

## Service Quality in Small and Medium Indian Private Hospitals: Examining Maternity Patients' Perception using SERVPERF Model

Dr. Saba Amin<sup>a</sup>, Dr. Mohammad Jamal Khan<sup>b</sup>

<sup>a</sup>Former Lecturer, Department of Public Health, College of Health Sciences, Saudi Electronic University, Dammam-Saudi Arabia.

<sup>b</sup>Assistant Professor, Department of Public Health, College of Health Sciences, Saudi Electronic University, Riyadh- Saudi Arabia.

### Abstract

**Background:** This study used the SERVPERF measurement approach to analyze the perception of service quality in maternity centers in the small and medium-sized private hospitals in India.

**Methods:** A cross-sectional study was performed on 463 new mothers' perception of the service quality of maternity centers in three states of India using convenience sampling.

**Results:** The results of the study confirm a positive relationship between reliability and service quality; indeed, reliability plays a significant role in determining the outcome of maternity service quality.

**Conclusion:** The results of this study provide a platform for private healthcare strategies and policies to enhance and improve service quality in hospitals.

**Keywords:** India, maternity services, SERVPERF, patient perception, service quality, small and medium-sized private hospitals.

### Introduction

The concept of quality has transformed from focusing on goods without much emphasis on services to focusing primarily on services and considering goods received only as components of those services (1, 2). This change has shown the growing significance of service quality in service industries including healthcare (3). Researchers have provided various definitions of the term (4). Parasuraman, Zeithaml (5), defined health care service quality as the ability of a hospital to meet and exceed patient expectations, assessed by the difference between a patient's expectations for a service offering and the patient's perceptions of the service received. Evans and Lindsay (6), define service quality as the total number of features and characteristics of a service that bear on its ability to satisfy given wants and needs. However, with a growing shift in patient focus on healthcare, service providers have begun focusing on patient perceptions of service quality as it helps in developing strategies that lead to patient satisfaction (7). High service quality provides strategic profits of cost reduction, return on investment, and increased productivity (8).

The private healthcare sector in India is generally unregulated (9) therefore, hard evidence does not adequately support the assumption that private health sector offers superior quality.(10). In this study, we examined the perception of quality of care among maternity patients from small and medium-sized private hospitals in India.

Towards the end of the 1970s, initial studies on service quality emerged (11). In the last two decades several studies related to patient expectations and perceptions have been conducted to evaluate the service quality of healthcare institutions (12, 13). However, emphasis is placed on the importance of patient views in assessing the quality of services, and dependence on clinical effectiveness is not supported (14).

An important objective for all health systems and organizations across the world is the improvement of health care quality, poor health services, cost management, and meeting patient expectations for the quality of care (15-17). The perception and expectation of patients about the quality of services provided by hospitals is a significant factor affecting service outcomes, effectiveness and performance. In the past two decades, a rapid expansion of the private health sector has been observed in India, and it currently it dominates the healthcare system. The gap created by the weakening and non-existence of public health services is being occupied by the private health sector, leading to a rise in the number of private hospitals from 14% to 68% 1974 to 1995 (10, 18). The percentage of child births occurring in private facilities ranges from 39% in 2005–06 to 79% in 2015–16 (19). Examining maternity patient perceptions of service quality in small and medium-sized private hospitals in India has not been documented in the literature. Hence this study is among the first to examine the perceptions of women, who had recently given birth in Indian small and medium-sized private hospitals.

Therefore, we used the SERVPERF measurement approach to analyze perception of service quality in maternity centers in small and medium-sized private hospitals in India.

Service quality is a determinant of patient satisfaction trustworthiness and significance (20). Service quality is “the application of medical science and technology in a manner that maximizes its benefit to health without correspondingly increasing the risk” (21). Similarly, Parasuraman, Zeithaml (5) and Asubonteng, and McCleary (20) defined service quality as a “global judgement or attitude relating to the superiority of the service”. Service quality has been linked to the constructs of expectations and perceptions. Similarly, the SERVQUAL scale was developed to measure perceived service quality, which consists of tangibles, reliability, responsiveness, assurance and empathy (5). Owing to its flexibility and practical applicability, SERVQUAL is widely used for measuring service quality (22).

The Literature revealed the service performance model (SERVERF) which uses quality items to measure service quality. SERVPERF, based on five dimensions and SERVQUAL on twenty-two items emphasizes the appropriateness of evaluating service quality by including the perception of quality performance. Meanwhile the SERVQUAL model compares customer’s perception about the performance of a service provider and their expectations (4).

Previous research has found that the quality of healthcare service affects perceptions of reliability, responsiveness; tangibles, assurance and empathy, and all the five dimensions are indicators of high service quality (3, 23). Patient satisfaction is also related to all the five

## Service Quality in Small and Medium Indian Private Hospitals: Examining Maternity Patients' Perception using SERVPERF Model

dimensions of service quality i.e., tangibles, reliability, responsiveness, assurance and empathy according to previous research (24). Lee and Kim (22) investigated the effects of healthcare service quality which is comprised of five components as empathy, tangibles, safety, efficiency and degree of improvement of care services. According to the finding the quality of healthcare services has an impact on patient satisfaction and provider performance. Empathy, reliability and tangibles according to Mostafa (25) and (26) are service quality traits . The findings revealed that patient satisfaction is influenced by all three categories. Furthermore, researchers (27-31) found that all the five dimensions of service quality are equally relevant. Hence SERVQUAL tool is the most suitable and reliable instrument for monitoring patient's perceptions and expectations. Scobie, Thomson (32) reported the measurement items of healthcare service quality as tangibles, accessibility, efficient costs, values, timeliness, policy and implementation improve the quality, understanding the expected value of consumers and healthcare organization capabilities. As a result, examining maternity patient perceptions of service quality in small and medium-sized private hospitals in India has not been documented in the literature. Hence the present study intends to contribute further advance healthcare quality literature in India by investigating the perceived level of quality of services provided to women, who had just given birth in the small and medium-sized private hospitals.

### **Methodology**

In this study performance perception was used as a measure of service quality instead of using differences in customers' expectations and perceptions of the services received. According to Cronin Jr. and Taylor (33) SERVPERF has a better model fit than SERVQUAL. Based on previous literature review, Cronin Jr. and Taylor (33) also claimed that the SERVPERF model has greater construct validity through convergent validity and discriminant validity (p. 129). This study used the SERVPERF model given by Cronin Jr. and Taylor (33) which includes five dimensions tangibility, reliability, responsiveness, assurance, and empathy.

This study was developed as a cross-sectional quantitative measure of new mothers' perception of the service quality of maternity centers in small and medium-sized private hospitals.

### **Data Collection**

The study surveyed 463 new mothers who delivered their newborns within six months of the date of the survey. Data were collected from four states in north India, Uttar Pradesh, Uttarakhand, Delhi, and the Union Territory of Kashmir. Convenience sampling, a non-probability sampling technique was used to collect the data as there is no sample frame available in the public domain that provides information about the new mothers. An electronic survey was developed and used to collect information from the respondents. A total of 463 responses were received by the researchers and after thorough scrutiny of the returned responses 442 was found to be suitable for use in data analysis. Data were collected from the urban areas of the given states. The data were collected immediately before the onset of the Covid-19 outbreak.

### **Measurement**

The SERVPERF scale was designed and five-point Likert scale (5= strongly agree and 1= strongly disagree) was used to measure the level of perception of the service quality of maternity centers among new mothers. A pilot study was performed before the final data collection to check the internal consistency of the measurement and establish the content and construct validity. To establish internal consistency of the measurement items, a survey questionnaire was sent to 30 respondents. For the content and construct validity, experts in healthcare management were involved to provide feedback on the survey questionnaire. The alpha coefficient of the pilot study was reported above 0.70.

### **Data Analysis and Results**

The alpha coefficient was used to calculate the reliability of the measurement scale. The alpha coefficient of all the items was 0.97. The reliability score (Cronbach alpha) of each dimension was also calculated. The results of the reliability analysis are illustrated in Table 2. Descriptive analysis was also performed to measure mean and standard deviation and the socio-demographic information of the respondents. Furthermore, correlation and binary logistic regression analysis was conducted to establish relationship between the measurement items and the dimensions of service quality and to explain the effect of dimensions on overall service quality.

For the purposes of logistic regression, the perceptions of service quality scores were transformed to 0 or 1. From the overall SERVPERF score, the low or high level of service quality was determined using logistic regression analysis. Therefore, a value of '0' was given if the overall score was between 1.00 and 3.00 indicating a low service quality level. If the overall score was between 3.01 and 5.00, a value of '1' was given, which indicated a high level of service quality. Using the Likert scale of 1–5, the minimum standard measure for service quality was determined to be above 3.0 (34).

Table 1 illustrates the descriptive statistics on inpatients' demographics. Over 73% of the participants were between the ages of 20 and 40. Over 64% of the respondents were graduated from university level, and 49% were working.

Table 1: Socio-demographics of Respondents

		Frequency	Percentage (%)
Age	20-40 years	162	73.3
	Above 40 years	43	9.7
	Under 20 years	75	17
Level of Education	Primary & Secondary	97	21.9
	High School & Equivalent	64	14.5
	College or Graduate School	281	63.6
Occupation	Non-working	227	51.4
	Working	215	48.6

Table 2 displays the reliability analysis of the items in the SERVPERF model including means, standard deviations, and reliability scores of dimensions of SERVPERF. As per the analysis of the SERVPERF measure, the highest levels of perception of service

Service Quality in Small and Medium Indian Private Hospitals: Examining Maternity Patients' Perception using SERVPERF Model

quality were associated with hospital provided maternity services at a promised time ( $4.11 \pm 0.926$ ); consistent fee and delivery charges ( $4.09 \pm 1.087$ ); reputed Gynaecologists and Obstetricians ( $4.06 \pm 1.001$ ); and medical products, vaccines were available at the maternity section ( $4.00 \pm 1.133$ ). On the other hand, willing to help patients with maternity related services ( $3.47 \pm 1.414$ ); availability of 24\*7 emergency Gynae/Obs services ( $3.57 \pm 1.299$ ) were ranked as the lowest items. Overall, SERVPERF mean was calculated at 3.72. The most important service quality dimensions identified by the respondents were reliability ( $3.87 \pm 0.904$ ); assurance ( $3.72 \pm 1.147$ ); tangibles ( $3.71 \pm 0.977$ ); empathy ( $3.63 \pm 1.260$ ); and responsiveness ( $3.51 \pm 1.177$ ), respectively. In this study, the respondents gave least priority to the responsiveness dimension.

Table 2: Dimensions and Items (Mean, SD, and Reliability)

Items in Each Dimension	Mean	SD
<b><i>Tangibles (<math>\alpha = 0.915</math>)</i></b>	<b>3.712</b>	<b>0.977</b>
The maternity area had new and up-to-date equipment	3.75	1.220
Physical facilities in the maternity area were visually appealing	3.81	1.287
Maternity area infrastructure was good	3.74	1.102
Maternity area staff was well dressed, neat, and clean	3.80	1.169
Adequate seating arrangement in Maternity area	3.64	1.168
The maternity area environment was comfortable and clean	3.91	1.001
The hospital labor room and maternity ward was always neat and clean	3.76	1.322
All the Medical products, vaccines were available at the maternity section	4.00	1.133
<b><i>Reliability (<math>\alpha = 0.906</math>)</i></b>	<b>3.873</b>	<b>0.905</b>
Hospital provided maternity services at a promised time	4.11	.926
Hospital has reputed Gynaecologists and Obstetricians	4.06	1.001
Patient's problems were solved sincerely by hospital staff	3.88	1.011
Doctor's visiting services were well scheduled	3.91	1.098
Nurses are always available whenever needed	3.94	1.044
Enough privacy of in-patients in maternity rooms receiving post-delivery treatment	3.97	1.113
Enough privacy in Labor rooms for patients and during the breast feeding of newborn	3.86	1.019
Proper guidance of maternal health services and drug dispensing	3.69	1.311
The hospital was consistent in fees and delivery charges	4.09	1.087
Hospital has adequate maternity rooms availability	3.74	1.244
Family visiting time was well scheduled	3.84	1.245
<b><i>Responsiveness (<math>\alpha = 0.904</math>)</i></b>	<b>3.517</b>	<b>1.178</b>
Doctors paid full attention to the pregnant women whenever required	3.63	1.140
Gynaecologist provided quick medical treatment response when pregnant women needed it	3.72	1.289

Hospital Provided prompt medical and non- medical services	3.52	1.303
Availability of 24*7 emergency Gynae/Obs services	3.57	1.299
Hospital management was always willing to help patients with maternity related services	3.48	1.477
<b>Assurance (<math>\alpha = 0.922</math>)</b>	<b>3.721</b>	<b>1.147</b>
Doctor and staff were courteous, friendly and polite	3.67	1.214
Gynaecologists provide detailed elaboration over patient's condition	3.57	1.287
Behavior of doctors, nurses and other staff installed confidence in maternity patient	3.69	1.205
I felt safe, secure and hopeful whenever I visited to the hospital	3.86	1.292
<b>Empathy (<math>\alpha = 0.948</math>)</b>	<b>3.632</b>	<b>1.260</b>
Patients were always first priority for the hospital	3.60	1.282
Gynaecologist were caring, helpful and had enough patience	3.77	1.295
Nurses did understand patient's specific needs	3.61	1.264
Hospital employees were friendly, caring and helpful	3.69	1.335
The hospital was having patient's best interest at heart	3.47	1.414
Doctors and nurses showed good personal behavior towards patient	3.74	1.185
<b>Overall Scale (<math>\alpha = 0.970</math>)</b>	<b>3.722</b>	<b>0.923</b>

Table 3 illustrates the Pearson's correlation coefficient of the five dimensions of study model. Significant positive correlations were found among all five dimensions of the model with significance level of 99%. The highest correlation was found between the dimensions of assurance and responsiveness ( $r= 0.865$ ), which indicates that new mothers positively perceive both dimensions as their measures of service quality of maternity centers. Furthermore, there were significant positive correlation between empathy and assurance ( $r=.826$ ) and responsiveness and reliability ( $r= .822$ ). The correlation between other dimensions was also high. Similarly, there were positive correlation between overall perceived service quality and the dimensions of tangible, reliability, responsiveness, assurance, and empathy.

Table 3: Service Quality Correlation Matrix: Dimensions of SERVPERF

Dimensions of SERVPERF	Tangible	Reliability	Responsiveness	Assurance	Empathy	Overall Service Quality
Tangible	r 1					
Reliability	r .748**	1				
Responsiveness	r .619**	.822**	1			
Assurance	r .450**	.810**	.865**	1		
Empathy	r .479**	.701**	.779**	.826**	1	
Overall Service Quality	r .784**	.945**	.917**	.877**	.850**	1

Service Quality in Small and Medium Indian Private Hospitals: Examining Maternity Patients' Perception using SERVPERF Model

Table 4 lists results of binary logistic regression for high and low overall service quality scores in terms of latent constructs of SERVPERF. The Chi-square test scores of the model indicated that the model is a good fitting model. In the case model, chi-square has a value of 444.014 and a probability of  $p < 0.0001$ . Cox & Snell R-Square indicates that 63.4% of the variation in the perception of service quality (high or low) is explained by the logistic model. In our case, Nagelkerke R-Square is 1.000, indicating a highly strong relationship of 100% between the predictors of SERVPERF dimensions and the prediction (of overall service quality score (high or low)). This model indicated that all dimensions of SERVPERF were significant predictors of high levels of perceived overall service quality. EXP (B) value indicates that when responsiveness dimension score is raised by one unit the highest odds ratio is 128.518 times as large. On the other hand, when tangible dimension score is raised by one unit the lowest odds ratio is 3.882 times as large. Thus, this study indicates that all dimensions of SERVPERF are significant predictors for high overall service quality.

Table 4: Predictors (dimensions of SERVPERF) for high or low service quality

Dimensions of SERVPERF	$\beta$	SE	Wald	Sig.	Exp ( $\beta$ )
Tangible	1.356	.156	75.425	< .00001**	3.882
Reliability	3.043	.315	93.425	< .00001**	20.975
Responsiveness	4.856	.719	45.587	< .00001**	128.518
Assurance	3.126	.375	69.514	< .00001**	22.791
Empathy	3.381	.408	68.574	< .00001**	29.407
<b>Model Summary</b>					
-2 Log likelihood: .000					
Cox & Snell R Square: .634					
Nagelkerke R Square: 1.000					
<i>Omnibus Tests of Model Coefficients</i>					
Model's Chi-square: 444.014					
Sig.(p): 0.000					

\*\* Significant predictor at 0.01

## Discussion

In the present study the highest quality of maternity services delivered by small and medium-sized private hospitals was provision of maternity services at a promised time, a sub-variable of the reliability dimension. Moreover, these results confirm positive relationship between reliability and service quality, which plays a significant role in determining the outcome of maternity service quality and it could be one of the significant factors that affect the current study. However, the lowest level was for hospital management's willingness to help patients with maternity -related services, a sub-variable of the responsiveness variable. Indeed, it plays comparatively less significant role in determining the maternity services provided by small and medium-sized private hospitals. The dimension of reliability can be associated with the provision of maternity services at a promised time with reputed gynaecologists and obstetricians, well-scheduled visiting hours, availability of nursing staff and privacy of patients. The dimension of tangibles and assurance can be associated with

innovative hospital equipment, visually attractive service areas, cleanliness and drug, availability of medical products, politeness and behavior of medical staff and safety of the patients. To increase patient perception of the dimensions of service quality in the healthcare system, patients need to feel mentally dependent on the ability of medical staff to provide timely maternity services, the availability of qualified staff, an important standard of care, proper guidance about maternity services, efficient and updated equipment's and a clean environment.

Our findings suggest that the five dimensions of SERVEPERF are significantly related to overall service quality as well as the indicators of high service quality. However, some sub-variables had a significantly greater impact on the overall perception of service quality than others. Maternity centers cannot ignore the requirements and expectations of the people they serve. It is important for them to engage in continuous measurement and improve service quality as part of their quality management process. Therefore, SERVPERF is one of the measures used to achieve this goal successfully.

In this study service quality and measurement were analyzed in small and medium-sized private hospitals. The present study is an initial investigation of patients' perceived service quality using the SERVPERF model and measurement scale. The results of this study can provide a platform for private healthcare strategies and policies to enhance and improve the service quality in hospitals. The results could help identify healthcare areas where quality management is much more difficult to implement and practice. These findings also provide new insights into the theoretical framework related to patient satisfaction in the areas of awareness, competence, advancement in services, and trustworthiness as important components of patient satisfaction. Further, our findings provide directions for hospital managers and policymakers to develop strategies and assess future applications that will enhance patient perceptions of service quality, improve patient trust, and increase the quality of care and healthcare outcomes.

We argue that, although difficult, service quality in healthcare can be measured and consequently systematically improved in private Indian hospitals. Our findings are robust against the considered quality dimensions of SERVPERF as all five dimensions of the scale impact both low and high levels of service quality. We further conclude that all five dimensions of SERVPERF determine perceptions of service quality in healthcare, with reliability being the highest and responsiveness being the lowest in the impact of service quality perceptions in our study.

### **Contributorship**

MJK overall lead the research with responsibility of execution of the study. All authors: MJK; SA; contributed to the design of the study. MJK and SA undertook data collection. MJK and SA undertook analysis of primary data. MJK provided expertise on data analysis. All authors (MJK; SA) participated in the interpretation of data. MJK and SA drafted the manuscript. All authors (MJK; SA) read, commented on and approved the final manuscript.



# Service Quality in Small and Medium Indian Private Hospitals: Examining Maternity Patients' Perception using SERVPERF Model

## **Ethics and other permissions**

As the study was a survey study, ethical approval was not obtained. However, informed consent was obtained on the various aspects of the data collection from the respondents of the study.

## **Funding**

Authors received no funding for this research.

## **Conflict of Interest**

Authors declare no conflict of interest related to this research.

## **Acknowledgements**

We would like to thank respondents of the study survey and those who provided support in data collection.

## **Data sharing statement**

Data will be shared on request.

## **References**

1. Dobrzykowski DD, McFadden KL, Vonderembse MA. Examining pathways to safety and financial performance in hospitals: A study of lean in professional service operations. *Journal of Operations Management*. 2016;42:39-51.
2. Southard M. Implementing challenging policy and systems change: Identifying leadership competencies. *Human service organizations: management, leadership & governance*. 2016(just-accepted).
3. Akdere M, Top M, Tekingündüz S. Examining patient perceptions of service quality in Turkish hospitals: The SERVPERF model. *Total quality management & business excellence*. 2020;31(3-4):342-52.
4. Cronin Jr JJ, Taylor SA. Measuring service quality: a reexamination and extension. *Journal of marketing*. 1992;56(3):55-68.
5. Parasuraman A, Zeithaml VA, Berry LL. Servqual: A multiple-item scale for measuring consumer perc. *Journal of retailing*. 1988;64(1):12.
6. Evans JR, Lindsay WM. *The management and control of quality: South-western Cincinnati, OH; 2002.*
7. Saravanan R, Rao K. Measurement of service quality from the customer's perspective—an empirical study. *Total Quality Management and Business Excellence*. 2007;18(4):435-49.
8. Gijzenberg MJ, Van Heerde HJ, Verhoef PC. Losses loom longer than gains: Modeling the impact of service crises on perceived service quality over time. *Journal of Marketing Research*. 2015;52(5):642-56.
9. Bhate-Deosthali P, Khatri R, Wagle S. Poor standards of care in small, private hospitals in Maharashtra, India: implications for public–private partnerships for maternity care. *Reproductive Health Matters*. 2011;19(37):32-41.

10. Baru RV. Private health care in India: social characteristics and trends: SAGE Publications Pvt. Limited; 1998.
11. Oliver RL. Effect of expectation and disconfirmation on postexposure product evaluations: An alternative interpretation. *Journal of applied psychology*. 1977;62(4):480.
12. Karl K, Peluchette JVE, Hall LM. Employee beliefs regarding the impact of unconventional appearance on customers in Mexico and Turkey. *Employee Relations*. 2016.
13. Topp SM, Chipukuma JM. A qualitative study of the role of workplace and interpersonal trust in shaping service quality and responsiveness in Zambian primary health centres. *Health policy and planning*. 2016;31(2):192-204.
14. Peer M, Mpinganjira M. Understanding service quality and patient satisfaction in private medical practice: A case study. *African Journal of Business Management*. 2011;5(9):3690-8.
15. Sloan T, Fitzgerald A, Hayes KJ, Radnor Z, Robinson S, Sohal A, et al. Lean in healthcare from employees' perspectives. *Journal of health organization and management*. 2014.
16. Gustavsson SMK. Improvements in neonatal care; using experience-based co-design. *International journal of health care quality assurance*. 2014.
17. Øvretveit J. What are the best strategies for ensuring quality in hospitals? : Citeseer; 2003.
18. Mackintosh M, Channon A, Karan A, Selvaraj S, Cavagnero E, Zhao H. What is the private sector? Understanding private provision in the health systems of low-income and middle-income countries. *The Lancet*. 2016;388(10044):596-605.
19. Claypool KT, Chung M-K, Deonarine A, Gregg EW, Patel CJ. Characteristics of undiagnosed diabetes in men and women under the age of 50 years in the Indian subcontinent: the National Family Health Survey (NFHS-4)/Demographic Health Survey 2015–2016. *BMJ Open Diabetes Research and Care*. 2020;8(1).
20. Asubonteng P, McCleary KJ, Swan JE. SERVQUAL revisited: a critical review of service quality. *Journal of Services marketing*. 1996.
21. Donabedian A. Explorations in quality assessment and monitoring definition of quality and approaches to its assessment. *Ann Arbor*. 1980.
22. Lee D, Kim KK. Assessing healthcare service quality: a comparative study of patient treatment types. *International Journal of Quality Innovation*. 2017;3(1):1.
23. Untachai S. Modeling service quality in hospital as a second order factor, Thailand. *Procedia-Social and Behavioral Sciences*. 2013;88:118-33.
24. Javed SA, Ilyas F. Service quality and satisfaction in healthcare sector of Pakistan—the patients' expectations. *International Journal of Health Care Quality Assurance*. 2018.
25. Mostafa MM. An empirical study of patients' expectations and satisfactions in Egyptian hospitals. *International Journal of Health Care Quality Assurance*. 2005.
26. Yeşilada F, Direktouml E. Health care service quality: A comparison of public and private hospitals. *African Journal of business management*. 2010;4(6):962-71.

Service Quality in Small and Medium Indian Private Hospitals: Examining Maternity Patients' Perception using SERVPERF Model

27. Teshnizi SH, Aghamolaei T, Kahnouji K, Teshnizi SMH, Ghani J. Assessing quality of health services with the SERVQUAL model in Iran. A systematic review and meta-analysis. *International Journal for Quality in Health Care*. 2018;30(2):82-9.
28. Nekoei-Moghadam M, Amiresmaili M. Hospital services quality assessment. *International journal of health care quality assurance*. 2011.
29. Zarei A, Arab M, Froushani AR, Rashidian A, Tabatabaei SMG. Service quality of private hospitals: The Iranian Patients' perspective. *BMC health services research*. 2012;12(1):31.
30. Tabatabaei SM, Behmanesh Pour F, Share Mollashahi S, Sargazi Moakhar Z, Zaboli M. The quality gap in the services provided by rural maternity units in Southeast of Iran. *Health Scope*. 2015;4(4).
31. Nadi A, Shojaee J, Abedi G, Siamian H, Abedini E, Rostami F. Patients' expectations and perceptions of service quality in the selected hospitals. *Medical Archives*. 2016;70(2):135.
32. Scobie S, Thomson R, McNeil JJ, Phillips PA. Measurement of the safety and quality of health care. *Medical journal of Australia*. 2006;184(10):S51.
33. Cronin Jr JJ, Taylor SA. SERVPERF versus SERVQUAL: reconciling performance-based and perceptions-minus-expectations measurement of service quality. *Journal of marketing*. 1994;58(1):125-31.
34. Huang Y-Y, Li S-J. Understanding quality perception gaps among executives, frontline employees, and patients: the outpatient services in Taiwan hospitals. *Quality Management in Healthcare*. 2010;19(2):173-84.