

Service Quality of Delivered Care from the Perception of Women with Caesarean Section and Normal Delivery

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ARTICLE INFO	ABSTRACT
<p>Article type: Original Article</p>	<p>Background: Our aim was to determine the service quality of delivered care for people with Caesarean Section and Normal Delivery.</p>
<p>Article history: Received: May 15 2014 Accepted: Aug 24 2014 e-published: Dec 30 2014</p>	<p>Methods: A cross-sectional study was conducted among 200 people who had caesarean section and normal delivery in Al-Zahra Teaching Hospital in Tabriz, north western Iran. Service quality was calculated using: $Service\ Quality = 10 - (Importance \times Performance)$ based on importance and performance of service quality aspects from the postpartum women's perspective. A hierarchical regression analysis was applied in two steps using the enter method to examine the associations between demographics and SQ scores. Data were analysed using the SPSS-17 software.</p>
<p>Keywords: Service quality, Patients' perspective, Caesarean section, Normal delivery</p>	<p>Results: "Confidentiality", "autonomy", "choice of care provider" and "communication" achieved scores at the highest level of quality; and "support group", "prompt attention", "prevention and early detection", "continuity of care", "dignity", "safety", "accessibility and "basic amenities" got service quality score less than eight. Statistically significant relationship was found between service quality score and continuity of care ($P=0.008$).</p>
<p>*Corresponding Author: Jafar S. Tabrizi Tel: +98 41 33340634; e-mail: js.tabrizi@gmail.com</p>	<p>Conclusion: A notable gap between the participants' expectations and what they have actually received in most aspects of provided care. So, there is an opportunity to improve the quality of delivered care.</p>

Citation: Tabrizi JS, Askari S, Fardiazar Z, Koshavar H, Gholipour K. Service Quality of Delivered Care from the Perception of Women with Caesarean Section and Normal Delivery. Health Promot Perspect 2014; 4(2): 137-143

Introduction

The majority of women have at least one experience of delivery through a Normal Delivery (ND) or Caesarean Section (CS) in their whole life. This process has important direct impact on the health of both mother and neonate, and the essential obstetric care should be considered through before, during, and after delivery.¹ High quality of a basic and comprehensive non-health and clinical care should be guaranteed by the health system to ensure customers.² Preg-

nant women increasingly expect higher quality in their childbirth process reflecting changing socio economic status, trends in disease patterns and advances in medical and health procedures.³ Consequently, pregnant women's needs and expectations should be measured as part of measuring the quality and responsiveness of health care systems. Organizational and physical structures and care processes should be designed to respond customer's needs by service providers.

Quality of care can be seen as having three principal components, including service, technical and customer quality.⁴ *Technical Quality* is what the customers receive relative to what is known to be effective and largely reflects issues related to the health care providers knowledge and experiences.⁵ *Customer Quality* refers to the characteristics that customers need for effective involvement in health care processes, decision making and action to improve the quality of care delivered and received.⁶

Service Quality (SQ) refers to the non-health aspects of care and reflects the experience of the health care customers with the health system, including relationships between customers and care providers, facility standards and support services and the environment in which service is delivered.⁷ SQ has a direct influence on overall quality of care experienced by service users

Perceptions of what is quality of care are linked to expectations and are likely to differ from system to system, region to region and even person to person. In addition, perceptions of SQ reflect individual's values and personal experiences of care services.⁸ In assessing the quality of care provided by a health system for a specific health issue, it is important to consider both the technical and SQ of care. Additionally patients' views on quality of care are a valuable tool for quality improvement and also for making health care more responsive to patients' needs.⁹ On the other hand, considering critical and important role of postpartum and childbirth period in health of mother and neonate improving quality of care in this setting relate to health education, safety and prevention can be used as an effective intervention to reduce risks and complications.

In this regard, the present study aimed to assess the SQ of delivered care from the perspective of women with ND and CS in Tabriz, Iran.

Materials and Methods

Participants & Procedures

A cross-sectional study was conducted in Tabriz, northwestern Iran in 2009. The

study participants were 200 postpartum women with ND and CS in Al-Zahra Teaching Hospital. Participants were interviewed at least 2 hours after ND or 6 hours after CS. Women who filled and signed informed consent to participation in the study were eligible to take part. Participants who were not interested to have an interview or who did not continue the interview were excluded from the study. Participants were selected using convenient sampling within 2 months.

Sample size of study was determined based on primary information on service quality variable obtained from a group of 20 women. Considering 95% confidence level, 80% power by considering standard error was equal to 1.8 and Cohen's d estimated as 0.37, finally by utilizing sample size formula for analytical studies at least 175 women to be recruited in to the study.

Measures

A structured questionnaire was used to assess the importance and performance score for 12 aspects of SQ, demographic information, pregnancy history and tobacco smoking. The questions to assess SQ were adapted from a validated CQMH_SQ (Comprehensive Quality Measurement in Health_ Services Quality) questionnaire developed by Tabrizi et al.¹⁰ Researchers modified some questions based on the local conditions and did not exclude any question.

For each aspect of SQ, respondents were asked to evaluate the *Importance* of that aspect and their perception of the quality of care they had received in relation to that aspect (*Performance*). Importance of SQ was scored on a four point Likert scale ranging from "0 = Not Important", "3 = May be Important", "6 = Important" and "10 = Very Important". Perceived performance of care received was scored on a four point scale ranged from "never, sometimes, usually and always" or "poor, fair, good and excellent". For analysis this scale was dichotomized as: "0 = Usually/Always or Good/Excellent" and "1 = Never/Sometimes or Poor/Fair". An overall measure of SQ, was calculated for each SQ aspects by combining

the *importance* and *performance* scores using the Netherlands Institute for Health Services Research methodology.¹¹ SQ of care for each quality aspect was calculated as:

$$\text{Service Quality} = 10 - (\text{Importance} \times \text{Performance}).$$

The SQ score then ranged from 0 = the worse/lowest quality to 10 = the best/highest quality. In most surveys, regardless of methodology, around 10% of the population reported inadequate quality of the care^{10,11} and a similar percentage report being dissatisfied with care in hospitals.¹² So, according to this fact in this study SQ score less than 9 indicates weakness and a significant opportunity for improvement.¹⁰

Ethical Consideration

The ethics of this study were reviewed and approved by review board of Tabriz University of medical sciences.

Statistical Analysis

Independent Samples *t* test and ANOVA were conducted to compare SQ score between categorical variables.

A hierarchical linear regression analysis was applied in two steps using the enter method. Variables found to be associated with SQ in the univariate analysis were included in multivariate regression model. The *P*-values for entry and removal variables in the stepwise regression model were 0.05 and 0.15, respectively. Data were analyzed using the SPSS-17 statistical package (SPSS, Chicago, IL, USA). *P* values <0.05 were considered as statistically significant.

Results

The majority of participants were housewife (89%), lived in urban area (65.5%) and more likely to be over 25 years old. Study finding indicates more than one third of participants completed primary school (36%) and nearly one third completed high school or university levels. In this study nobody had a history of smoking (Table 1).

Table 1: Characteristics of study participants and Service Quality score

Characteristics	No. (%)	Service Quality Score		<i>P</i>
		Mean	SD	
Employment status				
Housewife	178 (89)	7.56	1.17	0.147
Employed	22 (11)	6.99	1.74	
Age (yr)				
< 25	71 (35.5)	7.57	1.26	0.302
25-35	109 (54.5)	7.46	1.27	
> 35	20 (10)	7.47	1.20	
Residential areas				
Urban	131 (65.5)	7.57	1.34	0.302
Rural	69 (34.5)	7.37	1.08	
Education status				
Primary school	72 (36)	7.37	1.20	0.435
Mid and high school	64 (32)	7.65	1.11	
Completed high school or University	64 (32)	7.50	1.44	
Health insurance				
Yes	181 (90.5)	7.54	1.19	0.288
No	19 (9.5)	7.11	1.75	
Delivery modes				
ND	90 (45)	7.38	1.42	0.227
CS	110 (55)	7.60	1.10	
Continuous care by specialist				
Yes	119 (59.5)	7.68	1.18	0.016
No	81 (40.5)	7.24	1.33	
Type of health insurance				
Medical Service	52 (26)	7.47	1.21	0.479
Social security	65 (32.5)	7.50	1.34	
Rural	53 (26.5)	7.60	1.00	
Other	11 (5.5)	7.93	0.96	
Uninsured	19 (9.5)	7.11	1.75	

There was no statistically significant difference between SQ aspects in CS and ND. Statistically significant differences were found between continuity of care and SQ scores for several aspects. Participants without continuity of care reported lower SQ score than those with continuity for overall SQ ($P=0.016$) (Table 1). The aspects that had the highest score for *Importance* (>7.00) were quality of basic amenities, and safety.

Confidentiality, communication, choice of care provider, quality of basic amenities, autonomy and safety had the highest average *Performance* value (≤ 0.40) and, the highest SQ scores were for confidentiality, autonomy, choice of care provider and communication. Opportunity to be supported by a group of pregnant women and pregnancy experts (support group), and prompt attention or timeliness had the lowest SQ scores. None of the aspects catch scores equal or

greater than 9.00, which is the minimum score for good SQ (Table 2).

As Table 2 reveals, from the perspective of women with ND, autonomy and confidentiality had the highest SQ scores; and choice of care provider, communication, autonomy and confidentiality had the highest SQ scores from the perception of women with CS.

Using univariate analysis for overall service quality, statistically significant differences were found for service quality score by occupation ($P=0.043$) and continuous care by specialist ($P=0.016$).

Finally, multiple regression analysis showed that “continuous care by specialist” was significantly and independently related to SQ score. Therefore, women who get care continuously by specialist reported SQ score, 0.394 unit higher than others ($P= 0.028$) (Table 3).

Table 2: Importance, Performance and SQ scores for quality aspects (No=200)

Service Quality Aspects	ND (90)			CS (110)			Total		
	I ¹	P ²	SQ ³	I	P	SQ	I	P	SQ
Choice of care provider	6.37	0.38	7.98	6.68	0.31	8.31	6.54	0.34	8.16
Communication	6.82	0.33	7.93	7.02	0.25	8.52	6.93	0.28	8.25
Autonomy	5.83	0.35	8.11	6.14	0.30	8.26	6.00	0.33	8.19
Continuity	5.51	0.67	6.50	5.42	0.68	6.64	5.46	0.68	6.57
Support group	5.82	0.53	7.17	6.02	0.48	7.43	5.93	0.51	7.32
Quality of basic amenities	7.52	0.35	7.43	7.38	0.33	7.58	7.44	0.34	7.51
Dignity	6.43	0.45	7.22	6.63	0.41	7.50	6.54	0.43	7.37
Prompt attention	6.19	0.49	7.04	6.59	0.49	6.75	6.41	0.49	6.88
Safety	7.16	0.43	7.06	7.09	0.37	7.46	7.12	0.40	7.28
Prevention / early detection	6.81	0.52	6.52	7.14	0.36	7.46	6.99	0.44	7.04
Accessibility	5.64	0.52	7.20	5.59	0.41	7.99	5.62	0.46	7.64
Confidentiality	6.69	0.21	8.61	6.55	0.25	8.35	6.61	0.24	8.47
Overall service quality	6.37	0.44	7.38	6.53	0.40	7.60	6.46	0.42	7.50

1.Importance score: Range between 0 (not important) and 10 (very important)./ 2.Performance score: Range between 0 (good) and 1 (poor)./ 3.Service Quality score: Range between 0 (worst) and 10 (best).

Table 3: Results of Multiple Regression Analysis for Variables Related to total *Service Quality* score (No=170)

Characteristics	No.	Adjusted			
		B	S.E.	Beta	P-value
Health insurance	No*	19			
	Yes	181	0.464	0.294	0.111
Delivery modes	ND*	90			
	CS	110	0.089	0.180	0.035
Occupation	Employed *	22			
	home maker	178	0.516	0.279	0.129
Continuous care by specialist	No*	81			
	Yes	119	0.394	0.181	0.154
Planed pregnancy	No*	72			
	Yes	128	0.217	0.183	0.083

Dependent Variable: Total SQ/ * = Reference category/There was significant predictive ability of the model (F Change (5, 194) = 2.80, $P=0.018$)

Discussion

Based on the SQ score, participants in the current study were less concerned about the quality of basic amenities, caring with respect (dignity), safety and continuity of care. But it is not expected that the highest quality of care reported for confidentiality, autonomy and choice of care provider. Confidentiality means being treated with trust. It is defined as an individual's right to privacy and the right to have control over personal information.¹³ Tabrizi and colleagues found that in Tabriz health centres and posts from the perspective of pregnant women, service quality aspects of "continuity of care", "availability" and "confidentiality" achieved scores at the level of good quality and "support group" (3.48), "safety" (6.79), and "dignity" (7.14) reached low service quality scores.¹⁴ It means in this study health providers probably conducting consultations in a way that safeguards privacy, strongly considered confidentiality of information provided by the patients and confidentiality of medical information and records.

The quality of delivered care from the participants' perception was relatively high in relation to communication and relationship with care providers and autonomy, while these aspects have been serious concerns in other studies among postpartum women.^{15,16} Autonomy means self-government. It is defined as the right of patients to be involved and free to make a decision about their own health and treatment.¹⁵ In the present study the high SQ score for autonomy from the perspective of postpartum women shows that study participants probably received enough information for making decisions, select treatment options and might be involved in the decision-making process. The high SQ score for choice of care provider indicates that not only most participants valued being free to choose among care providers including midwives, general practitioners, specialists and hospitals but also they had good opportunity to choose their care provider. Coulter and Jenkinson reported different findings¹⁶ as par-

ticipants were highly dissatisfied in their ability to choose their care provider due to the lack of adequate information.

Regarding inadequate and low overall SQ score, our findings are consistent with other studies about quality of labor.¹⁷⁻²¹ The study findings suggest that some SQ aspects (including support group and prompt attention) that specifically need to be improved for postpartum women. Regarding support groups the similar results from a European study have been suggested that the opportunity to be supported by a group of people, such as women at the end of pregnancy, with the same condition was highly desirable and women experienced a higher level of quality.⁵

While paying prompt attention to postpartum women during labour at hospital is one of the most important quality aspects,²² the majority of participants in this study experienced inadequate attention. Our finding of very low SQ for continuity and timeliness and promptness of attention is consistent with findings by Miller and colleagues in Dominican Republic²⁰ and also Burkhalter and colleagues (2006) in 14 obstetrics hospitals in Benin, Ecuador, Jamaica and Rwanda.²¹ Their participants noted a gap between their desired care services and delivered care. They were also dissatisfied with the restricted time for consultation, lack of time to answer their questions and effectively dealing with their concerns.

Although the most of participants in this study had easy access to health services and hospitals, some participants reported limited accessibility of gynaecology hospital. Their need for better access is consistent with the results of several studies that emphasise the distribution of health care services on quality of delivered care.^{23,24} On the other hand, results from a study by Farrokhi and Khadivarzadeh (2008)²⁵ in Khorasan Province, Iran revealed inadequate accessibility from the postpartum women's perspective. In the present study, the demand for prevention and early detection was high and the participants also reported inadequate SQ scores

related to safety, which also suggests the need for improvement in these aspects.

Continuity of care, an important quality aspect from patients' perspective,^{26,27} was rated a relatively low quality scores (SQ=6.57) in our study. For other diseases such as diabetes, evidence suggests that the quality of care is improved remarkably by having a regular health care provider,²⁸ so that health system customers with a regular care provider might be more likely to receive optimal care.²⁹ Furthermore, customers' perception on quality of services could be vary in terms of individual differences based on socio-economic, demographic and cultural status, the effect of media as well as the severity of condition and the care providers' behaviour and relationship.³⁰ In the present study, participants' perception differed by the continuity of received care. Therefore, compared to people who reported receiving labour care from different providers, women with a regular health care provider were more likely to report higher quality of care. Selecting participants during 2 months by using convenient sampling and limiting participants to people who went to a teaching hospital could be a major weakness of this study. In the present study SQ was not measured separately for different care providers, such as midwives, nurses and specialists.

Conclusion

From the perception of postpartum women, there is a notable gap between their expectations and their experiences in most aspects of provided care. The study results also identified inadequate overall SQ, and the far from optimal level (<9) for all quality aspects. These findings should concern care providers, hospital managers and policymakers to plan specific quality improvement programs for women with ND and CS. Postpartum women might be more satisfied with the health care system, particularly hospitals, if they were able to increase their knowledge and awareness about provided care, care facilities and care providers. There is also good opportunity to improve the re-

lationship between care providers and postpartum women.

Acknowledgements

We would like to acknowledge the financial support of Health Services Management Research Centre and Al-Zahra teaching hospitals' administrators and staff that cooperated with study questionnaires completion. We also greatly appreciate the study participants who were able to express their perception about aspects that were important to them and their experiences about the quality of received care.

Competing interest

The authors declare that there is no conflict of interest.

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