

# ASSESSING PATIENTS' HEALTHCARE SERVICE QUALITY PERCEPTIONS IN PUBLIC SECTOR HOSPITALS OF KHYBER PAKHTUNKHWA, PAKISTAN

MUHAMMAD SAQIB<sup>1</sup>, KARIM KHAN<sup>2</sup>, ANAYAT ULLAH<sup>3</sup>, MUHAMMAD ALI<sup>4</sup>, LIAQAT ALI<sup>5</sup>

<sup>1</sup> *Department of Development Studies, Pakistan Institute of Development Economics, Islamabad, Pakistan.*

<sup>2</sup> *Department of Economics, Pakistan Institute of Development Economics Islamabad, Pakistan.*

<sup>3</sup> *Multidisciplinary Department, National University of Medical Sciences, Rawalpindi, Pakistan.*

<sup>4</sup> *Department of Biotechnology, Quaid-i-Azam University, Islamabad, Pakistan.*

<sup>5</sup> *Department of Biological Sciences, National University of Medical Sciences, Rawalpindi, Pakistan.*

E-mail: au.shinwari@gmail.com

## Abstract

**Background:** This study has been conducted with the aim to explore the availability, requirements and patient perceptions regarding healthcare services in selected public hospitals of Khyber Pukhtunkhwa (KP), Pakistan. This study has been carried out at two major public hospitals; The Lady Reading Hospital (LRH), Peshawar and Divisional Headquarter Teaching Hospital (DHTH) Kohat. The current study reveals policy gaps and deficiencies of healthcare delivery system.

**Methods:** The study used 'SERVQUAL' instrument in order to find the Patient's perceptions about the healthcare delivery system. Therefore, five service quality dimensions: empathy, tangibles, assurance, reliability and responsiveness were used in this study.

**Results:** The sample size of the current study were 305 patients, out of which 188 respondents were selected randomly from LRH, Peshawar and 117 respondents selected from DHTH, Kohat. The finding of our study reveals that the satisfaction level of LRH, Peshawar, patients regarding health services availability were better when compared to DHTH, Kohat.

**Conclusions:** The results based on the five dimensions of healthcare services concluded that the majority of the participants were utilizing healthcare services from both LRH and DHTH hospitals. It shows the respondents' positive perceptions regarding healthcare services at the selected hospitals.

**Key words:** public hospital, health services demand, patients perception, patient satisfaction.

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## Introduction

Health services play a significant role in the prosperity and development of a country. Any country which provides essential healthcare facilities to their ordinary citizens can easily be claimed to be a developed state [1]. According to World Health Organization (WHO) definition, health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity [2]. Health is directly affected by the availability and unavailability of the provision of healthcare services and also an important resource of social safeguard for society at large and a vital asset that households depend upon [3,4]. The perception towards health services utilization is a sensitive and an important determinant of health service utilization [5-7]. Patient satis-

faction significantly depended on empathetic interactions: such as nursing care, respect, help and the attentiveness of doctors to patients [4, 8, 9]. The services provided by the staff that includes doctors and nurses are the factors that influence patients in terms of satisfaction [10-12].

Multiple socio-economic factors have been studied in order to measure the patient satisfaction level. The level of satisfaction was higher in male as compared to female patients [13, 14], with low level of education [15] and with higher level of income [16, 17]. The locality of health facility and expenses in terms of transportation negatively influence the level of satisfaction in patients and some patients even do not bother to go again to the same hospital due to the perceived inconvenience [18]. The patient's perceptions were also studied in relation with physician care, supportive staff, nurses' care, physical maintenance and ope-

rational activities of the healthcare facility [19–21]. In the case of Pakistan, during the last two decades, the healthcare service delivery responsibility has been shifted from the Central/Federal government to the Local/Provincial governments [22]. The administrative aspects of health policy and the healthcare system have moved to Provinces, Divisions, Districts, and Tehsils [2]. The opportunities consist of availability of trained doctors, nurses, allied health workers and access to medicines at a subsidized rate. But still the utilization of health facilities and its outcomes are less than the required rate [23]. The low percentage spending on health sector clearly shows the lower interest from the government. The public health spending is just 0.9 % of the total GDP of Pakistan [24].

Pakistan is a developing country lagging behind in the health sector like many other developing countries. The healthcare capacity of Khyber Pukhtunkhwa (KP), Pakistan, does not meet the needs of patients for there exists a visible gap between demand for and supply of healthcare services. This study investigates the level of patient's satisfaction in five service quality dimensions; Empathy, Tangibles, Assurance, Reliability and Responsiveness that were offered in two selected public sector hospitals of KP, Pakistan. It also examined the availability; requirement and patient perceptions of the provision of health services in two public hospitals of KP. Therefore, the following research hypothesis is deduced; the perceived healthcare service quality by patients is positively related with empathy, tangibles, assurance, reliability and responsiveness.

**Methods**

The study used quantitative survey methods to analyse the health services available to patients at public hospitals of KP of Pakistan. 'SERVQUAL' Instrument was used in order to find the Patient's perceptions about health services provided, within public sector hospitals. For this purpose, the study uses five service quality dimensions; Empathy, Tangibles, Assurance, Reliability and Responsiveness. These dimensions comprise 22 items, having Empathy (4 items), Tangibles (6 items), Assurance (6 items), Reliability (3 items) and Responsiveness (3 items) [25, 26]. This research was carried out in two public sector hospitals of KP province at LRH, Peshawar and DHTH, Kohat. The LRH, Peshawar sample size consisted of 188 respondents selected randomly from the total population of 4,400 at 7% confidence interval and 95% confidence level. The DHTH, Kohat sample size was 117 respondents, who were selected randomly from the total population of 287 at 7% and 95% confidence interval and level respectively.

The respondents of the study were patients and data was collected from emergency department of the two hospitals along with 8 wards at LRH, Peshawar and 4 wards

at DHTH, Kohat. A total of 14 wards were selected, out of which 2 were from emergency sections in both selected hospitals, 4 medical and 4 surgical sections were selected from LRH, Peshawar, while 2 were selected from medical wards and 2 from surgical wards in DHTH, Kohat. The respondents from each ward were randomly selected through a draw on the bed numbers.

The secondary data were collected from provincial health concerned departments of KP [27]. The primary data were collected through distributing questionnaires to patients who have experienced the provision of the healthcare delivery system at wards/departments/units. The questionnaire was composed of closed ended questions using Likert five-point scale. This psychometric response scale is mainly used in questionnaires in order to obtain respondents choices or liking with a statement or set of statements. It is a non-relative scaling technique and only assesses a single trait in nature. It allows participants to point out their preference in a given statement by way of an ordinal scale [28]. In the questionnaire the first point stands for "Strongly agree" while the fifth point stands for "Strongly disagree". The questionnaire was distributed among those respondents within the selected hospitals who have undergone the health services (Table 1).

Table 1:

Dimensions	Definitions
<b>Empathy</b>	It pertains to the attention and care provided by a concerned person to his/her clients.
<b>Tangibles</b>	It means the observable physical facilities for instance: labs, equipment and human resource who serves the customers.
<b>Assurance</b>	It is about the trust and confidence of the clients/customers regarding the competence and skills of the staff members (doctors, nurses and paramedics) and service providers.
<b>Reliability</b>	It represents the participant's concern about the consistency and accuracy of the services delivered.
<b>Responsiveness</b>	It represents the participant's concern about the aptness and readiness of staff members (doctors, nurses and paramedics) in order to provide facilitations and help to the patients in the desired time [29].

**Results**

The healthcare capacity of KP province does not meet the needs and requirements of the patients for that reason, the prominent gap remains between supply and demand of healthcare services. The existing facilities are insufficient and inadequate to fulfil the gaps in the provision of healthcare facilities to the common population. Table 1 shows the available healthcare facilities in KP province and selected two public sector hospitals. The two public sector hospitals from district Peshawar (LRH) and Kohat (DHTH) were selected to compare the healthcare delivery system. The size of the both hospitals is relatively different but both are located in populated and urban localities. There are 800 doctors, 875 nurses and 600 paramedics' staff in LRH Peshawar. On the other hand, the DHTH Kohat is relatively

small in size, having 95 doctors, 109 nurses and 59 paramedic's staffs (Table 2).

Table 2: Healthcare Capacity

Health Institutions	Government Hospitals		Private Hospitals		Dispensaries		Rural Health Centers		Tuberculosis Clinics	
	Numbers	Beds	Numbers	Beds	Numbers	Beds	Numbers	Beds	Numbers	Beds
Khyber Pukhtunkhwa Province	166	18,434	50	1157	448	25	91	1358	40	52
Peshawar District	20	5,971	31	764	52	13	3	54	4	52
Kohat District	6	512	-	-	10	0	4	88	0	0

Source: Bureau of Statistics, Khyber Pukhtunkhwa, 2018 [30]

### Empathy

The total mean value of the empathy dimension was 2.16, while the mean value for LRH Peshawar was 2.19 and 2.13 for DHTH Kohat (Table 3). From the results, it is clear majority of the respondents were satisfied with the empathy dimension. This shows that majority of the respondent's perceptions were positive, and their satisfaction level was high regarding empathy.

### Tangibles

Table 3 explains the mean value of the tangibles dimension which was 2.85 for both hospitals. The mean value for LRH Peshawar was 2.69 and 3.02 for DHTH Kohat. From this percentage it is concluded that the majority of the respondents were satisfied with tangibles. The data also reveals that the majority of the respondent's perceptions were positive. It means that the overall satisfaction level was high regarding tangibles. Besides high satisfaction level of patients concerning tangibles, some of the patients reported that hospital equipment was old, and they encountered problems in their reports due to which they were referred by the doctors to private laboratories for various diagnostic tests, such as Computed tomography (C.T) Scan and Magnetic resonance imaging (MRI). Due to low socio-economic background they were unable to afford the high costs of the tests in private laboratories.

### Assurance

The total means value of the assurance dimension which was 2.33 for LRH, Peshawar and 2.36 for DHTH, Kohat. The majority of the respondent's perceptions were positive and their satisfaction level was high regarding assurance dimension. However, the only variable with which the respondents were unsatisfied was finding laboratory, outpatient department (OPD's) and wards in both selected public hospitals (see Table 3).

### Reliability

The total mean value of the reliability dimension was 2.32, while the mean value for LRH Peshawar was 2.31 and 2.35 for DHTH Kohat (see Table 3). The data shows that overall majority of the respondent's perceptions were positive, and it means that respondent satisfaction level was high regarding reliability dimension.

### Responsiveness

The total mean value of the responsiveness dimension was 2.6, while the mean value for LRH Peshawar was 2.65 and 2.56 for DHTH Kohat (see Table 3). The data clearly shows that respondent's satisfaction level was high regarding responsiveness dimension. This is considered to be an important dimension for the delivery of the healthcare services.

### Comparison between LRH and DHTH

There is a slight difference in total mean value of both hospitals, but the results reveal that overall mean values of LRH is higher than DHTH (see Table 3). This indicates that majority of the participants availing health services from LRH; perceive that LRH was delivering slightly better services to their patients than DHTH. However, the mean value of 'empathy' and 'responsiveness' dimensions of DHTH were higher as compare to LRH. This shows that majority of DHTH Kohat respondents' perceived positive response regarding the duties performance and suitability of staff members including doctors, nurses and paramedics. Similarly, the respondents of LRH perceived positive and higher satisfaction regarding the availability of health services and their reliability.

Table 3: Provision of Healthcare Services

Provision of Healthcare Services	Total (Mean and Percentages)	
	LRH, Peshawar	DHTH, Kohat
Empathy	2.19 (71.87%)	2.13 (77.97%)
Tangibles	2.69 (53.98%)	3.02 (65.91%)
Assurance	2.33 (67.65%)	2.36 (66.8%)
Reliability	2.3 (67.56%)	2.35 (64.66%)
Responsiveness	2.65 (59.03%)	2.56 (62.93%)

Source: Results were based upon field survey / primary data collection

### Discussion

The aim of the present study was to evaluate the level of patient's satisfaction in five service quality dimensions; Empathy, Tangibles, Assurance, Reliability and Responsiveness that were offered in two selected public sector hospitals of KP, Pakistan. The selected domains of our study were selected after intensive literature review of the previously published available data [31, 32]. The results of above five dimensions concluded that majority of the participants were utilizing the health services from both hospitals and

perceived that both hospitals were delivering better services. It shows that majority of the respondents' perceptions were positive regarding the availability of health facilities at these selected hospitals. As respondents' positive perception ultimately leads to their satisfaction. The results of several studies that have been conducted in Pakistan and other different parts of the world are in line with the current study [33-37]. A study performed previously in four major public healthcare centres of Karachi is in line with the current results. They reported that patients were satisfied from the public healthcare centres in terms of services provided by healthcare personnel and other related administration personnel [38]. Jawaid, M., et al. investigated patients' satisfaction and experience in surgical OPD of Civil Hospital in Karachi and reported that overall satisfaction and experiences of patients were fair to good [18]. Similar studies performed in Italy [39,40] and Britain [41] also investigated patients' satisfaction and reported strong level of satisfaction as well as weak points of the services. Khattak, A. et al., investigated that the overall patients' satisfaction level was lower in public sector hospitals in comparison with that of private sector hospitals except for "Consultation time" which was almost analogous in both the hospitals [19], and same results were found for the provision of public vs private healthcare services in case of Ghana [42].

Irfan, S. M. and Ijaz, A., performed their study in Lahore in a private healthcare unit and found adequate levels of satisfaction in the said hospital [32]. A similar study in public sector hospital in Islamabad found that majority of the patients were satisfied but require further enhancement that includes physical entities of the said hospital [18]. Ahmad, I. et al., concluded that the variable "satisfaction from staff" was the main factor in the determination of patients' overall satisfaction from a healthcare unit [43]. It was concluded that the overall patient's satisfaction level was higher in both private and general public healthcare centres [8,17]. The claim that the performance of private hospitals is better than the public sector was negated with the exception of timeliness and patients' hospitality [44].

In the current study, the mean waiting time was considered adequate by patients. It is also found that mean waiting time in public healthcare centre was comparatively more than that of private healthcare centre and concluded that selecting a cut-off limit from the score is not possible for assessing patients' satisfaction level. The mean waiting time was  $85.86 \pm 28.99$  and  $61.43 \pm 38.45$  minute in public and private healthcare centre respectively [19].

### Conclusions

This study has been conducted with the aim to investigate the availability, requirements and patients' per-

ception regarding health services/facilities in selected public hospitals of KP, Pakistan. It is observed that both hospitals were delivering better services. However, besides their satisfaction the respondents reported some problems which they were facing during their treatment. As the majority of the respondents were from poor families, they have some expectations and demands from the provincial government facilities, like the availability of medicines at subsidized rates or free. In this regard, in the wake of findings, some problems need stringent measures to fix these issues. These problems include poor delivery of medicine from the hospital pharmacy, lack of perfect feedback mechanism from staff members regarding delivery of healthcare services, the availability of proper drinking water for patients, flimsy wards/bathrooms/toilets, a lack of well-supplied waiting places for attendants, a lack of air conditioning in wards/departments for patients, unaddressed inequality, poor amenities of diagnostics tests and scans, more advanced and better equipped facilities specially, C.T. Scan, MRI Scan and Ultrasound machines.

Moreover, the government should manage and arrange health programs and hospital management which would provide better health services to the patients on a free basis or at subsidized rates. These health programs would be possible and successful through the availability of government financial support fund, proper checks and balances, feedback mechanism and avoiding inequalities. There is a need to hire honest and expert staff for the provision of health services to people. It would bring positive changes and developments in health sectors as well as in the public hospitals. Due to time constraints, the present study is only limited to two public hospitals of populated districts of KP. For further research, cross study is recommending to make comparison of both public and private sector hospitals to analyse the comparative performance of healthcare system in KP, Pakistan.

### Limitations and Strengths

The current study was performed with few limitations that need to be addressed, especially to generalize this study. First, the respondents were patients only and their level of satisfaction may vary according to their understanding. Secondly, the study was carried out only in two localities of KP in which one was Peshawar and the other was Kohat; therefore, we may not be able to generalize its results conclusively on macro level.

This study provided information about the areas from which patients are satisfied; areas that need more attention or improvement are also marked. Secondly, geographically diverse samples were represented whose respondents came from different districts of KP. Furthermore, one strong po-

ints is the representation or inclusion of patients of diverse age and both genders in this study.

### Declarations

#### **Ethics approval and consent to participate**

This study was approved by the departmental board of Pakistan Institute of Development Economics (PIDE), Internal Review Board (IRB), Quaid-i-Azam University Campus, Islamabad, Pakistan.

#### **Competing interests**

The authors declare that they have no competing interests.

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### **Literature**

- [1] RoshneeRamsaran-Fowdar R. The relative importance of service dimensions in a healthcare setting. *International journal of health care quality assurance*, 21(1):104–124, 2018.
- [2] Akbari, A.H., Rankaduwa W., Kiani A.K.. Demand for public health care in Pakistan. *The Pakistan Development Review*, pages 141–153, 2009.
- [3] Kwon S Payment system reform for health care providers in Korea. *Health Policy and Planning*, 18(1):84–92, 2003.
- [4] Rowson M. Strengthening the health claims of the poor: promoting social inclusion and redistribution in the health sector. *Medicine, Conflict and Survival*, 21(2):152–166, 2005.
- [5] Rao K.D., Peters D.H., Bandeen-Roche K.. Towards patient-centered health services in India—a scale to measure patient perceptions of quality. *International Journal for Quality in Health Care*, 18(6):414–421, 2006.
- [6] Haque A., et al. The impact of customer perceived service quality on customer satisfaction for private health centre in Malaysia: a structural equation modeling approach. *Information Management and Business Review*, 4(5):257, 2012.
- [7] Irfan S., Ijaz A., Farooq M. Patient satisfaction and service quality of public hospitals in Pakistan: an empirical assessment. *Middle-east journal of scientific research*, 12(6):870–877, 2012.
- [8] Kayral İ.H. Perceived service quality in healthcare organizations and a research in ankara by hospital type. *Ankara Araştırmaları Dergisi*, 2(1):22–34, 2014.
- [9] Al-Tannir M. et al. Patient experiences of engagement with care plans and healthcare professionals' perceptions of that engagement. *BMC health services research*, 17(1):853, 2017.
- [10] Devokata. S. *Consumer Satisfaction towards health services provided by health center in Muang district*. MPH thesis, Nakhon Pathom: Faculty of graduate studies, Mahidol University, 1997.
- [11] Barry C.A. et al. Giving voice to the lifeworld. More humane, more effective medical care' a qualitative study of doctor–patient communication in general practice. *Social science & medicine*, 53(4):487–505, 2001.
- [12] Monteiro NJ, Lima Amorim LT, Vidal Nogueira LM, Ataíde Rodrigues IL, André SR. Evaluation of the collection service for colposcopy by the SERVQUAL scale. *Revista Brasileira de Enfermagem*, 71(1), 2019.
- [13] al Bashir, M.M., Armstrong D. Preferences of healthy and ill patients for style of general practitioner care: implications for workload and financial incentives under the new contract. *Br J Gen Pract*, 41(342):6–8, 1991.
- [14] Uğurluoğlu Ö, Ürek D., Demir İB. Evaluation of individuals' satisfaction with health care services in Turkey. *Health Policy and Technology*, 8(1):24–9, 2019.
- [15] Sumtraprapoot P. *Patient satisfaction towards health center services of BMA health center 24*. MPH thesis, Nakhon Pathom: Faculty of Graduate Studies, Mahidol University, 1997.
- [16] Rogut L., Newman L.S., Cleary P.D. Variability in patient experiences at 15 New York city hospitals. *Bulletin of the New York Academy of Medicine*, 73(2):314, 1996.
- [17] Ajayi O, de Vries M. Diagnostic assessment of service delivery health in South Africa: a systematic literature review. *South African Journal of Industrial Engineering*, 30(1):24–36, 2019.
- [18] Javed. A. Patient satisfaction towards outpatient department services in pakistan institute of medical sciences, Islamabad. Master's thesis, Faculty of Graduate Studies, Mahidol University, 2005.
- [19] Khattak A. et al. Patient Satisfaction—A comparison between public & Private Hospitals of Peshawar. *International Journal of Collaborative Research on Internal Medicine & Public Health*, 4(5):713–722, 2012.
- [20] Shabbir A., Malik S.A., Malik S.A. Measuring patients' healthcare service quality perceptions, satisfaction, and loyalty in public and private sector hospitals in Pakistan. *International Journal of Quality & Reliability Management*, 33(5):538–557, 2016.
- [21] Jawaid M. et al. Patients experiences and satisfaction from surgical out patient department of a tertiary care teaching hospital. *Age (years)*, 36(128):25–7, 2009.

- [22] Andrews R., Martin S. Regional variations in public service outcomes: the impact of policy divergence in England, Scotland and Wales. *Regional Studies*, 44(8):919–934, 2010.
- [23] Callen M. et al. Improving Public Health Delivery in Punjab, Pakistan Issues and Opportunities. *The Lahore Journal of Economics*, 2013.
- [24] Economic survey of Pakistan. *Ministry of Finance, Islamabad, Pakistan*, 2018.
- [25] Parasuraman A., Zeithaml V.A., Berry L.L. A conceptual model of service quality and its implications for future research. *The Journal of Marketing*, pages 41–50, 1985.
- [26] Parasuraman A., Zeithaml V.A., Berry L.L. Servqual: A multiple-item scale for measuring consumer perc. *Journal of retailing*, 64(1):12, 1988.
- [27] Statistics, B.o. Annual report. *Planning & Development Department Government of Khyber Pakhtunkhwa*, 1(5), 2016.
- [28] Bertram D. *Likert scales*. 2007.
- [29] Irfan S., Ijaz A., Farooq M. Patient satisfaction and service quality of public hospitals in Pakistan: an empirical assessment. *Middle-east journal of scientific research*, 12(6):870–877, 2012.
- [30] Pakistan. Bureau Of Statistics Planning & Development Department, Gov of Khyber Pakhtunkhwa. District wise socio economic indicators 2018. <https://kpbos.gov.pk/publicationbydate/2018>.
- [31] Meirovich G., Brender-Ilan Y., Meirovich A. Quality of hospital service: the impact of formalization and decentralization. *International Journal of Health Care Quality Assurance*, 20(3):240–252, 2007.
- [32] Ijaz A., Irfan S. Comparison of service quality between private and public hospitals: Empirical evidences from Pakistan. *Journal of Quality and Technology Management*, 7(1):1–22, 2011.
- [33] Baba I. Experiences in quality assurance at bawku hospital eye department, Ghana. *Community eye health*, 17(50):31, 2004.
- [34] Otani K., Kurz R.S., Barney S.M. The impact of nursing care and other healthcare attributes on hospitalized patient satisfaction and behavioral intentions. *Journal of Healthcare Management*, 49(3):181, 2004.
- [35] Huda S., Samani Z. Qidwai W. Perception about family physicians: results of a survey of patients visiting specialist clinics for treatment. *Journal of Pakistan Medical Association*, 54:589, 2004.
- [36] Chaka B. Adult patient satisfaction with nursing care. MPH thesis, Department of Community Health, Addis Ababa University, 2005.
- [37] Acar E., Behdioğlu S., Burhan HA. Evaluating service quality by fuzzy SERVQUAL: A case study in a physiotherapy and rehabilitation hospital. *Total Quality Management & Business Excellence*, 30(3-4):301–19, 2019.
- [38] Hussain M. et al. Inpatient satisfaction at different public sector hospitals of a metropolitan city in Pakistan: a comparative cross-sectional study. *Hospital Practice*, 46(2):88–96, 2018.
- [39] Galligioni E. et al. Oncologic Out-Patient Clinic in a General Hospital. *Tumori Journal*, 66(1):77–83, 1980.
- [40] Brédart, A. et al. A comprehensive assessment of satisfaction with care: preliminary psychometric analysis in an oncology institute in Italy. *Annals of oncology*, 10(7):839–846, 1999.
- [41] R. W. Cancer. How was it for you? *Health Serv J*, 15(110):28–29, 2000.
- [42] Owusu Kwateng K., Acheampong F.O., Lumor R. Service quality in public and private hospitals: A comparative study on patient satisfaction. *International Journal of Healthcare Management.*, 12(4):251–8, 2019.
- [43] K. P. Study on outpatient requirements on pharmacy service. *Mahidol J pharma Sci*, 21(2):58–67, 1994.
- [44] Basu S. Measuring client satisfaction, developing and implementing good client satisfaction measurement and monitoring practices content [Online]. Office of the comptroller general evaluation and audit branch.

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