by health staff is good	47	56.6	45.9-67.3
Clear instructions	7	8.4	2.4-14.4
Medical orderly available with doctor in ANC	5	6.0	0.9-11.1
Put number on cards	7	8.4	2.4-14.4
Good, clean clinic	8	9.6	3.3-15.9
Good clinic arrangement	4	4.8	0.2-9.4
Good laboratory services	2	2.4	0.0-5.7
Satisfied with service	6	7.2	1.6-12.8
Timely work	1	1.2	0.0-3.5

RESULTS

Eighty-three participants were sequentially enrolled and interviewed in our study. Their profile suggests that they were educated and distributed in different wilayats (districts) of Musandam region [Table 1]. The distribution of 15 to 45 years old participants in relation to the population in different wilayats of Musundam region was calculated. The proportion of the target population in Khasab, Daba, Bukha, Madah wilayats was 64.6%, 18.3%, 9.4% and 7.7% respectively. The population of Madah wilayyat was underrepresented in our study. Of the 17 non-Omani participants, seven were Muslim while five each were of Hindu and Christian religion. All 66 Omani females were Muslims.

The levels of satisfaction for different components of the antenatal care service delivery were calculated [Table 2]. Forty-nine respondents (59%) reported an 'Excellent' grade of overall satisfaction. The rest of the participants reported 'Very good' levels of satisfaction. Waiting times during the visit and the support in the pharmacy fell short of clients' expectations. The waiting time was counted and compared with the response of the client. The leading causes of satisfaction are given in Table 3. The positive behaviour of the health staff and the warm reception mothers received in the antenatal care unit were the most satisfying parts of the services.

Weakness in the laboratory services, long waiting periods in the clinics, especially during the morning hours, and non-availability of Arabic speaking doctors were the areas for improvement [Table 4]. We considered waiting time after the registration of a new/old case. A 'very poor' grade of satisfaction was considered to be a weak area of antenatal services. The dissatisfaction expressed mainly related to the process of imparting health education (commitment, availability of time and language barrier) and not to the availability of health education material.

DISCUSSION

The importance of client satisfaction and feedback has been highlighted in the literature,[10, 11] but scientists have used different methods of assessing patient satisfaction. Noting observations, evaluating available resources, reviewing the attendance with time and even monitoring the time spent at different places of antenatal care are different methods used. In our study, we recorded client's perception about overall care and also different components of the antenatal care services. Each method has advantages and disadvantages. Direct observations are more specific and reliable but they do not incorporate clients' perspectives. Feedback from clients is collected only through suggestion boxes in many institutions, but they may mainly contain complaints and rarely positive experiences. Even these complaints are written often without proper understanding of the limitations of the providers; hence, the outcomes of such studies should be linked to the review of available resources before interpreting them.

Our study showed that clients, in general, have a positive opinion of the antenatal care services offered in the Musandam region. This matched with the observations of Yan T et al.[12] and Hildingsson et al. [13] In the former study, the participants were pregnant women with foetal anomalies in a province of Canada, while the later study covered three European countries.

Interaction of caregivers with the clients has always been the key to high satisfaction with the service. [14, 15] In our study, an 'Excellent' grade of satisfaction for subcomponents of health staff behaviour confirms this observation. Doctors were considered ideal for imparting technical knowledge, providing emotional

Table 4: ***Causes of dissatisfaction among pregnant women, Musandam region***

Topic	Number	%	95% Confidence Interval	
Laboratory services	30	36.1	25.8	46.4
Crowding clinic in the morning	16	19.3	10.8	27.8
Non-availability of Arabic speaking doctor	12	14.5	6.9	22.1
Health education services not good	6	7.2	1.6	12.8
No explanation of antenatal clinic	6	7.2	1.6	12.8
Not listening to complaints of pregnant women	1	1.2	0	3.5
Unavailability of gynaecologist	5	6.0	0.9	11.1
Long waiting time	5	6.0	0.9	11.1
No Sonar test	5	6.0	0.9	11.1

support and assisting in decision making, although female nurses and midwifes were more acceptable as they can reassure pregnant women and alleviate their anxiety. [15]

Health education and communication in the local language are stressed to improve client satisfaction. [14, 16] In our study, the presence of Arabic speaking CSG members helped us in overcoming the language barrier between service providers and clients.

The dissatisfaction with the laboratory services and facilities and the long waiting period for antenatal care, especially in the morning hours, were noted in our study. We did not note the time taken waiting for a laboratory test and the waiting time for the test results; hence we are not sure if the dissatisfaction of clients about the length of waiting time was genuine or whether it was due to improper counselling about time needed for laboratory procedures. Further studies should therefore explore this issue and propose corrective measures if required. These issues were also the reasons for low satisfaction in a study covering four countries including Saudi Arabia (a neighbouring country of the present study area). [17]

Few participants in our study were practising a religion other than the Muslim one. In addition, we had not planned to study the influence of religion on the main outcomes. Hence, we could not associate the client's religion to the level of satisfaction for antenatal care in our study. Tsianakas et al. has reported that health providers' lack of cultural appreciation was one of the reasons for dissatisfaction among women of Islamic background in Australia. [18] Thus, if antenatal care is delivered with specific consideration to the religion commonly practiced in this area, it will be more acceptable.

Fifty participants were in their third trimester of pregnancy. In antenatal services, women visit more frequently during this period compared to the earlier trimesters. Their response could be a cumulative one of their experience of services not only for the current visit but also of the earlier visits. In such circumstances, high satisfaction is suggestive of availability of satisfactory antenatal services for at least one year in the study area. Due to the possibility of misclassification bias, we did not study differential satisfaction in relation to the trimester of pregnancy.

Sixty-six females (79.5%) had school education in our study. The literate participants are likely to be more aware of newer developments in the field of antenatal care and their expectations are also likely to be higher compared to the illiterate females. In view of the high literacy rate among the participants, the high satisfaction rate for the antenatal care services in our study is worth noting.

Waiting time has been reported to influence the satisfaction of clients. [5, 17] In our study also, this factor was linked to dissatisfaction with the services; however, it did not match with the time noted independently by field staff. Although we did not have any benchmark for the time required at different stages of the antenatal care, grievances about delays, especially in laboratory tests should be taken into consideration in the future.

Communication by providers to with the women during antenatal visits plays an important role.[12, 15] Three out of eight doctors were able to speak Arabic with patients in our study area. The clients' stress on the need for Arabic speaking doctors and it being one

of the main reasons for dissatisfaction, suggest that language could be a possible barrier in communication between doctors and expectant mothers in our study area.

Our staff belonged to the Ministry of Health, the only health service provider in this remote region of Oman. The possibility of social desirability bias cannot be ruled out entirely in such circumstances, but the community's willingness to voice dissatisfaction about deficiencies in governmental services is often observed in hospitals. They give written complaints to the administrators or raise the issue in the Majlis Al Shura (national parliament) through the local representatives. In such a situation, fear of compromised antenatal care is unlikely to be the cause of the high proportion of 'Excellent' scores in our study. A postal response approach for collecting information has less risk of social desirability bias and was used by Brown et al.[19] However, such an approach was not feasible in our study as the terrain in the Musandam region is very difficult and the community is well accustomed to verbal surveys at their health institutions mainly for estimating the magnitude of key diseases.

As our sample was selected by sequential methods all clients that attended the antenatal services during 2005 did not have an opportunity to participate in the study. Hence the outcome of the present survey should be generalised with caution for all the expectant mothers of the region.

CONCLUSIONS

The women attending antenatal care services in Musandam were highly satisfied with the services offered, but there is scope for further improvement. The Ministry of Health in consultation with the caregivers should focus on improving antenatal services.

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REFERENCES

1. Ivanov LL, Flynn BC. Utilization and satisfaction with prenatal care services. West J Nurs Res 1999; 21:372-386.
2. Seclen-Palacin JA, Benavides B, Jacoby E, Velasquez A, Watanabe E. Is there a link between continuous quality improvement programs and health service users' satisfaction with prenatal care? An experience in Peruvian hospitals. Rev Panam Salud Public. 2004; 16:149-157.
3. Luyben AG, Fleming VE. Women's needs from antenatal care in three European countries. Midwifery 2005; 21:212-223.
4. Uzochukwu BS, Onwujekwe OE, Akpala CO. Community satisfaction with the quality of maternal and child health services in southeast Nigeria. East Afr Med J 2004; 81:293-299.
5. Bronfman-Pertzovsky MN, Lopez-Moreno S, Magis-Rodriguez C, Moreno-Altamirano A, Rutstein S. Prenatal care at the first level of care: characteristics of providers that affect users' satisfaction. Salud Publica Mex 2003; 45:445-454.
6. Dowswell T, Renfrew MJ, Gregson B, Hewison J. A review of the literature on women's views on their maternity care in the community in the UK. Midwifery 2001; 17:194-202.
7. Al-Mandhari A. Quality of PHC services in Al-Dhahira region. PhD thesis. Liverpool University, UK, 2002.
8. Director General of Health Planning, Ministry of Health, Oman. Health Status Indicators. In: Annual Health Report Year 2004. Muscat: Al Zahra Printers, 2005. p. 1-4 and 2-2.
9. Ministry of Health, Oman, UNICEF & UNFPA. Care during delivery. In: National Health Survey 2000 Reproductive Health Study. Vol. 2. Muscat: Ministry of Health, 2000. p. 96.
10. Lauritsen JM, Ed. EpiData Data Entry, Data Management and Basic Statistical Analysis System. Odense, Denmark: EpiData Association, 2000-2006.
11. Wong ST, Korenbrot CC, Stewart AL. Consumer assessment of the quality of interpersonal processes of prenatal care among ethnically diverse low-income women: development of a new measure. Women's Health Issues 2004; 14:118-129.
12. Yan T, Wen SW, Walker MC, Beduz MA, Kim PC. Fetal Alert Network: Women's satisfaction with the current state of prenatal care for pregnancies complicated by fetal anomalies: a survey of five academic perinatal units in Ontario. J Obstet Gynaecol Can 2007; 29:308-314.
13. Hildingsson I, Rådestad I. Swedish women's satisfaction with medical and emotional aspects of antenatal care. J Adv Nurs 2005; 52:239-249.
14. Tandon SD, Parillo KM, Keefer M. Hispanic women's perceptions of patient-centeredness during prenatal

care: a mixed-method study. Birth 2005; 32:312-317.

15. Douglas S, Cervin C, Bower KN. What women expect of family physicians as maternity care providers. Can Fam Physician 2007 May; 53:874-879.

16. Büchi S, Cignacco E, Lüthi D, Spirig R. Needs and expectations of Tamil women attending an antenatal care department at a Swiss university hospital. Pflege 2006; 19:295-302.

17. Nigenda G, Langer A, Kuchaisit C, Romero M, Rojas G, Al-Osimy M, Villar J, et al. Women's opinions on antenatal care in developing countries: results of a study in Cuba, Thailand, Saudi Arabia and Argentina. BMC Public Health. 2003; 20:3-17.

18. Tsianakas V, Liamputtong P. What women from an Islamic background in Australia say about care in pregnancy and prenatal testing. Midwifery 2002; 18:25-34.

19. Brown SJ, Bruinsma F. Future directions for Victoria's public maternity services: is this "what women want"? Aust Health Rev 2006; 30:56-64.