

OBSTETRIC AND MATERNITY SERVICES MANAGEMENT IN PRIVATE HOSPITAL: AN ASSESSMENT FROM PATIENTS' VIEW OF SERVICE QUALITY

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ABSTRACT

SERVQUAL model is an effective tool for measuring the service quality of private hospitals and clinics with context to obstetric/maternity patients in the Covid-19 pandemic. Hospitals can use this model to improve their efficiency and quality. The novelty of this research lies in the fact that there had been little work done on maternity patients, especially in the context of services provided in private hospitals in Pakistan during the COVID-19 pandemic. Based on this logic, we investigated maternity patients' expectations and perception levels amid COVID-19 by employing the SERVQUAL model. Power and precision software are used for sample size, and 263 questionnaires were administered, out of which 210 were found useable, while SPSS, AMOS, and SEM are used for data analysis. The research findings reveal that all the SERVQUAL scale dimensions have a positive and significant result concerning the Quality of service. Also, a weak relationship exists between tangibility and Quality of service. Apart from recommending relevant policies, we highlighted the study's limitations and proposed some directions for future research in the area.

Keywords: Quality of service, *SERVQUAL* model, maternity patients, COVID-19 pandemic, private hospitals

INTRODUCTION

Due to economic, political, social, and technological changes, working trends in the world have shifted towards intangibility. The general concept of service quality globally has recently indicated a remarkable advancement in the health care sector and the overall economic growth (Zin, 2019). Researchers expounded that the population is the most critical factor causing health care issues in developing and underdeveloped countries (Javed & Ilyas, 2018). However, unfortunately, most developing countries neglect health care issues by not providing basic health facilities to their patients (Andaleeb, 2001). Numerous studies have argued that to achieve economic sustainability and competitiveness, patients' satisfaction and Quality issues are the most researchable topics (Reddy, 2017), specifically in this prevalent pandemic. Given this, over the past 100 years, COVID-19 has been considered one of the most lethal pandemics (Bavel et al., 2020). This pandemic has affected the world economically and psychologically (C. S. Ho et al., 2020). Women experience various sorts of worry throughout their life, as indicated by the above statement (Delamou et al., 2017). From a general well-being viewpoint, it is also critical to recognize females who experience the ill effects of mental worry during their pregnancy, as mental and social components may likewise add to pregnancy and labor entanglements nearby the biomedical elements that affect everything (Loomans et al., 2013). Notwithstanding, extremely constrained data is accessible about how to adapt to COVID-19 during pregnancy.

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Although literature highlighting the issues of obstetric/maternity patients during this COVID-19 pandemic is scarce, at the same time, researchers have started emphasizing the importance of taking precautionary measures regarding maternity patients, especially in underdeveloped and developing countries (Venkatesh et al., 2020). A recent study has shown that there are high chances of risk of infection transmission in pregnant women who are already infected by other diseases or illnesses compared to the typical population (Semaan et al., 2020). At the same time, it is noticed that the disease severity in pregnant women is not significantly high compared to the normal one (Breslin et al., 2020). Researchers further claimed that COVID-19 is teratogenic for pregnant women with no high risk of premature births or early pregnancy misfortunes (Yang et al., 2020). The earlier pandemics (SARS and MERS) brought poor obstetric results, such as high maternal mortality and the transmission of infection in maternal-fetal (Liu et al., 2020). Nevertheless, till now, no such results have been revealed concerning COVID-19.

There exist some unique differences between the world health care organization and different nations regarding the level of readiness and attention towards maternal and infant care administrations (Campbell et al., 2016). According to WHO, there are some set standards for the well-being of pregnant women and their newborns, which healthcare professionals should meet during the COVID-19 pandemic (Bukuluki et al., 2020). These standards provide adequate human rights, socio-sensitive support, and physiological and psychological support to prenatal women (Khan et al., 2020). In line with this, healthcare professionals strive to manage the gaps in legislation and arrangements concerning pandemics and their impact on pregnant women.

The Healthcare sector is widely acknowledged as the frontline sector of any nation that brings sustainability, productivity, prosperity, and well-being (Agarwal et al., 2017). Scholars stated that basic medical and health facilities depend on functional, logically stable, and socially worthy techniques and innovations made generally available to people and families in the general public through their interest (Agarwal et al., 2017). At the same time, this scenario in developing nations is quite challenging (Rifkin, 2018). When we talk about the healthcare sector in a developing country, Pakistan, it is engulfed by various problems related to the quality of health, such as the division of the healthcare system into public and private, unequal distribution of resources, and mishandling of resources and lack of efficient healthcare units that leads to poor quality of health services (Javed & Ilyas, 2018).

Mainly, this research adds to the literature by examining the Quality of service in private hospitals and clinics for maternity patients' especially in the Covid-19 pandemic perspective, using the *SERVQUAL* model. Further, this study also responds to the call of (Zin, 2019), that suggested that there is a need to empirically test the patients' expectations and perception level regarding the Quality of service rendered by healthcare organizations.

This study's subsequent sections are structured as follows: Section 2 presents the literature review. Section 3 shows the methodology. Section 4 presents and discusses the results. Section 5 concludes this work.

REVIEW OF LITERATURE

Theoretical Review

Social exchange theory (Blau, 1964) and competitive advantage theory (Porter, 1985) are embedded in healthcare studies to theorize this concept further. According to the social exchange theory, reciprocity is the central element in social exchange theory (Crawford et al., 2019). According to this theory, individuals behave accordingly as they perceive or follow others (Gouldner, 1960). A substantial literature has shown that reciprocity has positive and negative consequences (Cropanzano et al., 2017; Cropanzano & Mitchell, 2005; Eisenberger et al., 2004; Perugini & Gallucci, 2001; Uhl-Bien & Maslyn, 2003). These positive and negative tendencies depend upon the exchange between two parties and the perceptions, if the individual receives positive behavior, he acts accordingly, and on the negative side of reciprocity, the person behaves negatively for mistreatment received (Blau, 1964). Based on this logic, individuals analyse costs and benefits before purchasing any offered product and service (Lakhani, 2020). In other words, customers (patients) compare the cost and benefit they gain directly and indirectly from the hospital or health care units. Thus, the expectations and perceptions of patients about the QOS provided depend upon the customer care services offered by hospitals.

Likewise, we also employ the competitive advantage theory to assess how healthcare organizations can gain a competitive advantage by delivering quality services to their clients.

Competitive advantage theory is based on the tenant that a firm or organization develops an attribute or combination of specific features that allow it to compete with its rivals (Teece, 2012). Organizations that desire competitive advantage prefer unique resources, innovation processes, knowledge, and value propositions (Uchegbulam & Akinyele, 2015). Scholars explained that for attaining sustainability and productivity in a country, service quality plays a significant role in gaining a competitive advantage (Bateson & Hoffman, 1995; Pham, 2011; Ryu et al., 2012). To achieve this, different healthcare units offer various types of service quality to their patients (Youssef et al., 1995). Further, this theory stresses how organizations can improve and offer customer-centred services to manage patients and clients. Researchers expounded that organizations try to gain a competitive advantage to earn maximum benefits over their competitors (Muema, 2019). Given this, health care services are the fundamental need of society to achieve prosperity (Schoemaker et al., 2019). Therefore, it is the need of the hour to focus on health care facilities.

Empirical Review

Quality has always been treated as the most debatable topic and is defined from different perspectives (Campbell et al., 2000). In the healthcare domain, perceived Quality can be defined as patients' opinions and impressions about the overall superiority and excellence of healthcare units (Akhter et al., 2013; Parasuraman et al., 1988). According to Ryu et al. (2012), physical atmosphere and staff response are two critical characteristics of a customer's perception of services provided to build a positive image as a strategic tool. Quality of service is in the form of a technical and functional manner (Babakus & Mangold, 1992). In technical or process-related healthcare, Quality is defined as a relationship between the technical aspect of care, the social relation between patients, practitioners, and the facilities of care (Blustein & Weitzman, 1995; Zeithaml et al., 2000). Obstetric maternity patients have faced many quality service issues in private hospitals/clinics (Bashir, 2020). Therefore, there is a need to investigate the role of QoS in the healthcare sector.

Health care services are the fundamental need of society, and it is the need of the hour to focus on health care facilities (Ferguson et al., 2020). Scholars expounded that for a thriving nation, there should be a balance between birth and death rates (Tarlov, 2002). Indeed, it is only possible when health care providers give proper administration to sick and ill people at an affordable price. Along these lines, quality patient care should be a fundamental rule of a country's well-being framework (Duggirala et al., 2008). Undoubtedly, the critical receipt of a health care system is the patients and their health; that is why the well-being of patients is essential, and this is the primary objective of organizational management to provide quality service (Price et al., 1997). Gray et al., (2019) added that clients' experience truly matters regarding healthcare services. The success and failure of hospital service delivery depend on the patients' performance, expectations, and general perception (Gopal & Bedi, 2014). Scholars expressed that friendly and open communication by healthcare organizations plays a significant role in the prediction of quality of service (Stein et al., 2017). Based on this logic, patients should be satisfied by offering quality services (Barnett et al., 2013; Grigoroudis et al., 2013; Sawyer et al., 2013).

According to the report WHO, health care service providers must work with the goal that their management would meet the patients' perceptions and opinions concerning quality service (Milašauskienė et al., 2006). According to patients and customers, quality acts are a significant indicator in health care units (Connor et al., 1994, p. 32). That is why a patient's perceptions and views are considered as an essential outcome of the quality of service provided (Barnett et al., 2013; Grigoroudis et al., 2013; Sawyer et al., 2013).

Coronavirus, known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), was first reported in December 2019 in Wuhan, China, and has now spread globally. Statistics have shown that in more than 200 countries, approximately 4,890,000 people have been infected due to COVID-19 within seven months (Park, 2020). This virus initially affects the respiratory system and damages organs like kidney failure causing death (Yang et al., 2020). COVID-19 spreads in two ways, i.e., by direct contact with an infected person or an indirect way via contaminated surfaces (Cai et al., 2020). Breslin et al. (2020) revealed that five out of seven pregnant women in the USA tested positive for COVID-19 with a symptom of cough, fever, myalgia, and headache. Another meta-analytic study (Di Mascio et al., 2020) revealed 41 pregnant women hospitalized amid COVID-19, but the symptoms in new-borns were mild with good outcomes, and only one study reported perinatal death. Studies have demonstrated that

such types of viruses can result in harmful outcomes and negatively impact the health system (Delamou et al., 2017; Leno et al., 2018).

Globally, the pandemic has led to women's uncertainty, anxiety, and psychological stress. Even in normal times, anxiety and stress are associated with obstetric complications that result in hypertension, depression, and pre-labor (Dosani, Farooq, & Ali, 2020). Previous studies have revealed that the maternity and obstetrics departments were ignored during past pandemics, including severe acute respiratory syndrome (SARS) and other natural disasters (Fakari & Simbar, 2020). Ignored needs during pregnancy have caused severe infections in maternity patients owing to the changed immunological and physiological structure (Chua et al., 2020). Scholars expressed that a mother requires extensive support and expertise to ensure optimal mental health and physical care for the newborn. This integral support is currently not accessible regularly because of limitations on visitors in health service departments. The SOPs of this pandemic, including social distancing, are unfavourably influencing maternity patients (Ihenacho & Alonso, 2020). Limited availability of support has additionally influenced women's visits to healthcare centres for check-ups during perinatal time (Tang et al., 2020). Besides, the shortage of treatment for COVID-19 has significantly affected women concerning access to health care amenities because of the anxiety of getting infected and the potential risk to the foetus, friends, and family. In line with this, researchers expressed that COVID 19 pandemic restrictions and lockdown in Pakistan have additionally influenced routine vaccination in new-borns, resulting in the risk of other harmful diseases such as measles, polio, and tuberculosis (Adhena et al., 2020). Further, such a critical situation can harm women's well-being (Omer et al., 2020). There is a need for solid support for competent and steady health care services. Suppliers, nurses, midwives, doctors, specialists, and relatives are expected to support mothers in managing the stresses and difficulties experienced (Martin et al., 2020). However, the novelty of this research lies in the fact that there had been little work done on maternity patients, especially in the context of services provided in private hospitals of Pakistan during the COVID-19 pandemic. Based on this logic, we investigated maternity patients' expectations and perception level amid COVID 19 by employing the SERVQUAL model.

Research Hypotheses

Hypothesis 1: Expectation of the SERVQUAL model is positively related to the Quality of service

Hypothesis 2: Perception of the SERVQUAL model is positively related to the Quality of service

SERVQUAL Model and its Applications

Parasuraman et al., (1985a) introduced the *SERVQUAL* model comprised of ten dimensions of service quality measurement. Scholars further decreased the ten dimensions of service quality measurement to five by establishing a survey of twenty-two items and named it the *SERVQUAL* model (Parasuraman et al., 1988).

The *SERVQUAL* model has wide applications in diverse fields of life (Nikfalazar, 2016; Parasuraman et al., 1991, 1994). Pena et al, (2013) analyzed the expectation and perceptions of chronic renal patients concerning dialysis treatment programs using the *SERVQUAL* scale. To measure the satisfaction level, Sao Paulo, a university hospital, used the *SERVQUAL* model, and the outcomes depict that reliability and assurance have the highest degree of satisfaction. In contrast, responsiveness and empathy have the lowest satisfaction (Kavitha, 2012). Similarly, a study conducted by (Lin et al., 2009) on data gathered from 1085 patients in Taichung City (Taiwan) analyzed the perception and expectation levels of old and young patients regarding the QoS by employing the *SERVQUAL* model. Their results indicated that the older patient's perception score was lower than, the younger one, expectations and perceptions were positively correlated, while loyalty with perception showed a significant result. A positive relation was present between expectation, loyalty, and service perception.

Moreover, the *SERVQUAL* model has also been applied in the Airline industry to measure the structural relationship between air passengers (Chen & Chen, 2010). The study of Chen and Chen revealed that higher customer loyalty depends on higher QOS offered by the company to passengers. Likewise, another study conducted on the measurement of customer satisfaction by using a *SERVQUAL* scale indicated the *SERVQUAL* model's authenticity and its suitability in the service sector such as hospitals (Hennig-Thurau & Klee, 1997). Additionally, a study was conducted in Malaysia to assess the QOS in the academic domain (Kaur Kiran, 2010), and the results revealed that QOS certainty is high in

the library. *SERVQUAL* model was also used to analyze the quality of education in non-governmental institutions (Akhlaghi et al., 2012).

Dimensions of the SERVQUAL Scale

There are five following dimensions of the SERVQUAL model

1. Tangibility: It deals with the physical facilities, personal, and material that can be perceived by the five senses (Parasuraman et al., 1988). Qualities of service and tangibles have a positive relationship.
2. Reliability: The supplier can execute the service safely and efficiently. It portrays steady execution, liberated from non-consistence, which the client can trust. The provider must follow, what was guaranteed, without the requirement for modifying. Therefore, scholars stated that there is a positive and direct link between reliability and Quality of service (Parasuraman et al., 1988a).
3. Responsiveness: "It refers to the provider's availability to attend voluntarily to users, providing a service attentively, with precision and speed of response. It concerns the availability of employees of an institution to assist users and provide the service promptly". So it is proposed that responsiveness positively affects QOS (A. Parasuraman et al., 1988a).
4. Assurance: "It is identified as the courtesy, knowledge of employees, and ability to convey trust. "That is why it shows a positive influence of assurance on QoS (Parasuraman et al., 1985a).
5. Empathy: "It is related to whether the organization cares for the user and assists him in an individualized manner refers to the ability to demonstrate interest and personal attention. Empathy includes accessibility, sensitivity, and effort in understanding users' needs". So that there is a positive bond between empathy and QOS (Parasuraman et al., (1985a)

According to the stated discussion, a conceptual framework is designed concerning the expectation and perception of maternity patients concerning the QOS (see figure 1).

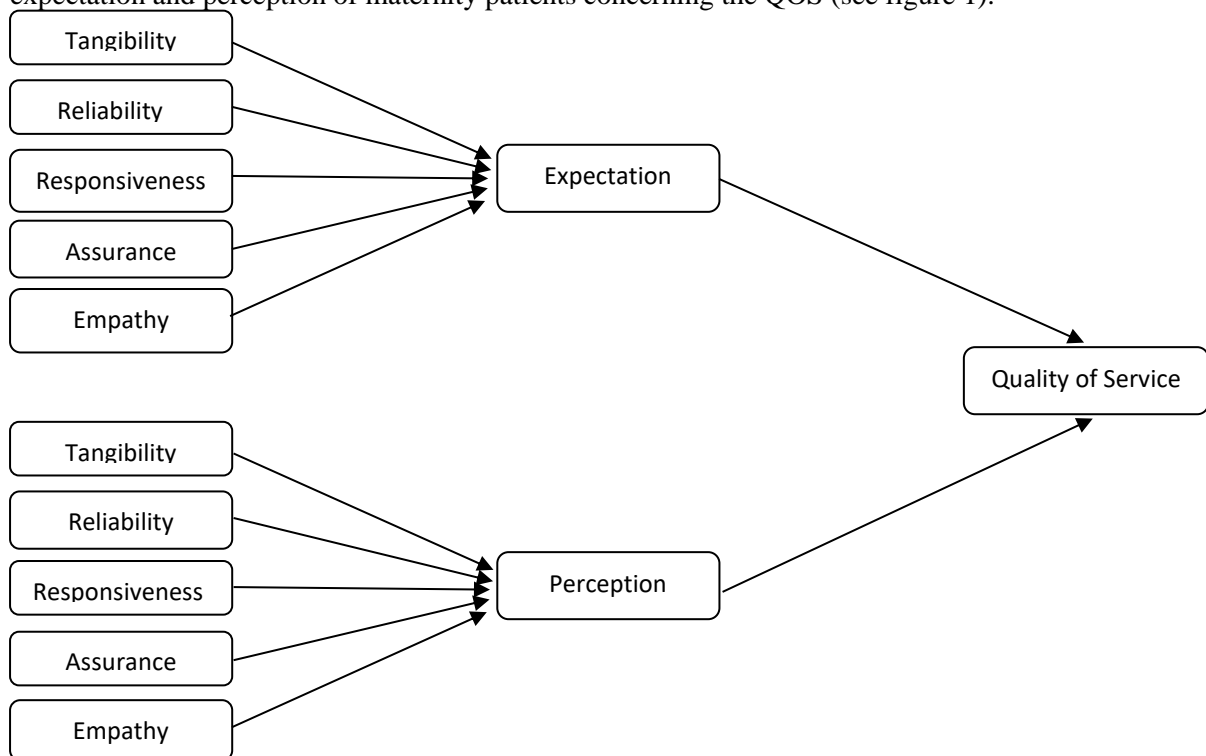


Figure 1: Theoretical Framework

RESEARCH METHODOLOGY

The objective of this study was to gauge the QOS of the private hospitals and clinics, particularly with context to maternity patients. The *SERVQUAL* scale, a widely accepted tool developed by (Parasuraman et al., 1985b). The questionnaires were distributed personally, and the participation was voluntary to as what they expect from the private hospitals and clinics to assess the expectation and perceptions of maternity patients concerning Quality of service.

Sampling and Data collection

A sample consisted of 263 participants from the obstetric/maternity patients of the private hospitals and clinics of major cities of Punjab province in Pakistan, such as Lahore, Rawalpindi, Faisalabad, Gujranwala, and Sargodha by using a simple random sampling technique. Time lagged study was conducted. In time 1 data was collected when females was in first month and in time 2 data was collected at 8 month. The participants were directly approached in their respective departments of hospitals. Out of 263 surveys, 210 were found usable with a 79.84% response rate. While the percentage of age group were 20-25 was 20%, the range (26-30) was 43.8%, (31-35) was 20.5%, (36-40) was 13.2%, (41-45) was 2.5% respectively. The qualifications of the participants were as follows: participants with higher secondary education, bachelor's degree, and master's degree were 13.8%, 58.1%, and 28.1%, respectively

Measurement Scale

The questionnaire consists of two sections, and the first section mainly comprises demographic information, while the second part consists of *SERVQUAL* scale information like expectation scale, perception, and QOS. A five-point Likert scale was used in this research ranging from 1= strongly agree to 5= strongly disagree of an adapted *SERVQUAL* model by (Parasuraman et al., 1985) with Cronbach's $\alpha=0.855$. While QOS is measured with the 17-item scale proposed by (Ho & Lin, 2010) with Cronbach's $\alpha=0.928$.

Analysis Strategy

To analyze the internal reliability of the data, Cronbach alpha (α) was assessed (Hayes & Krippendorff, 2007). After ensuring the reliability, the validity of the data was checked to know whether the items were loaded or not. In SPSS, EFA with Varimax rotation of principal component analysis is run to check the validity of the collected data, adaption, and modification (Babakus & Mangold, 1992). In AMOS, CFA was run to check and ensure the absence of dual loadings in the data analysis (Brown & Moore, 2012). Structural Equation Modelling was run to test the model fit separately for expectation and perception, and then after computing Quality of service (*SERVQUAL* scale) on SPSS. As the variables were measured on an interval scale and became continuous after computation, descriptive statistics were run to check the mean, range, standard deviation, and kurtosis in SPSS. Pearson's r correlation for bivariate analysis was run to check the level of relationship between the variable, as suggested by (Braman & Bell, 2015). Regression was performed to accept or reject the hypotheses of the study.

The validity of the Scales

The validity for expectation, perception scale, and QOS were based on a five-dimensional *SERVQUAL* model, which was separately assessed before further tests.

Validity (EFA)

In this research, we used Babakus & Mangold (1992) adapted and modified *SERVQUAL* scale questionnaire, which is widely used in the healthcare sector (Javed & Ilyas, 2018; Zin, 2019). Exploratory factor analysis was performed to check the validity of the study constructs. We executed the steps of exploratory factor analysis comprising the Principle component method to test the validity of expectation, perception, and QOS scale of the *SERVQUAL* model for verifying whether the indicators were loaded or not. The Kaiser- Meyer-Olkin (KMO) test results indicated adequate values for expectation i-e., $0.829 > 0.70$. Similarly, the result also demonstrated the perception scale values $0.944 > 0.70$. While QOS value $0.845 > 0.70$. Hence, the KMO test validated the sampling adequacy, as shown in Table 1.

Table No. 1 EFA

| KMO and Bartlett's Test (Expectation Scale) | | KMO and Bartlett's Test (Perception Scale) | | KMO and Bartlett's Test (Quality of Service QOS) | |
|--|-------|--|-------|--|-------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | 0.829 | Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | 0.944 | Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | 0.845 |

| | | | | | | | |
|-------------------------------|--------------------|---------|-------------------------------|--------------------|----------|--------------------|---------|
| Bartlett's Test of Sphericity | Approx. Chi-Square | 602.659 | Bartlett's Test of Sphericity | Approx. Chi-Square | 2472.242 | Approx. Chi-Square | 503.542 |
| | df | 105 | | Df | 105 | df | 105 |
| | Sig. | 0 | | Sig. | 0 | Sig. | 0 |

Confirmatory Factor Analysis and Model Fit Indices

To check the convergent and discriminant validity of the *SERVQUAL* model, first, we conducted confirmatory factor analysis (CFA) for the expectation and perception scale than for the QOS (*SERVQUAL* model), which was performed by structural equation modeling by AMOS software. The structural equation modeling by Amos allows all the variables to covariate (Kline, 2011). The unobserved variables were first drawn with all their dimensions and relevant indicators, along with error terms (Kline, 2011). The AVE measures the variance captured by a construct from each scale. The results of the composite reliability scale are presented in Table 2. The AVE recommended value of 0.50 or more provides evidence for convergent validity. The AVE values for the perception scale, expectation scale, and QOS are 0.93, 0.94, and 0.79, respectively.

In addition, the composite reliability of the scale is also assessed. All the values, i.e., 0.84 for the perception scale, 0.83 for the expectation scale, and 0.77 for QOS are greater than the threshold criteria (Hair et al., 2006).

Table No. 2 Composite reliability scale

| Dimensions | Composite reliability | Average variance Extracted |
|------------|-----------------------|----------------------------|
| PS | 0.84 | 0.93 |
| ES | 0.83 | 0.94 |
| QOS | 0.77 | 0.79 |

Further, we also estimated the model fit based on the standard values (Hair et al., 2017). The estimates for the model fit are shown below in Table 3. According to the standard estimates of model fit, the values for expectation, perception scale, and QOS indicated good values that met the model fit indices criteria (Hair et al., 2017).

Table No. 3 Model Fitness

| Sr. No | Estimates for model Fit | Expectation | Perception | Quality of Service | Standard Values |
|--------|-------------------------|-------------|------------|--------------------|-----------------|
| 1 | CMIN/DF | 1.36 | 1.523 | 1.765 | <3.00 |
| 2 | AGFI | 0.941 | 0.962 | 0.95 | >0.80 |
| 3 | GFI | 0.941 | 0.937 | 0.925 | >0.80 |
| 4 | TLI | 0.928 | 0.977 | 0.960 | >0.90 |
| 5 | CFI | 0.946 | 0.984 | 0.969 | >0.90 |
| 6 | RMSEA | 0.031 | 0.038 | 0.04 | <0.05 |
| 7 | PCLOSE | 0.989 | 0.921 | 0.691 | >0.50 |

Descriptive Statistics and Correlations

The descriptive statistics were analyzed to describe the central tendency separately for all dimensions of expectation, perception scale, and QOS, as shown in Table 4. The correlation values demonstrated the relationship among variables by following the *SERVQUAL* model. Results show significant values at 0.01 level with a 99% confidence interval level that support hypotheses 1-2 that all dimensions were moderately ($r=0.333$) correlated to highly correlated, ($r=0.900$) to Quality of service with statistically significant at $p=0.01$. *SERVQUAL* dimension, tangibles found to be moderately correlated with QOS ($r=0.514$, $p=0.01$), reliability, responsiveness, assurance, and empathy were found to be ($r=0.780$, 0.900 , 0.887 & 0.866 at $p=0.01$) highly correlated with QOS as proved by the previous research of (Alrubaiee & Alkaa'ida, 2011).

Table No. 4 Correlations, Descriptive and Reliability Statistics

| | Mea n (ES) | SD (ES) | Mea n (PS) | SD (PS) | Mea n (QOS) | SD (QOS) | 1 | 2 | 3 | 4 | 5 | 6 |
|------------------|------------------|------------|------------------|------------|-------------------|-------------|--------|--------|--------|--------|--------|---|
| 1 Tangibles | 1.52 | 0.35 | 2.40 | 0.51 | -0.88 | 0.59 | 1 | | | | | |
| 2 Reliability | 1.57 | 0.40 | 3.21 | 0.56 | -1.64 | 0.70 | .339** | 1 | | | | |
| 3 Responsiveness | 1.59 | 0.40 | 3.98 | 0.87 | -2.39 | 1.00 | .354** | .661** | 1 | | | |
| 4 Assurance | 1.53 | 0.34 | 4.04 | 0.87 | -2.51 | 0.98 | .291** | .622** | .775** | 1 | | |
| 5 Empathy | 1.61 | 0.47 | 3.97 | 0.83 | -2.36 | 1.04 | .333** | .552** | .708** | .729** | 1 | |
| 6 QOS | | | | | -1.22 | 0.46 | .514** | .780** | .900** | .887** | .866** | 1 |

Note: ES= Expectation Scale ; PS= Perception Scale; N = 363; * p < 0.05; ** p < 0.01

Regression Analysis

Table 5 represents the results of the H1. The results of hypothesis H1 indicated that all the dimensions of the SERVQUAL model were found to be positive and significant. The results show that the expectation value of tangible ($\beta=.613$ at $p<0.001$), reliability ($\beta=.762$ at $p<0.001$), responsiveness ($\beta=.620$ at $p<0.001$), assurance ($\beta=.631$ at $p<0.001$), and empathy dimension ($\beta=.562$ at $p<0.001$). While the values of R square for tangible .510, reliability = .754, responsiveness =.865, assurance=.873 and empathy= .841 respectively. Thus, the results of hypothesis H1 were supported.

Table No. 5 Regression Model Summary for expectation

| Direct Paths | β | SE | T | P | R ² | Adjusted R ² |
|----------------------|---------|------|--------|------|----------------|-------------------------|
| Tangibles → QOS | .613 | .050 | 10.290 | .000 | .510 | .254 |
| Reliability → QOS | .762 | .030 | 21.653 | .000 | .754 | .602 |
| Responsiveness → QOS | .620 | .013 | 37.202 | .000 | .865 | .801 |
| Assurance → QOS | .631 | .016 | 34.421 | .000 | .873 | .765 |
| Empathy → QOS | .562 | .016 | 30.828 | .000 | .841 | .732 |

Table 6 given below represents the results of the H2. The results of hypothesis H2 indicated that all the dimensions of the SERVQUAL model were positive and significant. The perception value of tangible ($\beta=.529$ at $p<0.001$), reliability ($\beta=.732$ at $p<0.001$), responsiveness ($\beta=.621$ at $p<0.001$), assurance ($\beta=.509$ at $p<0.001$), and empathy dimension ($\beta=.541$ at $p<0.001$). Thus, hypothesis H2 was supported.

Table No. 6 Regression Model Summary for Perception

| Direct Paths | β | SE | T | P | R ² | Adjusted R ² |
|----------------------|---------|------|--------|------|----------------|-------------------------|
| Tangibles → QOS | .529 | .043 | 10.393 | .000 | .414 | .162 |
| Reliability → QOS | .732 | .024 | 19.693 | .000 | .680 | .508 |
| Responsiveness → QOS | .621 | .016 | 29.208 | .000 | .803 | .709 |
| Assurance → QOS | .509 | .011 | 26.424 | .000 | .787 | .645 |
| Empathy → QOS | .541 | .014 | 22.830 | .000 | .793 | .686 |

DISCUSSION

The primary objective of this research is to examine the expectation and perception level of maternity patients about the quality of service provided by private health care centers and clinics in Pakistan amid the COVID-19 pandemic. These findings of this study revealed that the expectation level of patients poses a significant and positive relationship with QOS. Further, the results of H2 were also significant, indicating a positive link between PS and QOS. Thus, hypotheses 1 and 2 were both supported. The findings of this study resonate with previous studies on the healthcare sector about quality of service

(Ahmed et al., 2017; Daniel & Berinyuy, 2010; Fatima et al., 2018; Javed & Ilyas, 2018; Shabbir & Malik, 2016).

In harmony with past studies, participants of the present study acknowledge that the QOS plays a significant role in health care units i-e., patients in dire need of supportive policies. Scholars stated that perceptions are the psychological condition of patients, including their positive or negative sentiments or perspectives concerning their experience and some particular aspects of service assistance (Chang et al., 2013). A substantial literature has shown that when patients get high QOS in hospitals, they are expected to reciprocate the same in the future, in other words, positive things about it to others and refer to their friends and family members. This was evident that the patients who get excellent and satisfactory support from hospitals revisit those hospitals and recommend others (Sweileh et al., 2015). This is critical because attracting new clients is generally tricky, but effective communication and offering certain free services to customers amid pandemics can benefit private hospitals.

CONCLUSION AND POLICY IMPLICATIONS

This study examined the expectation and perceptions of maternity patients concerning the QOS amid COVID 19. The findings indicated a significant impact of expectations and perceptions of QOS in the healthcare sector, especially during the COVID 19 pandemic. This study highlighted that Pakistan's healthcare sector is facing many challenges, especially obstetrics/maternity patients, during this pandemic. Hence, there is a need for the healthcare sector to prioritize the basic facilities by providing QOS to patients. Further, strict implementation of COVID 19 standard operating system (SOP) such as social distancing, washing hands for 20sec, using a facemask, and hand sanitizer are required. Lastly, proper planning concerning the allocation of resources is required for intensive care units until any proper vaccination gets introduced.

Patients who visit private healthcare units expect to be dealt with efficiently and immediately (without interruptions and wasting time) in a healthy environment. This study's findings can help policymakers design appropriate policies to meet patients' expectations by quality services. This study also intended to unveil the quality issues and how to overcome such issues amid pandemics by healthcare management. Healthcare units and hospitals could provide high-quality services by improving the administration of hospitals. In order to meet the patient's expectations about the quality of service, the hospitals should maintain a proper audit and accountability system. Further, it is high time for hospitals to recruit professionals to implement a total quality management system to help overcome the gap between the expected level of clients and organizations. Also, hospitals could formulate particular policies for gynecology departments to facilitate maternity patients in any pandemics.

Research measures of the current study involve self-report, which raises the issue of standard method variance. Further, this study has targeted a specific segment of society, but in the future, other areas could be targeted in other countries to increase the generalizability. Additionally, only private hospitals and clinics were chosen for the current study, and future studies could also investigate this model for public hospitals and compare them. Likewise, health care quality measurement tools other than the *SERVQUAL* scale can be used. Lastly, other survey techniques, such as focus groups or interviews, could be conducted.

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