Original Article

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Evaluation of the Quality of the Pregnancy Care from the Perspective of Service Recipients using the SERVQUAL Model

Obstetrics and Gynaecology Section

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ABSTRACT

Introduction: Now-a-days, pregnancy care is considered as one of the main public health focus. Pregnancy care plays an important role in the health of the mother, the newborn and the family. Therefore, efforts to evaluate the quality of care are necessary for encouraging the policymakers to create an effective program for improving the quality of health services.

Aim: To determine the quality of pregnancy care from the perspective of service recipients using the SERVQUAL model in comprehensive health centers of Sanandaj of, Iran in 2018.

Materials and Methods: This descriptive-analytic study was conducted on 384 pregnant women who were referred to the comprehensive health centers of Sanandaj for receiving pregnancy care. Population sampling was done based on the classification method. Data collection was performed by the standard SERVQUAL questionnaire, which measures the quality gap in five dimensions of the service (sensibility, reliability, assurance, responsibility, and empathy) using 22 questions. Data were analysed by SPSS-23 software using descriptive statistics, ANOVA, and t-tests.

Results: In all five dimensions of the quality of services provided (sensibility, reliability, responsibility, assurance, and empathy), there was a negative quality gap. The highest mean quality gap was in the reliability dimension (-1.84) and the lowest mean gap was seen in the empathy dimension (-1.49).

Conclusion: Data analysis showed that in all five dimensions of the quality of services, the expectation level of service recipients was beyond the level of their perceptions, and the quality improvement in the various aspects seems to be necessary.

Keywords: Pregnancy care, Quality gap, Service recipients

INTRODUCTION

Pregnancy care is the correct implementation of the principles that are aimed at maintaining the health of the mother and the birth of a healthy baby [1].

Worldwide studies have shown that pregnancy care is the most effective factor in improving pregnancy outcomes and ensuring the health of children in the future [2,3]. Implementation of the pregnancy care as early as possible, especially after the first menstruation delay is effective in reducing the side effects for the embryo [4]. While mothers who have not been given pregnancy care or have started taking care too late, they are three times more likely to have a newborn with low birth weight and their babies are five times more likely to die than other mothers. In preterm and postpartum delivery with Apgar score less than 7, fetal and infant deaths and postpartum hemorrhage were more prevalent in these mothers [5].

Service providers are demanding the provision of services that are effective and consistent with the latest standards[6]. The quality of care is directly related to the expectations of the clients and the provided services [7]. This is important because it will attract the participation of clients in care and treatment procedures [8]. Therefore, evaluating the quality of care is necessary for encouraging policymakers to create an effective program for improving the quality of health services [9]. Despite the various tools and models in the healthcare section, several studies have been carried out using the SERVQUAL model [10,11].

The SERVQUAL model was first introduced by Parasuraman A et al., in 1985 [12]. SERVQUAL is a reliable tool for evaluating the quality of services and in comparison with other quality assessment methods it has advantages including high reliability, the possibility of adapting its dimensions to a variety of service environments, the relative importance of its five dimensions in the perception of service quality and the capability to analyse based on demographic, psychological, and other characteristics [13]. This model evaluates the quality of services in terms of sensibility, assurance, reliability, empathy, and responsibility [14].

Evaluation of the client perspective could help to understand the strengths and weaknesses and it would help in improving the quality of services [15,16]. In this study, the quality of the pregnancy care from the perspective of service recipients was evaluated using the SERVQUAL model in comprehensive health centers of Sanandaj (capital of Kurdistan province in north-west of Iran) in 2018.

MATERIALS AND METHODS

A descriptive-analytic study was conducted from February 2018 to June 2018. The statistical population was all pregnant women referring to the comprehensive health centers of Sanandaj to receive pregnancy care. The inclusion criteria were resident of Sanandaj, willing to participate in the study, and the patient must be under the care of a physician in health centers. The exclusion criterion was non-completion of all sections of the questionnaire. The population sampling was done based on the classification method. The city was classified into five sections (north, south, east, west, and center) and three health centers were randomly selected from each section. The sample size was determined as 384 with a 50% negative quality differences in midwifery services, 95% confidence level, and an accuracy of 5%. The purpose of the study was first explained to the participants and informed consent was obtained from all patients. The data collection tool was a two-part questionnaire. Demographic characteristics of the patients were included in the first part and the second part was the SERVQUAL questionnaire. The SERVQUAL

questionnaire evaluates the quality of the services using twenty-two questions in five dimensions of sensibility, reliability, responsibility, assurance and empathy.

The questions were based on the 7-point Likert scale and a score from 1 to 7 was associated to each of the responses, which a score of 1 means "absolutely opposite" and a score of 7 means "absolutely agree". The questionnaire was completed in two stages. In the first stage, the expected qualities of the services were asked from the patients and secondly, the provided qualities of the services were asked. In each dimension of the services, the scores of questions were summed up and divided by the total number of questions in that dimension. For the evaluation of the overall quality of the services, the scores assigned to all questions were summed up and divided by the total number of questions. The difference in the quality of the provided services was achieved by differentiating the scores of the perception and expectation levels. If the score was positive, it indicates that the provided services are better than the expectations of the clients. Otherwise, it indicates that the provided services do not meet the expectations of the clients and there is a quality gap. If the score was zero, there are no quality gaps and it indicates that the provided services are at the expected levels. This questionnaire has been used in health centers of different countries and over the past few years it was also used in comprehensive health centers of Iran [17-20]. The validity and reliability of this tool have already been approved in the country [21]. The validity of the questionnaire was presented to ten experts and professors of midwifery. Reliability of the questionnaire has already been investigated by other researchers. In all cases, the Cronbach's Alpha coefficient was reported as 90% [22-25]. Data were analysed by SPSS-23 software using descriptive statistics, ANOVA, and t-tests.

RESULTS

The demographic results showed that the majority of subjects (53.6%) were in the age group of 20-30 years [Table/Fig-1].

		Number	Percentage
Age	10-20 years	18	4.7
	20-30 years	206	53.6
	30-40 years	149	38.8
	40-50 years	11	2.9
Education	Illiterate	14	3.6
	High School	171	44.5
	Diploma	104	27.1
	College Student	95	24.7
Occupation	Homemaker	322	83.9
	Employed	62	16.1
Number of children	No child	21	5.5
	1	214	55.7
	2-4	145	37.8
	5 or more	4	1.0

[Table/Fig-1]: Demographic characteristics of studied participants.

There was a negative quality gap in all five dimensions of the quality. The overall quality gap of -1.61 was achieved in this study. The highest and lowest quality gaps were observed in the reliability (-1.84) and empathy (-1.49) dimensions, respectively. Also, there was a significant difference between the perceptions and expectations of clients in all five dimensions (p<0.001) [Table/Fig-2].

The highest mean score in the expectations was achieved for the reliability dimension (6.85) and the lowest score was seen in the empathy and responsibility dimensions (6.37). In the perception class, the highest score was related to the sensibility dimension (5.60) and the lowest score was seen in the responsibility dimension (4.78) [Table/Fig-3].

Dimensions	Perceptions	Expectations	Gap	p-value
Sensibility	5.21	6.80	-1.58	<0.001
Reliability	5.00	6.84	-1.84	<0.001
Responsibility	4.93	6.45	-1.52	<0.001
Assurance	5.11	6.71	-1.59	<0.001
Empathy	4.95	6.45	-1.49	<0.001
Overall Quality	5.03	6.65	-1.61	<0.001

[Table/Fig-2]: Mean scores of perception, expectation, and gap in the five dimensions of quality of pregnancy services.

	The quality items	Perception	Expectation	Gap
Sensibility	Modern and updated equipment	5.60	6.81	-1.21
	Fascinating and attractive physical equipment	5.09	6.80	-1.71
	Well-dressed staffs	5.19	6.81	-1.62
	Appropriateness of the physical environment and services	4.98	6.77	-1.79
Reliability	Provision of services at the time promised by the staff	4.93	6.85	-1.91
	Interested in solving client problems	5.08	6.83	-1.75
	Reliability of the center	5.07	6.87	-1.80
	Provision of services in conformity with the obligations given	5.04	6.85	-1.80
	Maintaining and registering the documents of clients	4.87	6.82	-1.95
Responsibility	Announcement of the exact time of serving the clients	4.99	6.37	-1.38
	Fast and uninterrupted serving	5.03	6.46	-1.43
	The willingness of employees to help clients	4.94	6.51	-1.57
	Availability of staff when needed	4.78	6.47	-1.69
Assurance	Creating a sense of confidence in clients	4.93	6.63	-1.69
	The feeling of safety and relaxation in dealing with staffs	5.21	6.66	-1.45
	The polite and friendly behaviour of the staff	5.35	6.74	-1.38
	The staff support by the center in carrying out their job	4.96	6.81	-1.84
Empathy	Specific and individual attention to each one of the clients	4.86	6.38	-1.52
	The interest of the staffs towards the clients	4.92	6.37	-1.44
	Understanding the special needs of clients by staffs	5.06	6.55	-1.49
	Considering the best interests for the clients	4.93	6.50	-1.57
	The suitability of the working time and the time of referral to the center	4.97	6.42	-1.45

[Table/Fig-3]: The mean scores of perception, expectation, and quality gaps in each aspect of the quality of services.

The results of ANOVA and independent T-test showed no significant correlation between the age and the quality gap (p>0.05). There is also no significant relationship between the education and the mean quality gap (p>0.05). But there is a significant relationship between the job and the quality gap (p=0.037). This means that employed people have fewer perceptions and more expectations than the homemaker women [Table/Fig-4].

Demographic parameters		Perceptions		Expectations		Quality gap	p-value
		Mean	Standard deviation	Mean	Standard deviation		
Age	10-20	4.70	1.08	6.78	0.69	-2.08	0.235
	20-30	5.08	0.95	6.63	0.63	-1.54	
	30-40	4.99	0.88	6.66	0.60	-1.66	
	40-50	5.40	0.58	6.74	0.58	-1.34	
Education	Illiterate	5.27	0.60	6.61	0.77	-1.33	0.069
	High School	5.04	0.95	6.73	0.56	-1.69	
	Diploma	4.80	0.96	6.56	0.72	-1.75	
	College Student	5.24	0.82	6.61	0.55	-1.36	
Occupation	Homemaker	5.06	0.87	6.63	0.65	-1.57	0.037
	Employed	4.92	1.19	6.74	0.36	-1.82	
The number of children	No child	5.51	0.57	6.62	0.53	-1.11	0.08
	1	4.87	0.99	6.60	0.70	-1.72	
	2-4	5.21	0.81	6.72	0.50	-1.51	
	5 or more	5.06	0.84	6.84	0.31	-1.77	

[Table/Fig-4]: Comparison of the mean perceptions and expectations of the studied subjects in terms of demographic characteristics.

DISCUSSION

The awareness of the quality of pregnancy care and recipients' expectations is one of the known methods to improve the quality of pregnancy care. The gap between the present and the desired situation could be identified by comparing expectations and perceptions of service recipients. Based on the results of this comparison, service failures might be addressed. The results showed that the overall quality gap is negative in all five dimensions of the quality of pregnancy care. A negative quality gap means that clients' expectations are more than their perceptions and there is a gap between clients' expectations and their perceptions and their expectations have not been adequately fulfilled. In Ghobadi H et al., study, the quality gap was also negative in five dimensions of the quality of pregnancy care in Ardabil [25]. The similar results were achieved in the study of Safi MH et al., in Tehran, KaramiMatin B et al., in Kermanshah, ShafiqM et al., in Pakistan, which showed that there is a need to make changes and improving the quality of the provided services from the perspective of service recipients [14,26,27]. In this study, the highest quality gap was observed in the reliability dimension. The reliability means the ability to perform the services in a reliable manner, which satisfies the clients' expectations. Obligations showed the reliability of an operation. It means that the center would fulfill its obligations in service delivery time and method. The knowledge and skills of service providers were also evaluated in the reliability dimension. The greater gap between the perceptions and expectations in each dimension of the service qualities indicates that this dimension of the service qualities was less addressed.

In Gholami A et al., study, the greatest gap was observed in the reliability dimension of the quality in Urmia [28]. The present results were similar to the greatest gaps achieved in studies byTabatabaei SM et al., in Sistan and Baluchistan, Mik W et al., in Scotland, and Mohebirar R et al., in Tehran [29-31]. While, in the study by Shafiq M et al., in Pakistan, and Roohi GH et al., in Gorgan the lowest quality gap has been reported in the reliability dimension [27,32]. In the assurance dimension, the staff's capability to create a sense of trust and security for service recipients was evaluated. This means that service recipients would feel secure in receiving the pregnancy care.

In this study, the assurance is ranked second in negative quality gaps. In Adhami Moghadam F et al., study, the lowest quality gap was seen in the assurance dimension [33]. In Kazemnez had L et al., and Abolghasem Gorji H et al., studies, there was also the lowest quality gap in the assurance dimension that means clients were not feeling secure and treated with caution when receiving the services [34,35]. These results were not consistent with these studies. In the sensibility dimension, modern and updated equipment, physical facilities, and the well-dressed service providers have not met the expectations of the service recipients. In Safi MH et al., Kazemnezhad L et al., Gholami A et al., and NabiLou B et al., studies, the greatest gap in the sensibility dimension indicates that the equipment was not updated, or service providers were not well dressed [14,34,36,37]. The appropriate physical facilities are important for the convenience of clients. The improvement of the physical environment could have a crucial role in the quality of service provided by the staffs and results in the higher clients' satisfaction. Our results were not consistent with these studies. In the responsibility dimension, the willingness of the service providers to assist service recipients was evaluated. The aim of the responsibility is to provide immediate services and the willingness to help clients.

In the responsibility dimension, there was a negative quality gap similar to that of other studies which emphasized the lack of attention to the problems, questions, and requests of the clients. In studies of Haghshenas E et al., in Tehran and Essiam JO et al., in Greece, the highest negative quality gap was reported in the responsibility dimension which indicates that staffs are less accessible when they are needed [38,39]. In NabiLou B et al., and BahmeiJ et al., studies, the lowest quality gap was observed in the responsibility dimension which indicates that service providers are not responding well to requests and problems of clients [37,40]. Using different training programs, policymakers must make them responsible to the services recipients because such staffs'behaviours are effective in evaluation and judgment of the clients. The present results were not consistent with these studies.

In this study, the lowest gap was seen in the empathy dimension. Empathy means the feeling of belonging, the commitment of the staff to all clients, the attention and understanding of the clients by the staffs. In this study, there was a negative gap in the empathy dimension similar to the previous studies, which indicates that the clients were not properly understood and were not treated based on their individual morality. In Ogaji D et al., study, the lowest gap was seen in the empathy dimension for the pregnancy care provided in Obiwakpur, Nigeria [41]. In the studies of Safi MH et al., in Tehran, Karami Matin B et al., in Kermanshah, Nabilou B et al., in West Azerbaijan, and Gholami M et al., in Neyshabour, the smallest gap was obtained

in the empathy dimension, which was similar to our results [14,26,37,42]. While in the studies of the Motaghed Z et al., in Tehran and Ghobadi H et al., in Ardabil, the highest gaps have been reported in the empathy dimension [15,25].

In this study, the quality gap score did not significantly correlate with age, education, and the number of children; but it was significantly correlated with occupational status ($p<0.001$). The employed women have significantly lower perceptions and higher expectations. A higher quality gap was reported for the employed women. It seems to be related to the higher expectations of the employed women that could be affected by their education levels. In Safi MH et al., study, the quality gap scores did not have a significant relationship with the clients' age and only significantly correlated with their education [14]. In Kazemnezhad L et al., study, the quality gap was significantly correlated with age, education, and occupational status [34]. However, in Abdelgadir M study, the service qualities did not correlate with age, education, sex, financial status, and residence [43].

The comparison of our results and other similar studies indicates that the quality gap in all five dimensions of services is different from the perspective of individuals and diverse demographic, cultural, and social groups. So, the evaluation of the service qualities is necessary to improve the quality of services in each organization. The training courses are recommended regarding the identification of the clients' requirements and expectations and the methods to improve the service qualities. Service providers must update their knowledge and skills because training and information on the clients' problems are considered to be important factors in the client satisfaction. Equipments must be updated. Managers should also try to decorate the physical environment and be aware about the actions that motivate the staff and use the rewarding system. The medical centers must offer the services in the promised and the shortest time. Staff must try to understand the worth and emotion of the clients. They must show respect to the clients and must be accessible when needed.

LIMITATION

The limitations of this study were the un-cooperation of the service recipients, clients' illiteracy, and inappropriate health conditions of the clients. The clients were cautious about their actual opinions for a variety of reasons, which was one of the inherent biases in completing the questionnaire. The results of the present study are not generalizable.

CONCLUSION

The results of this study showed a negative gap in the service qualities in all the dimensions. Therefore, special attention should be made in improving the services and reducing the gap between the perceptions and expectations in all the five dimensions.

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