FACTORS INFLUENCING PATIENT SATISFACTION WITH HEALTHCARE SERVICES OFFERED IN SELECTED PUBLIC-PRIVATE PARTNERSHIP HOSPITALS IN DISTRICT BAJAUR, PAKISTAN

Dr. Muhammad Sohail Jan[1], Dr. Gul Sartaj[2], Dr. Muhammad Zakriya[3]

[1]Country Director, Public Private Partnership Unit, TCP Health Pakistan

Email: sskhan088@gmail.com

[2]Provincial Surveillance Officer, Directorate General Health Services Khyber Pakhtunkhwa

Email: drmgsartaj1@gmail.com

[3]Chief Pharmacist, TCP Health Pakistan, Peshawar

Email: muhammadzakria.2006@gmail.com

Corresponding Author: Dr Muhammad Sohail Jan, Country Director, Public Private Partnership Unit, TCP Health Pakistan, Email: sskhan088@gmail.com

ABSTRACT

Patient satisfaction can recognize certain parts of development in public sector healthcare systems. However, the quality-of-service delivery and the healthcare system in Pakistan are rarely evaluated from the standpoint of patient satisfaction. Our study illustrated the effectiveness of healthcare systems operating under Public-Private Partnership of district Bajaur, in Malakand Division of Khyber Pakhtunkhwa (KP) province of Pakistan (A tribal area with poor socioeconomic status), through interactions with tangible and intangible financial problems, doctor-patient interaction, and medical care based on patient satisfaction. A random sampling technique was used to gather primary data from the patients. Visitors to the outpatient sections of public-private partnership hospitals were study participants. The gathered data from 401 respondents via an organized questionnaire were analyzed using the confirmatory factor and multiple regression methods. The findings showed that financial easiness and Doctor-patient interaction had a considerable beneficial impact on patient satisfaction ($p \leq 0.05$), but medical care ($p \geq 0.05$) had a negligible impact. As a result, it is stated that there is a serious communication gap between a doctor and

patient and that Pakistan's healthcare system lacks adequate financial support for the patients. As a result, these services require further development.

KEYWORDS: Patient satisfaction, Public Private Partnership hospitals, Medical care, financial burden, Doctor-patient interaction.

1. Introduction

The success of healthcare institutions is greatly influenced by satisfaction among patients, which is a crucial measure of the calibre of healthcare services. To improve the whole healthcare experience and improve health outcomes, healthcare administrators and policymakers must have a thorough understanding of the elements that affect patient satisfaction (Qtait, 2023). Due to limited consumer resources, developing countries are making every effort to guarantee their population access to basic healthcare (Tikkanen et al., 2020). While the outpatient department (OPD) role is extremely effective, public hospitals play a crucial role in providing health facilities or services for individuals who seek basic medical care (Wang et al., 2023). A world without access to basic healthcare would be one filled with anguish and misery. The world would only experience more agony and suffering if it had a basic healthcare system that was widely acknowledged as being of poor quality (Bryan, Carpenter, & Pawlik, 2023). Examining patient satisfaction with the services offered in public hospitals in District Bajaur, Khyber Pakhtunkhwa (KP), Pakistan. (34.41°N and 71.30°E) (previously in jurisdiction of FATA), a place with particular healthcare issues, is essential for maximizing the provision of healthcare.

Every person has a fundamental right to appropriate and accessible healthcare services. In order to ensure patient satisfaction, public hospitals in District Bajaur must be evaluated for their ability to satisfy the demands of the population as the demand for healthcare services increases (Cerchione et al., 2023). People are more likely to seek prompt medical attention when they have a great patient experience, which also develops trust and confidence in healthcare organizations, improving treatment adherence and health outcomes (Vela-Vallespín et al., 2023).

District Bajaur is located in Malakand Division of Khyber Pakhtunkhwa province in Pakistan, which is characterized by its diverse population and unique healthcare challenges. As one of the underserved regions in terms of healthcare infrastructure, the district faces obstacles related to inadequate resources, limited medical staff, and geographic remoteness, making the delivery of

quality healthcare services challenging. The few available public hospitals in the district are expected to cater to a significant patient load, making it imperative to investigate patient satisfaction levels to identify potential areas for improvement.

Public-Private Partnerships (PPPs) in healthcare encompass alliance between government entities ("public") and private organizations or entities ("private") to attain common benefits. In this context, "public" refers to initiatives or resources provided by the government, while "private" relates to activities managed by non-governmental entities. A PPP, thus, denotes a joint relationship where both sectors work together to deliver services, such as healthcare, more efficiently. In Khyber Pakhtunkhwa, Pakistan, the provincial assembly passed the PPP Act, formally recognizing this model as a practicable method to addressing healthcare challenges. Public hospitals in the region often face shortages of medical staffs, equipment, and resources, making it hard to provide adequate care. To address these gaps, the government has implemented a PPP model, outsourcing hospital operations to private entities through a competitive bidding process. Under this arrangement, the government outsources hospital facilities, including infrastructure and equipment, to a private partner including seconding services of the already deployed civil servants. In return, the private partner manages administration, staffing, logistics, and service delivery while ensuring the provision of quality healthcare to the community. The government monitors the private partner's performance using predefined key performance indicators (KPIs) and assessment tools. These PPP contracts typically span five years, with the prospect of renewal based on performance assessments. This innovative approach aims to augment healthcare delivery in underserved areas by leveraging the strengths of both public and private sectors.

Prior research on patient satisfaction tended to concentrate on metropolitan settings and larger healthcare institutions, ignoring the unique needs and experiences of patients in rural and underserved areas like District Bajaur. Additionally, regionally specific cultural, socioeconomic, and educational characteristics may have a distinct impact on patient satisfaction than factors found in other settings (Nembhard et al., 2023). Therefore, filling this knowledge gap and assisting in the creation of contextually appropriate solutions for improving healthcare services will be accomplished by conducting research to examine the determinants impacting patient satisfaction

in a few chosen public hospitals in District Bajaur. This study's main goal is to pinpoint and examine the critical variables that influence patients' satisfaction with healthcare in District Bajaur's public hospitals. It will provide the data to increase patient-centered healthcare practices and ultimately enhance the health and wellbeing of District Bajaur's citizens through a thorough review of the factors affecting patient satisfaction.

2. Methodology

2.1. Study Area

The study was conducted in three public-private partnership hospitals in the district of Bajaur in Khyber Pakhtunkhwa (KP), Pakistan, which is situated in the northwest of the country. The district shares a border with Afghanistan's Kunar Province in the northwest and is bordered in the northeast by Dir Lower District, Malakand District in the southeast, and Mohammad District in the southwest. (Wahid, Khan, & Khan, 2020).

2.2. Study design

A cross-sectional survey was conducted among a sample of patients who visited outpatient clinics, Diagnostics units, utilized the pharmacy, and were admitted to wards at particular hospitals. Researchers were able to determine the factors that affected patient satisfaction using this methodology, as well as measure the level of patient satisfaction with the care they received in these public hospitals (Safdar et al., 2016).

2.3. Study Population

The minimum sample size required to draw valid conclusions was calculated using a sample size calculator on the total capacity of all the hospitals. A confidence level of 95%, a width of confidence of 10%, and an expected value of an attribute of 50% for the estimated 1720 patients who satisfied the inclusion criteria resulted in a sample size of 401 responders (Grotzinger et al., 2023).

2.4. Data collection tool

A pre-tested, self-administered, semi-structured questionnaire that was constructed and altered from the writings of several writers was used to collect data from respondents (Hussain et al., 2019) (Javed & Ilyas, 2018) (Xie & Or, 2017). The questionnaire was divided into two sections: Section A examines the respondents' age and gender, and the level of satisfaction with the offered

outpatient services is evaluated by the delivery of services, including medical facilities, financial easiness, and doctor-patient communication.

2.5. Data Analysis

2.5.1. Management of Data

For cleaning, coding, and analysis, the retrieved data were exported from a Microsoft Excel spreadsheet to STATA version 14/SE (Desye et al., 2023).

2.5.2. Analysis and Management of Data

Patients were asked a series of binary questions to determine how satisfied they were with the various services they received from the healthcare facility. On a scale of 1 to 5, with 1 denoting a high level of unhappiness and 5 denoting a high level of satisfaction, they were then asked to rate the services they had gotten. In contrast to those who chose a score of 2 or lower, respondents who chose a score of 2.5 or higher were thought to be satisfied with the services in question. The questionnaire sample is a separate file that is attached to this essay. After that, any connections between demographic parameters and the level of satisfaction with the services received were looked into using the Chi-squared tests (Nyakutombwa et al., 2021).

3. RESULTS

The study had a 100% response rate resulting in the completion of 401 questionnaires.

3.1. Socio-demographic Characteristics of Respondents

Most of the respondents in both facilities were males (n=251; 62.6%). Most (46.6%) of respondents in both facilities were aged between 20 to 30 years. These findings are presented in Table 1.

Table 1. Demographic characteristics.

Characteristics	Frequency	%
Gender		
Male	251	62.6
Female	150	37.4
Age		
20 to 29	163	40.6
30 to 39	100	24.9

40 to 49	104	25.9
50 to 60	33	8.2

3.2. Statistical Analysis and Data Interpretation

With the help of SPSS and AMOS version 24.0, the data were examined. To evaluate the reliability of specific variables, a consistency analysis was done. The capacity of an instrument to deliver repeatable data is known as reliability (Gatewood, Feild, & Barrick, 2015). As an indicator of reliability, the Cronbach alpha coefficient has been frequently applied (Bernstein, 2010). The findings showed that all variables' reliabilities (α) exceeded the recommended threshold value of 0.70 (patient satisfaction was 0.87, Financial easiness were 0.901, physical services were 0.83, doctor-patient interaction was 0.97, and physical services were 0.92). Additionally, all of the factors were statistically significant and interconnected. A summary of the descriptive statistics, zero order correlations, and alpha coefficients can be found in Table 2.

Table 2. Pearson's correlations, Descriptive statistics, and reliability coefficients among different variables.

Variable	Mean	SE	1	2	3	4
Patient satisfaction	3.09	0.51	**(0.87)**			
Financial easiness	3.72	0.107	0.39 *	**(0.901)**		
Doctors-patients interaction	4.09	0.52	0.49 **	0.38 **	**(0.83)**	
Medical care	2.05	0.08	0.61 *	0.18 **	0.27 **	**(0.97)**

Notes 1: SE = Standard Error; Numbers in parenthesis are Cronbach's Alphas (α); ** Correlation is significant at the 0.01 level, * Correlation is significant at the 0.05 level (two-tailed).

In order to support further authenticity for the data and the model, internal consistency was also assessed by analyzing composite reliability, discriminant validity, and convergent validity for each factor (Table 3). The values of the average variance extracted (AVE) for each loaded construct ranged from 0.639 to 0.844, while the values of the composite reliability (CR) for each factor ranged from 0.928 to 0.965, above the cutoff requirement (CR > 0.7) (Hu & Bentler, 1999). Due to the fact that it was demonstrated to be higher than 0.50, a common threshold, this confirmed convergent validity (Fornell & Larcker, 1981). According to Shaffer, et al. (Shaffer, DeGeest, & Li, 2016), each square root of the AVE value should be bigger than all inter-factor correlations

when measuring discriminant validity. Every item employed in this research had level of significance as, $p < 0.05$.

Table 3. Composite reliability, convergent, and discriminant validity.

	CR	AVE	MSV	MAX (H)	PS	FE	DPI	MC
PS	0.965	0.753	0.230	0.976	**0.79**			
FE	0.934	0.639	0.230	0.939	0.52*	**0.82**		
DPI	0.928	0.685	0.202	0.935	0.54***	0.412**	**0.78**	
MC	0.964	0.844	0.148	0.984	0.307**	0.185**	0.47**	**0.841**

PS: Patient Satisfaction, FE: Financial easiness, DPI: Doctor–patient Interaction; MC: Medical care. CR: Composite Reliabilities, AVE: Average Variance Extracted, MSV: Maximum Shared Variance, MAX (H): Maximal Reliability; Significance level: *** $p < 0.001$: ** $p < 0.01$.

Based on the EFA (exploratory factor analysis) of the overall value of patient satisfaction, a confirmatory factor analysis test (CFA; Table 5), and the model fit statistics were applied on the data collected shown in the Table 4 and Table 5. The values of the SRMR, NFI, RMSEA, CFI, RFI, IFI, and TLI are represented in table 4. All of these measurements are greater or equal to the reported reference values (Hu & Bentler, 1999) (Marsh, Hau, & Wen, 2004) (Coughlan, Hooper, & Mullen, 2008) (McNeish, An, & Hancock, 2018).

Table 4. Model fit statistics.

Absolute Model Fit Indices	
Chi Square	951.14
DF	521
Chi Square/DF	1.82
SRMR	0.038
CFI	0.915
NFI	0.925
TLI	0.944
RFI	0.934
IFI	0.978
RMSEA	0.037

DF: degrees of freedom for the chi-square {df = (r-1)(c-1)} where r is the number of rows and c is the number of columns, SRMR: Standardized Root Mean Residual, CFI: Comparative Fit Index: NFI: Normed Fit Index, TLI: Tucker Lewis Index, RFI: Relative Fit Index, IFI: Incremental Fit Index, RMSEA: Root Mean Square Error of Approximation.

3.3. Confirmatory Factor Analysis (CFA)

The correlation between the observable variables and their underlying latent variables was supported by the confirmatory factor analysis (CFA). It was applied to evaluate how objects loaded into a specific factor. Table 5 lists the values of the factor loadings used in the confirmatory factor analysis. The statistical results of the confirmatory factor analysis all satisfied the requirements for a good match. The values of factor loadings demonstrated how strongly the factors related to the corresponding constructs. The maximum factor loading value is 1. In this model, factor loading values ranged from 0.964 to 0.674, with 0.964 being the highest value. The thorough evaluation of factor loadings enhances the confidence in the construct validity, substantiating the meaningfulness and accuracy of the findings derived from the survey instrument.

Table 5. Results of the confirmatory factor analysis.

Construct/Factors	Items	Factor Loadings	Cronbach Alpha
Patient satisfaction			0.974
	PS1	0.81	
	PS2	0.91	
	PS3	0.841	
	PS4	0.759	
	PS5	0.692	
	PS6	0.794	
	PS7	0.873	
	PS8	0.918	
	PS9	0.876	
	PS10	0.742	
	PS13	0.896	
Financial easiness			0.921

	FE1	0.847	
	FE 2	0.794	
	FE 3	0.814	
	FE 4	0.774	
	FE 5	0.715	
	FE 6	0.879	
	FE 7	0.775	
	FE 8	0.813	
	FE9	0.921	
Doctor–patient Interaction			0.936
	DPI1	0.914	
	DPI2	0.897	
	DPI3	0.793	
	DPI4	0.986	
	DPI5	0.721	
	DPI6	0.769	
	DPI7	0.871	
	DPI8	0.914	
	DPI9	0.691	
	DPI10	0.964	
	DPI11	0.837	
	DPI12	0.789	
	DPI13	0.824	
	DPI14	0.742	
Medical care			0.937
	MC1	0.954	
	MC2	0.961	
	MC3	0.891	
	MC4	0.924	

MC5	0.937
MC6	0.792
MC7	0.854
MC8	0.792
MC9	0.931
MC10	0.891
MC11	0.851
MC12	0.674
MC13	0.936
MC14	0.892
MC15	0.954

3.4.Multiple Regression Analysis

Table 6 displays the results of the multiple regression analysis used to identify all factors of overall patient satisfaction in the selected public sector hospitals of Bajaur, Pakistan. The findings showed that the independent variables, which included financial easiness, Doctor–patient Interaction, and Medical care, explained 38.4% (Adjusted $R2$ = 0.347, F = 47.14, and $p \leq 0.05$) of the variance in the outcome variable (patient satisfaction).

Table 6. Multiple regression models (dependent variable: Patient satisfaction).

	β Coefficients		95.0% Confidence Interval for β			Collinearity Statistics	
	B	**T**	**Sig.**	**Lower Bound**	**Upper Bound**	**Tolerance**	**VIF**
Constant		8.551	0.001	0.913	1.928		
FE	0.259	7.345	0.004	0.362	0.314	0.734	1.318
DPI	0.298	7.824	0.001	0.241	0.294	0.905	1.218
MC	0.086	1.621	0.109	−0.031	0.098	0.942	1.574
Model summary R=0.498, R^2=0.347, F = 47.14, $p \leq 0.05$, Durbin-Watson (DW) = 1.97							

PS: Patient Satisfaction, FE: Financial easiness, DPI: Doctor–patient Interaction; MC: Medical care.

The range of tolerance values used to test for multi-collinearity was between 0.734 and 0.942 (a value closer to zero indicates a collinearity problem), while the range of the variance inflation factor (VIF) was between 1.218 and 1.574 (a value greater than three indicates a problem with collinearity). This demonstrated that multi-collinearity was not present in the data. Two out of 3 variables were significant and positively impacted patient satisfaction, as evidenced by the values in Table 6, whereas the values of the MC variable were not significant. Additionally, Financial easiness (β= 0.259; t = 7345 and p$\leq$0.05) revealed that patient satisfaction increased by 0.214 units per unit. It was found also that one unit increase in DPI led to a 0.239-unit improvement in patient satisfaction (β= 0.298, t = 7.824, and p$\leq$0.05). MC was not statistically significant in this study (β=0.086, t=1.621, and p>0.05, respectively). DPI was the most significant and effective predictor.

4. Discussion

The purpose of the current study was to evaluate patient satisfaction with various service delivery components in order to evaluate the effectiveness of public private partnership healthcare systems in the district Bajaur, KPK, Pakistan. In the context of healthcare system of a developed country like Pakistan, the research focused on the scarcity of patient satisfaction evaluations and identified particular areas for improvement that could raise the general standard of service in public hospitals. The study's conclusions, which were drawn from primary data gathered using a random sample technique with a developed questionnaire, showed that financial easiness and Doctor-patient Interaction had a considerable impact on patient satisfaction. This finding implies that patients place a high value on the services rendered by these divisions, underscoring the significance of ensuring efficient and successful operations in these areas. It's just as vital for a doctor to communicate with a patient effectively as it is to provide information (Kumpf, Neumann, & Kakani, 2023). The beneficial association between financial easiness and Doctor-patient Interaction and patient satisfaction is consistent with the pivotal roles these divisions play in patient diagnosis, treatment, and overall healthcare experience. Even when many doctors regarded the communication as good or even exceptional, studies have shown that patients can still be dissatisfied (Tongue, Epps, & Forese, 2005). According to Tongue et al. (Tongue, Epps, & Forese, 2005) only 21% of patients said they had satisfactory communication with their doctors, despite a large national survey by the American Academy of Orthopaedics Surgeons (AAOS) that included

807 patients and 700 orthopedic surgeons finding that 75% of orthopedic surgeons believed they communicated with their patients satisfactorily. Patients' worry and terror, doctors' workload, their fear of litigation, their fear of verbal or physical abuse, as well as other factors, are some of the obstacles to effective communication. According to a review of the literature on doctor-patient communication by Ha et al. medical officers' communication abilities tend to decline over time, hence ongoing training in this area is necessary. The expectation of collaborative decision making has increased recently. In order to accomplish the set objectives and improve quality of life, doctors and patients work together (Ha & Longnecker, 2010).

Chino et al. concluded that financial burden was a potentially modifiable correlate of low satisfaction with cancer care, in terms of both general and technical quality of care satisfaction. Addressing cancer-related FB may increase satisfaction, which in turn may have an impact on adherence, results, and quality of life (Chino et al., 2014).

By assessing patient satisfaction with reference to financial simplicity, doctor-patient interaction, and medical care, the current study closes the existing gap in the literature. In Pakistan, the quality of medical care did not significantly affect patient satisfaction. According to earlier research (Sekandi et al., 2023) (Ferreira et al., 2023) where physical facilities and medical care did not significantly affect patient happiness, the medical services in OPD had a very minor impact on satisfaction.

5. Conclusion

This study offers treasured understandings into the factors influencing patient satisfaction in PPP hospitals in District Bajaur, KPK, Pakistan. The findings highlight the critical roles of financial accessibility and doctor-patient communication in shaping patient satisfaction, while the quality of medical care had a nominal impact. These results emphasize the necessity for a comprehensive approach to healthcare delivery that addresses both financial and interpersonal parts of care.

The study contributes to the increasing body of literature on patient satisfaction in low-resource settings and offers practical recommendations for improving healthcare services in similar contexts. This advocates that healthcare developments should not be barely focused on clinical progressions alone but should also ponder socioeconomic and communicative parts of health

service delivery. Strengthening affordability and enhancing communication approaches may be more effective in enlightening patient perceptions and overall satisfaction with healthcare services.

6. Policy Recommendations

Based on the study's results, the following policy recommendations are suggested to improve patient satisfaction and healthcare delivery in District Bajaur and similar regions:

1. **Increase Financial Accessibility:**

- Introduce subsidies or connect the health facility to insurance schemes to lessen out-of-pocket expenses for patients.
- Provide financial support for low-income families to ensure reasonable access to healthcare services.

2. **Improve Doctor-Patient Communication:**

- Implement regular training programs for healthcare providers to improve their communication and interpersonal skills.
- Encourage a patient-centered care approach that underscores compassion, active listening, and shared decision-making.

3. **Strengthen Healthcare Infrastructure:**

- To focus in upgrading hospital facilities, including the availability of clean drinking water, horticultures, sanitation, and waiting areas.
- Ensure suitable staffing levels to reduce patient wait times and progress service delivery.

4. **Monitor and Evaluate PPP Performance:**

- Govt may ensure robust monitoring and evaluation frameworks to evaluate the performance of private partners in PPP hospitals. Government can publish such reports for the general understanding of the community and satisfaction.
- Use key performance indicators (KPIs) to ensure that private partners meet agreed-upon standards of care.

5. **Promote Community Engagement:**

- Include local communities in healthcare planning and decision-making to ensure that services meet their needs and expectations.

- Conduct regular patient satisfaction surveys to gather feedback and identify areas for improvement by integrating patient feedback into healthcare planning.

6. **Use of Technology:**

- Digitize hospital clinical and non-clinical services and records to reduce delays and improve efficiency.

7. **Address Cultural and Social Barriers:**

- Modify healthcare services to the cultural and social context of the region to advance patient trust and satisfaction.

- Guide communities about the importance of seeking timely medical care and following to treatment plans.

7. References:

Bernstein, I. H. (2010). *Psychometric theory*. Tata McGraw-hill education.

Bryan, C. J., Carpenter, K. M., & Pawlik, T. M. (2023). Evidence-based strategies to reduce suicide mortality among patients with cancer. *JAMA oncology*, *9*(3), 303-304.

Cerchione, R., Centobelli, P., Riccio, E., Abbate, S., & Oropallo, E. (2023). Blockchain's coming to hospital to digitalize healthcare services: Designing a distributed electronic health record ecosystem. *Technovation*, *120*, 102480.

Chino, F., Peppercorn, J., Taylor Jr, D. H., Lu, Y., Samsa, G., Abernethy, A. P., & Zafar, S. Y. (2014). Self-reported financial burden and satisfaction with care among patients with cancer. *The Oncologist*, *19*(4), 414-420.

Coughlan, J., Hooper, D., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. Advance online publication. In.

Desye, B., Tesfaye, A. H., Berihun, G., Sisay, T., Daba, C., & Berhanu, L. (2023). Household water treatment practice and associated factors in Ethiopia: A systematic review and meta-analysis. *Plos one*, *18*(6), e0285794.

Ferreira, D. C., Vieira, I., Pedro, M. I., Caldas, P., & Varela, M. (2023). Patient Satisfaction with Healthcare Services and the Techniques Used for its Assessment: A Systematic Literature Review and a Bibliometric Analysis. Healthcare,

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. In: Sage Publications Sage CA: Los Angeles, CA.

Gatewood, R., Feild, H., & Barrick, M. (2015). Human resource selection: Nelson Education. *Human Resources*, *7*.

Grotzinger, A. D., de la Fuente, J., Privé, F., Nivard, M. G., & Tucker-Drob, E. M. (2023). Pervasive downward bias in estimates of liability-scale heritability in genome-wide association study meta-analysis: a simple solution. *Biological psychiatry*, *93*(1), 29-36.

Ha, J. F., & Longnecker, N. (2010). Doctor-patient communication: a review. *Ochsner Journal*, *10*(1), 38-43.

Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*(1), 1-55.

Hussain, A., Sial, M. S., Usman, S. M., Hwang, J., Jiang, Y., & Shafiq, A. (2019). What factors affect patient satisfaction in public sector hospitals: Evidence from an emerging economy. *International journal of environmental research and public health*, *16*(6), 994.

Javed, S. A., & Ilyas, F. (2018). Service quality and satisfaction in healthcare sector of Pakistan—the patients' expectations. *International journal of health care quality assurance*, *31*(6), 489-501.

Kumpf, V. J., Neumann, M. L., & Kakani, S. R. (2023). Advocating for a patient-and family centered care approach to management of short bowel syndrome. *Nutrition in Clinical Practice*, *38*, S35-S45.

Marsh, H. W., Hau, K.-T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural equation modeling*, *11*(3), 320-341.

McNeish, D., An, J., & Hancock, G. R. (2018). The thorny relation between measurement quality and fit index cutoffs in latent variable models. *Journal of personality assessment*, *100*(1), 43-52.

Nembhard, I. M., David, G., Ezzeddine, I., Betts, D., & Radin, J. (2023). A systematic review of research on empathy in health care. *Health Services Research*, *58*(2), 250-263.

Nyakutombwa, C. P., Nunu, W. N., Mudonhi, N., & Sibanda, N. (2021). Factors influencing patient satisfaction with healthcare services offered in selected public hospitals in Bulawayo, Zimbabwe. *The Open Public Health Journal*, *14*(1).

Qtait, M. (2023). Head Nurses' Leadership Styles and Nurses' Performance systematic review. *International Journal of Africa Nursing Sciences*, 100564.

Safdar, N., Abbo, L. M., Knobloch, M. J., & Seo, S. K. (2016). Research methods in healthcare epidemiology: survey and qualitative research. *Infection control & hospital epidemiology*, *37*(11), 1272-1277.

Sekandi, J. N., Castellanos, M. E., Woldu, H., Kakaire, R., Mutembo, S., & Mutanga, J. N. (2023). Patient satisfaction among persons living with HIV/AIDS and receiving antiretroviral therapy in urban Uganda: A factor analysis. *Plos one*, *18*(2), e0280732.

Shaffer, J. A., DeGeest, D., & Li, A. (2016). Tackling the problem of construct proliferation: A guide to assessing the discriminant validity of conceptually related constructs. *Organizational Research Methods*, *19*(1), 80-110.

Tikkanen, R., Osborn, R., Mossialos, E., Djordjevic, A., & Wharton, G. (2020). International profiles of health care systems. *The Commonwealth Fund*.

Tongue, J. R., Epps, H. R., & Forese, L. L. (2005). Communication skills for patient-centered care: research-based, easily learned techniques for medical interviews that benefit orthopaedic surgeons and their patients. *JBJS*, *87*(3), 652-658.

Vela-Vallespín, C., Medina-Perucha, L., Jacques-Aviñó, C., Codern-Bové, N., Harris, M., Borras, J. M., & Marzo-Castillejo, M. (2023). Women's experiences along the ovarian cancer diagnostic pathway in Catalonia: A qualitative study. *Health Expectations*, *26*(1), 476-487.

Wahid, S., Khan, K., & Khan, N. H. (2020). Sand fly (Diptera: psychodidae) species diversity, habitat preferences, and ecological aspects of distribution in Bajaur District, Khyber Pakhtunkhwa, Pakistan. *Journal of Medical Entomology*, *57*(5), 1432-1439.

Wang, Z., Zhang, X., Han, D., Zhao, Y., Ma, L., & Hao, F. (2023). How the use of an online healthcare community affects the doctor-patient relationship: An empirical study in China. *Frontiers in Public Health*, *11*, 1145749.

Xie, Z., & Or, C. (2017). Associations between waiting times, service times, and patient satisfaction in an endocrinology outpatient department: a time study and questionnaire survey. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, *54*, 0046958017739527.