Determinants of Patient Care and Satisfaction in Pakistan- A Scoping Review

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**Significance:**
One of the most devastating and treatable type of neurological injury is hydrocephalus. It is also categorized as most common secondary neurological injury. Ventricular hydrocephalus or Arnold chiari malformation leads to the increased in intracranial pressure but in infants a natural body response adjusts this increase in ICP to the normal range. In this study, main outcome variables were use of VP shunt for the treatment of Arnold chiari malformation and its associated complication.

**ABSTRACT**

**Background:** Pakistan established the Punjab healthcare commission to improve patient care catering to professional accountability in the public and private sectors. As per the World Health Organization, quality of care comprises of six dimensions where the care must be effective, efficient, accessible, patient-centered, equitable, and safe.

**Objectives:** The objectives are to determine if patients are satisfied with the quality of services in public and private sectors, or if any neglect was present.

**Methods:** The literature on patient care and satisfaction was compiled using a scoping review methodology. PubMed, CINAHL Plus, and Scopus were used to collate information. Duplicates were removed using Endnote X9.

**Results:** Of the 467 abstracts and titles that were screened for relevance, 74 were considered for full-text review and potential inclusion in the scoping review. Out of 16 included studies, 7 (43.8%) of the included studies originated from Pakistan. The characteristics of included studies such as quality of care and patient satisfaction are tabulated.

**Conclusion:** Current literature does not provide quality- and satisfaction- focused studies, and has methodological discrepancies. It is required that the medical profession adopt a sense of self-monitoring. Gaps in service provision must be addressed by healthcare managers, policymakers, and physicians in Pakistan.

**Introduction**
The provincial government established the Punjab Healthcare Commission (PHC) for this purpose in 2010 with objectives to enhance patient satisfaction levels and complaints that catered to professional accountability [4]. This also sheds light on awareness among tertiary healthcare establishments and patients about responsibilities and rights. Healthcare is a central concern in a developing country like Pakistan, with concerns by practitioners, government officials, and researchers. Patient Satisfaction has three hierarchies [3]. The first includes satisfaction with healthcare delivery, referring to the service or clinic, accessibility issues, patient-clinician communication, and the quality of facilities being provided. The second relates to treatment, for example, exercise or dietary recommendations. The third is satisfaction with medications, with a focus placed solely on the quality of pharmacological interventions and prescriptions. Patient care and satisfaction are both considered important in literature due to the relevance and difficulty of measurement. In the light of available data, a systematic literature review is conducted related to the quality of medical, physical, mental, and emotional care to patients along with satisfaction levels.

The goal of providing health care facilities to patients is to deliver high-quality patient-centered care. The Institute of Medicine (IOM) prioritizes patient care and safety and identifies its importance in healthcare facilities [1]. As per IOM patient care is "Providing care that is respectful of, and responsive to, individual patient preferences, needs and values, and ensuring that patient values guide all clinical decisions” [1]. It is imperative to note that a healthcare construct is a multidimensional approach, which makes it delineate specific factors like patient visits and the series of outcomes [2]. Quality care is defined as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge." Specifically, patient satisfaction measures qualitative outcomes such as patient retention, medical malpractice, and also clinical outcomes. This also affects the patient-centric delivery of quality care, and the efficiency of services. Often, patient satisfaction is considered as a proxy, however, it is a useful indicator to measure the success of doctors and hospitals in developing countries such as Pakistan. Satisfaction may be defined as the extent to which the individuals’ experiences compare with expectations. The World
Health Organization suggests (WHO) states that the quality of care may be divided into six dimensions of quality of care described as 1) efficient, 2) effective, 3) accessible, 4) patient centered, 5) safe, and 6) equitable.

**Materials and Methods**

**Research questions:** The review questions were:
1. Are patients satisfied with the quality of services provided in public and/or private sectors?
2. Is patient neglect during service provision prevalent across hospitals?
3. Are patients satisfied with the data regarding treatment and care, availability of hospital personnel, and communication and medications?

**Eligibility criteria:** There were no time or language restrictions to the included publications. This review included papers from inception to September 2019. To ensure that a wide spectrum of literature was included in the scoping review, there were no restrictions on the type of studies included in the review. Additional eligibility criteria are listed below as Population, Concept, and Context (PCC).

**Population:** The review targeted children and adults, where children were defined as 18 or under. These could be from any sociodemographic background in the emergency, outpatient, or inpatient departments.

**Concept:** The concept of satisfaction with the quality of health care delivery, satisfaction with the treatment, and satisfaction with the medication was encompassed in this review. All those studies that did not address either one of the three patient satisfaction hierarchies were omitted.

**Context:** The studies were conducted or based in LMICs or HICs with the higher value provided to Pakistan. Papers involving various settings or study designs were eligible for inclusion.

**Search strategy:** The search strategy of the review as finalized based on active discussions by investigators (ZS and AS). Key concepts are listed in Table 1. The strategy was utilized to search the following databases: PubMed, CINAHL Plus, and Scopus. An additional manual search was conducted to obtain national studies. The databases permitted good coverage of primary or secondary publications with a public health focus. The search of all databases was conducted from February 2019 until September 2019. Grey literature was searched using a combination of keywords as defined in Supplementary Table 1 (S1). WHO and non-government websites were searched with guidelines published by Punjab Healthcare Commission (PHC), Pakistan. Due to the surplus in articles found, the reference list of select articles was used for searching relevant studies (umbrella review).

**Study selection and citation management:** All retrieved articles from database searches were stored and exported to EndNote X9 reference manager. Post duplication removal by two reviewers (ZS and AS), the title and abstract screening of publications was conducted. In the next step, all three reviewers conducted full-text reviews of studies. Any uncertainty was resolved via consensus.

**Data extraction and collation:** After the customized data was extracted and developed by two reviewers (ZS and AS) using a shared spreadsheet, manual data extraction was conducted to identify materials for tabulation. A pilot extraction was conducted for 5 randomly selected studies, and the process was used for all included studies. Extracted data included the following: number, author (year), title, design, findings, and country. The following methods were used to present results for this scoping review. First, the PRISMA flow diagram is presented to describe the study selection processes. Second, tables are presented of extracted data for eligible studies. Third, a literature review of all included studies sorted by the study is written concerning the review questions. As there were a moderate number of studies, they were categorized on a study-by-study basis.

**Results:**
Of the 467 abstracts and titles that were screened for relevance, 74 were considered for full-text review and potential inclusion in the scoping review. A larger proportion of the studies originated from Pakistan (43.8%). The characteristics of included studies are presented in Table 1.

**Discussion**
In Pakistan, various determinants may contribute to poor patient care and satisfaction outcomes. These factors present challenges for low- and middle-income countries (LMICs) due to limited resources. Previous literature highlights the types and frequency of these variables presenting in Southeast Asia and worldwide. Low resource countries like Pakistan have limited assessments for quality of care in the public and private sectors. Patient satisfaction ought to be understood in the context of social and cultural barriers to develop appropriate intervention and data collection techniques in Pakistan. The review builds on national health policies while aiming to improve patient outcomes. Shaikh reasons that actual assessment of the health care systems lies with the provision of patient care and not mere indicators of morbidity and mortality [5]. Despite the huge health infrastructure, primary health care centers only attract 21% of patients while 77% of them...
Table 1. Characteristics of included studies

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<th>No</th>
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<th>Title</th>
<th>Design</th>
<th>Findings</th>
<th>Country</th>
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<td>1</td>
<td>Shaikh, 2005</td>
<td>Quality of health care: an absolute necessity for patient satisfaction</td>
<td>Points of View</td>
<td>Quality improvement is imperative to develop healthcare systems in Pakistan</td>
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<td>2</td>
<td>Freitas et al., 2014</td>
<td>Quality of nursing care and satisfaction of patients attended at a teaching hospital</td>
<td>Cross-sectional</td>
<td>Institutes must monitor evaluation systems for care quality to attend to patients’ expectations</td>
<td>Brazil</td>
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<td>3</td>
<td>Sultana et al., 2016</td>
<td>Level of Satisfaction of Admitted Patients</td>
<td>Observational, Cross-sectional</td>
<td>Patients were reasonably satisfied with health services except for hygiene standards and medication prices</td>
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<td>4</td>
<td>Naseer et al., 2012</td>
<td>Determinants of patient’s satisfaction with health care system in Pakistan: a critical review</td>
<td>Review</td>
<td>Attention to patients’ expectations, perceptions, and responsiveness of healthcare systems is important</td>
<td>Pakistan</td>
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<td>5</td>
<td>Glickman et al., 2010</td>
<td>Patient Satisfaction and Its Relationship With Clinical Quality and Inpatient Mortality in Acute Myocardial Infarction</td>
<td>Observational, prospective cohort</td>
<td>High patient satisfaction is linked to strict guideline adherence, with improvement in the quality of acute MI care</td>
<td>United States</td>
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<td>6</td>
<td>Fenton et al., 2012</td>
<td>The cost of satisfaction: a national study of patient satisfaction, health care utilization, expenditures, and mortality</td>
<td>Observational, prospective cohort</td>
<td>Higher patient satisfaction was associated with first inpatient departments, second greater total expenditures, and third higher mortality</td>
<td>United States</td>
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<td>7</td>
<td>Algwaiz et al., 2012</td>
<td>Violence exposure among health care professionals in Saudi public hospitals. A preliminary investigation</td>
<td>Observational, Cross-sectional</td>
<td>Nurses and physicians are at a high risk of violence, requiring preventive measures to make hospitals safer</td>
<td>Saudi Arabia</td>
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<td>8</td>
<td>Mukhtar et al., 2013</td>
<td>Patient satisfaction; OPD services in a Tertiary Care Hospital of Lahore</td>
<td>Observational, Cross-sectional</td>
<td>While patients were satisfied with outpatient services, studies must be conducted in primary and secondary care facilities, and regular feedback must be imbibed in Pakistan’s system</td>
<td>Pakistan</td>
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<td>9</td>
<td>Kruszecka-Krówcza et al., 2019</td>
<td>Determinants of Parental Satisfaction with Nursing Care in Paediatric Wards—A Preliminary Report</td>
<td>Observational, Cross-sectional</td>
<td>Parental satisfaction with nursing care is determined by the age of the child, mode of admission, and educational level of respondents</td>
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<td>10</td>
<td>Javed et al., 2019</td>
<td>Patients’ satisfaction and public and private sectors’ health care service quality in Pakistan: Application of grey decision analysis approaches</td>
<td>Observational, Cross-sectional</td>
<td>Using analytical methods, and noting the five dimensions of health care quality, patients are more likely to be satisfied with private health care facilities.</td>
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<td>11</td>
<td>Hussain et al., 2019</td>
<td>What Factors Affect Patient Satisfaction in Public Sector Hospitals: Evidence from an Emerging Economy</td>
<td>Observational, Cross-sectional</td>
<td>Significant communication gaps exist in the doctor-patient setting, and Pakistan’s healthcare system is deprived of physical facilities and adequate services.</td>
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<td>12</td>
<td>Al-Abri et al., 2014</td>
<td>Patient Satisfaction Survey as a Tool Towards Quality Improvement</td>
<td>Review</td>
<td>While patient satisfaction surveys are an established yardstick for quality improvement plans, they must be more extensively used for developing improvement plans.</td>
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<td>13</td>
<td>Harrison et al., 2015</td>
<td>Patient safety and quality of care in developing countries in Southeast Asia: a systematic literature review</td>
<td>Review</td>
<td>Southeast Asia requires large-scale prevalence studies to identify root problems of safety and quality.</td>
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<td>14</td>
<td>Hussain et al., 2014</td>
<td>Inpatient satisfaction at tertiary care public hospitals of a metropolitan city of Pakistan.</td>
<td>Observational, Cross-sectional</td>
<td>Patients were relatively satisfied with the quality of care, but the subpar hospital environment and sanitation was a major concern.</td>
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<td>15</td>
<td>Papastavrou et al., 2014</td>
<td>Linking patient satisfaction with nursing care: the case of care rationing - a correlational study</td>
<td>Observational, descriptive, correlational</td>
<td>The rationing of nursing care is a problematic area, which requires considerable policy development.</td>
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<td>16</td>
<td>Eyasu et al., 2016</td>
<td>Adult Patients’ Satisfaction with Inpatient Nursing Care and Associated Factors in an Ethiopian Referral Hospital, Northeast, Ethiopia</td>
<td>Observational, Cross-sectional</td>
<td>The low patient satisfaction index requires in-service training programs for nurses with special emphasis placed on improving communication skills.</td>
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rly on private facilities [5]. This major influx in private care centers is predominantly because of decreased waiting time, flexible open hours, all-time availability of health care staff, and better confidentiality in diseases considered taboo.

A world health report notes, health care quality is entangled in the triad of acuity, good budget, and social acceptability [5]. This raises concerns for the medical fraternity especially in healthcare facilities of developing countries like Pakistan ultimately requiring regular scrutiny and feedback. The attitudes of healthcare providers must ideally be centered on feedback from their clients. The atmosphere of the health care setting should not be intimidating but ought to encourage the patient to communicate problems [5]. Confidence to female clientele in Pakistan can be instilled by addressing customized needs in privacy. Such measures will not only improve inpatient care satisfaction but also lead to the prosperity of Pakistan as a whole.

An observational study by Freitas including 275 patients at a teaching hospital in Brazil in 2014 assessed the quality of nursing care and satisfaction of patients, using the concomitant application of three instruments, which targeted sociodemographic characteristics, and an interview script on nursing care. It comprised of 9 items and 40 sub-items with yes or no questions, and a Brazilian patient satisfaction instrument called ISP containing 3 domains and constructed in a 5 point Likert scale respectively [6]. The study effectively used the Cronbach alpha coefficient, adding them in a software Microsoft excel 2010, using scores of 4 or greater as satisfactory, setting significance value at or below 0.05 and analyzing by positivity, median value, and spearman's coefficients [6]. It concluded that only two parameters were voted safe: hygiene and physical comfort; nutrition and hydration. The rest was declared unsatisfactory [6]. However, the parameters of confidentiality, professionalism, technicality, and education suggested patients were satisfied. Thus, a continuum of evaluation system brimming with patient feedback periodically is essential for high-quality care in Pakistan.

There are various parameters, which may be considered for measuring patient satisfaction. Studies originating from Bangladesh and Malaysia show that the attitude of healthcare providers and the unavailability of free drugs respectively are important determinants of patient satisfaction. Surveys conducted in Swat and Benazir Bhutto Hospital have shown that the majority of patients are dissatisfied with the staff and that the quality of hospital care is measured inefficiently [7]. An observational study at the Holy Family Hospital Rawalpindi, from May to June 2013 addresses these concerns [7]. In the study, a non-structured questionnaire using 12 variables was used to guide the interviewers who received formal training. Verbal consent was taken and confidentiality was maintained using the patient-interviewer relationship. The results showed that 81.53% of patients were satisfied based on the 170 patient study-sample. Overall, the study found that 15.84% of patients were dissatisfied necessitating further investigation of the root cause in Pakistan. The observational study found there was a moderately high level of satisfaction at Holy Family Hospital where the key traits measured included hygiene and medication [7]. The study was an imperative one as it analyzed subjective key deficiencies in the healthcare system in Pakistan.

A critical review published in 2012 unfolds the determinants of patient satisfaction within the health care system in Pakistan." [8]. The delivery of care by healthcare workers and patient satisfaction were notably central factors in the review [8]. While literature pertaining to this area is limited in developing countries in Asia, Mailha et al. use various databases like Medscape, PakMedinet, and PubMed to ensure that a wide range of data is included. The study consists of 21 articles and selected variables include the overlap of patient satisfaction and healthcare services [8]. The study listed age, literacy, gender, and social class as characteristics influencing the patient satisfaction level in Pakistan. Key findings of the study focus on autonomy, privacy, decision-making, communication, hygiene, and sanitation. The review prompted call-to-action by suggesting to calibrate patient expectations with the responsiveness of the healthcare system. While the concept has not gained peak attention in Pakistan, healthcare organizations and workers must assess patient satisfaction as a measurement for the quality of care [8].

Patients are found to be more satisfied with healthcare services if the healthcare workers are aware of respect of dignity, autonomy, and attentive to meeting expectations. However, social class, age, education, gender, may influence patient expectations or ethnicity, which are significant predictors in patient satisfaction surveys [8]. Psychological factors including patient perceptions are potentially neglected determinants in Pakistan [8]. Private health care centers are more responsive to certain patient perceptions, albeit, exceptions exist [8]. The way forward is by introducing interventions at the individual, hospital, and healthcare policymaker level by 1) introducing the concept of care quality among HCWs, 2) increasing the staff's competence and motivation by regularly conducting...
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Mukhtar et al. find factors affecting patient satisfaction to be provider-related and Patient-related [13]. Patient satisfaction is a multi-disciplinary concept, with determinants including interpersonal communication skills, physician's proficiency, access to care, the behavior of staff, infrastructure, and the basic provision of facilities [13]. The emphasis on patient satisfaction is linked to improved compliance and timely care provision by HCWs. An observational study conducted in the emergency department of a tertiary hospital in Pakistan notes the demographic history and questionnaire responses. Of the 250 participants, the 2013 study found that 94% of patients were satisfied with healthcare services. Overall, patients stated that the health facility was clean and adequately ventilated; they would re-visit the hospital in the future [13]. Future studies must assess these links in primary and secondary health care facilities, and obtain regular feedback from patients [13].

In a modern healthcare system, the provision of quality health care is correlated with the satisfaction of the patients [14]. A 2019 observational study in pediatric wards at two children hospitals in Krakow assessed various determinants of parental satisfaction with nursing care [14]. Participants were divided into groups based on developmental ages. A standardized questionnaire-EMPHATIC was used [14]. Five major criteria for satisfaction evaluation included Information, Care and Treatment, Availability, Parental participation, and Professionalism approach. The study followed the principles of Helsinki’s Declaration. The authors found that the mean score of satisfaction was high i.e. 4.19 points. The highest score was found for availability and the lowest for care and treatment and parental participation [14]. Lower levels of satisfaction were seen in parents of children with emergency admissions, those with a post-trauma condition, and the highly educated group [14]. While the study was preliminary due to limited subjects, the implications for Pakistan may be to assess satisfaction assessing emotional state qualitatively.

In a 2019 study, Javed et al. find a relationship between patient satisfaction and five health dimensions [15]. The area of study was public and private health care centers in Lahore and Rawalpindi, Pakistan. Data was collected through SERVQUAL instruments. Deng's GRA, absolute GRA, and second synthetic GRA models were used. The constructs of the SERVQUAL model where tangibility, reliability, responsiveness, assurance, and empathy. According to Grey Relational Analysis models, Javed et al. observed that reliability and responsiveness strongly indicated the satisfaction levels of patients [15]. The respondents were both inpatients and outpatients. Hurwicz's criterion suggests that satisfaction with private health care centers is the result of perceived service quality, while quality is a result of a comparison of expectations with performances. The limitations of the study relate to the selected model, which was unable to evaluate all factors about care provision.

Patient satisfaction is one of the two central components of quality of care including 1) understanding expectations and providing services, and 2) respecting the patient [16]. In a 2019 study, Hussain et al. identify that the identification of patient satisfaction may improve certain areas of care provision in public sector hospitals. However, the quality of service delivery is rarely assessed. The study demonstrates the performance of public healthcare centers in Pakistan by interacting with physical services (environmental and tangible), pharmacy and laboratory services, and doctor-patient communication. Primary data was collected from 554 participants using random sampling methods. Using multiple regression analysis, the results revealed that pharmacy and laboratory services had positive effects. The study suggests that communication gaps exist in the doctor-patient setting. The healthcare
system in Pakistan is deprived of physical facilities, which requires further improvements. 

Al-Abri et al. investigate published literature from 1997 to 2012, and explore various contributing factors to patient satisfaction [17]. The 2013 study evaluates the outcomes of 29 texts in the past 15 years using the snowball search method [17]. Although quality outcome indicators are not well-defined or conceptualized, standardized tools ought to be developed to understand the determinants affecting patient satisfaction levels [17]. Various studies examine the correlation between demographic factors, level of education, and patient satisfaction; the strongest driver of overall patient satisfaction is ease to access to care [17]. The most common problems experienced by patients are related to the living arrangements and amenities. Harrison reviewed 33 texts on patient safety and quality of care in developing countries like Southeast Asia published between 1991 to 2014 [18]. 

WHO’s definition of patient safety and quality of care was used [18]. Four inter-related quality and safety concerns were identified in Southeast Asia including healthcare delivery, risk of patient infection, medication use, and errors. The quality and provision of perinatal and maternal care with the quality of healthcare provision was reviewed. Of thirty-one, 12 articles were concerned with nosocomial infections which were common post invasive procedures, hospital stay over 6 days, high body temperature, ICU admission status, or antibiotic use [18]. The over-prescribing of antibiotics was identified in three studies falling under medication error. Errors were found due to incomplete prescriptions, but pharmaceutical and dispensing errors were also evident. The reviewed studies of maternal and perinatal care suggest that particular problems are the risk of infection and difficulty managing Emergency Obstetric Care (EmOC) or birth complications requiring intervention [18]. 

Satisfaction is an essential target for clinical practice in the public health sector, mainly due to neglect by policymakers. In a similar study, Hussain et al. determine inpatient satisfaction regarding service quality provision in public-sector hospitals in Karachi, Pakistan [19]. The 2014 study covered a non-representative population in family physician clinics and Out-Patient Departments [19]. By employing a cross-sectional method under IRB approval of Dow University, a questionnaire that covered demographic details (gender, age, income level, residence, admission duration) with a 5 point Likert scale questions targeting satisfaction with the administration, staff, and doctors [19]. With a sample size of 664, Hussain et al. used SPSS 20 and set the alpha reliability at 0.7 [19]. The results suggested that 67% of patients agreed that doctors were updated on checking them with patient care. 58.3% were not pleased with the sanitation measures in the hospital [19]. Hussain et al. found that 63.7% of patients were satisfied with the staff [19]. The study provided further evidence that public health hospitals have not focused on improving environmental, communicational, and medical services [19]. Linking patient care and satisfaction to bedside treatment is still required in a developing country. Comparing this with a country like Saudi Arabia where 99% of patients confirm that they are satisfied with the quality of care all critical factors from the study must be utilized to improve the departmental conditions of public healthcare hospitals. Papastavrou et al. link patient satisfaction with nursing care and measure the effect of a lack of resources [20]. The study explores nurse-reported nursing care, the threshold of patient satisfaction across rationing levels. The study confirms that the Organization for Economic Cooperation and Developments (OECD) expenditure is a ticket to growth. WHO recognizes nursing care as a cost and not revenue. Previously published literature consists of the relationship between nursing perceptions and the quality of care in the work environment where improved environments lead to increased ratings by nurses and patients. Papastavrou et al. carry out the correlational, descriptive, and explorative design in five acute care hospitals with 352 participants [20]. Alpha value was set at 0.05, and patients completed the patient satisfaction scale. Other scales include the BERNCA scale, and the Revised Professional Practice Environment Scale [20]. The results after adjusted regression models showed that patients with the lowest rationing level showed low patient satisfaction as well. Papastavrou et al. conducted a primal study to examine patient satisfaction as a direct outcome of the rationing of nursing care with multidimensional satisfaction measuring instruments. The findings of the study include a negative relationship between satisfaction and care rationing from technical and interpersonal aspects of care that necessitates further exploration of patient/carer relationships [20]. The study concluded that multiple policy considerations, patient safety, nursing care-rationing requirements ought to be recognized [20]. This paves the pathway to the allocation and distribution of resources among patients. A new questionnaire may be devised for the Pakistani population to note clinical, economic, or other provider-defined criteria [21].
**Conclusion**

There are limited published studies that cover patient care and satisfaction with implications for Pakistan. Current literature does not provide quality- and satisfaction-focused studies and has methodological discrepancies. Critical gaps exist for pre- and post-admission care in indoor healthcare facilities, wherein no accounting or monitoring system is found. It is required that the medical profession adopt a sense of self-monitoring. An assessment of patient satisfaction levels across patient profile characteristics along with contextual specifications about patient-doctor interaction must be evaluated. The review discussed WHO’s Quality of Care factors (i.e. effectiveness of treatment/education measures, efficiency of care, accessibility to services, acceptable/patient-centered nature of care, equity/quality and safety) related to patient care and satisfaction within the healthcare system of Pakistan. Gaps in service provision must be addressed by healthcare managers, policymakers, and physicians in Pakistan.

**Conflict of interest:** Authors do not have any conflict of interest to declare.

**Disclosure:** None

**Human/Animal Rights:** No human or animal rights are violated during this study.

**References**


### Supplementary Material

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Supplementary Table (S1).