


Patients' Perceptions of Healthcare Quality at Hospitals Measured by the Revised Humane Caring Scale

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Abstract

The patients' perceptions are central to quality improvement of the healthcare system worldwide. This study aimed to examine patients' perceptions of quality care and investigate the demographic factors related to the overall patients' perceptions. The Revised Humane Caring Scale was distributed to 367 adult patients who were admitted at medical, surgical, and obstetrics and gynecology departments in 2 tertiary hospitals in Oman. Overall patients' perceptions of quality of care were high, with professionalism being rated the highest, and cognition of physical needs and human resources rated the lowest. Significant differences in patients' perceptions between hospitals as well as in the subscales of interdisciplinary collaboration and outcome variables, between planned- and emergency-admitted patients were found. The linear regression analysis indicated a relationship between gender and overall quality care where male patients reported higher satisfaction compared to counterparts. This study suggested the need to improve the cognition of physical needs (food quality and environmental sanitation) and human resources (staff to patient ratio) as well as pay attention to the individual patients' needs especially for emergency-admitted patients.

Keywords

healthcare, hospital, patients' perceptions, quality care, satisfaction.

Introduction

Quality care continues to be a prominent "true north" indicator of the healthcare system. The quality of the healthcare system is a lumping parameter that reflects patient safety and satisfaction, service delivery efficiency, cost competitiveness, and aspects of sustainability (1). Therefore, measurement of quality care is an important practice in the healthcare system to ensure the continuous improvement of the parameters mentioned above and maintain agility and responsiveness of the system according to the patients' requirements (2).

The quality of the healthcare system can be measured, for example, through: (a) the perceptions and satisfaction of patients, (b) the views of healthcare delivery professionals, or (c) a combination of the two (3). The demand for greater patient-centric and volume-to-value delivery models makes the measurement of patient perceptions and experiences imperative despite underpinning complexities and multidimensionalities (4). The patients' viewpoint can provide important insights on the extent to which the healthcare system is sensitive and responsive to their expectations and requirements. In other words, when patients receive tailored

personalized and holistic care, they not only tend to be satisfied with delivery efficiency and hospital services but also exhibit greater confidence and willingness to follow the agreed treatment plan and course of action (5,6).

Background

Quality care is a practice that ensures desired healthcare outcomes which are in line with professional knowledge and standards (7,8). Furthermore, quality care is a function of delivery structure, processes, and outcomes. The delivery structure encompasses healthcare practice environment, staffing, and management, while the processes include healthcare

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activities, patient acuity, and patient care needs. The outcomes constitute patient satisfaction with healthcare (9).

Patients' perceptions can provide essential and holistic information on the overall quality of care (4,10). Such perceptions include personal experiences with healthcare professionals, the setup and facilities, communication level and responsiveness, and care management processes. These perspectives could provide important insights into: (a) the level of quality care as a function of their overall satisfaction, readiness to access the health facilities in the future, adherence to provider's instruction, (b) the requirements for international accreditation and monitoring programs for hospital services, and (c) the financial performance and profitability of healthcare institutions (11). There exists a number of instruments that measure patients' perceptions such as the Revised Humane Caring Scale (RHCS) (12–14), SERVQUAL (15,16), the Quality of Care from the Patients' Perspective (QPP) (17,18), and the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) (19,20).

The Report of Quality and Patient Safety (RQPS) summarizes the key milestones of the Ministry of Health (MOH) in developing quality care in Oman (21). The RQPS, a part of Oman's Health Vision 2050, states that the MOH started conducting quality care surveys on HCPs and patients in 2000, developed the Quality Assurance Strategy in 2005, established the Department of Quality and Patient Safety in regional hospitals in 2007, and created the Directorate General of the Quality Assurance Centre in 2014. These efforts have increased the number of primary health centers implementing the quality system in Oman from 64 in 2005 to 165 in 2012. Over the same period, the number of regional hospitals applying the system increased from 0 to 10, and the number of certified national auditors increased from 240 to more than 800. In 2015, the results of a patients' satisfaction survey conducted in a tertiary hospital in Oman showed that approximately 90% of the patients agreed that doctors and nurses explained the required procedures to them before starting, listened carefully to their concerns, and that the nurses were cheerful and courteous (21).

The MOH, nevertheless, recognizes that quality care is a dynamic vector that requires continuous monitoring and diligence because of the rising expectations of patients, accelerated developments of technology and procedures, and changing socioeconomic structures. Therefore, the delivery of quality care may be regarded as 1 of the 6 building blocks of health system research, as part of Oman's Health Vision 2050 (service delivery, information support, leadership and governance, health workforce, financing, and health technology) (21,22). This study aims to provide crucial insights to improving quality care from patients' perspectives (21).

Study Context

This study was conducted in 2 tertiary hospitals (named hospital "A" and "B") in Oman. Hospital "A" is a tertiary level

hospital, which is specialized in medical, surgical, pediatrics, obstetrics and gynecology (OBG), oncology, and laboratory medicine. The bed capacity is 739, bed occupancy being 77.8%, and mean length of stay is 3.9 days (23). Hospital "B" is a tertiary surgical hospital, providing specialized health care, ranging from accident and emergency medicine to extension to the specialties of general surgery, OBG, intensive care, internal medicine and day care, and support of auxiliary medical services. The bed capacity is 539 and bed occupancy 63.7%, and the mean length of stay is 5.6 days (23).

Aims

The aim of the study was to examine patients' perceptions of the quality of hospital care in Oman and investigate the demographic factors related to the overall patients' perceptions.

Methods

Design

A cross-sectional design was employed.

Participants

The study was carried out in 2 tertiary hospitals (Hospital "A" and Hospital "B") in Oman. The inclusion criteria for participation in the study was adult patients who were: (a) hospitalized for a minimum of 2 days or planned for discharge at least 2 days hospital care, (b) admitted in general departments (medicine, surgery, OBG), and (c) able to read and understand Arabic or English. The exclusion criteria were as follows: (a) patients with psychosocial or intellectual disability and (b) patients hospitalized in the intensive care unit. The needed sample size was estimated by a power analysis, which indicated that at least 313 respondents were required for hospital "A" and 158 for hospital "B" where effect size ($d=0.5$), $\alpha=.05$ and N is the number of 6155 (4094 from hospital "A" and 2061 from hospital "B") discharged patients in 1 month at 2 hospitals (23). In this study, 400 responses were collected from hospital "A" and 200 from hospital "B".

Study Instrument

The Revised Human Caring Scale (RHCS) was used for data collection, after seeking permission from its developers. RHCS is a revised version of the Humane Caring Scale, which was developed in the late 1990s by Kuopio University Hospital in Finland (24). It was continuously revised by researchers to reliably measure quality care from patients' perspectives (12–14). Previous studies indicate that the RHCS is a valid and reliable scale estimated by

Cronbach's alphas values from .775 to .946 for the whole scale (12) and greater than 0.70 in all subscales (13).

In this study, the authors have requested the support of specialized translators to translate RHCS from English to Arabic and back to English (25). Both versions (English and Arabic) were made available during the pilot round, and participants could respond to whichever version was suitable. The pilot was carried out on a convenient sample of 30 patients at a tertiary hospital in Oman, with Cronbach's alpha coefficient value ranging from 0.715 to 0.945 for the 7 subscales. This value was considered acceptable and has a good level of internal consistency in healthcare research projects (26). Based on the pilot, 2 more items "I was given good quality of food" and "The hospital sanitation was clean" were suggested to be added by the participants. The authors reviewed these items and included them under the "Cognition of Physical Needs" subscale.

The RHCS consists of 2 parts. The first part in this study includes information regarding the participants' demographic factors, including age, ethnicity, gender, living, education, occupational status, admission area, hospital admission reason, and number of days at hospital. The second part contains 7 subscales with 48 items, including 2 additional items for this study, to assess the participants' perceptions of the quality of services at hospitals as follows: professional practice (17 items such as "I felt welcomed into the hospital"), information and participation in own care (11 items such as "I received enough information about my illness"), cognition of physical needs (6 items such as "I was able to maintain and/or improve my mobility"), human resources (3 items such as "There were enough members of staff"), pain and apprehension (4 items such as "My fears were alleviated"), interdisciplinary collaboration (3 items such as "There was good collaboration between members of staff"), and outcome variables (4 items such as "I am satisfied with the outcome of my care"). A 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5) was used in the second part of the questionnaire. In this study, the total Cronbach's alpha coefficient for the RHCS was .902 and ranged from .750 to .951 for the 7 subscales.

Procedures

The RHCS was distributed to all eligible adult patients admitted at general departments (medical, surgical, OBG) in hospitals "A" and "B" over a period of 1-month from December, 2018 to January, 2019. The questionnaires were printed in both versions (Arabic and English) and handed over to research assistants in both hospitals. The questionnaires were distributed along with a fact sheet, and participants were required to read the fact sheet and fill either the Arabic or English version of questionnaires. The completed questionnaire was inserted into boxes allocated in each unit. Participants had the right to withdraw from the study at any time.

Data Analysis

Data were presented using descriptive statistics, including frequencies, percentage, mean values, and standard deviation. Statistical mean scores were used to measure the patients' perceptions of quality care. A mean score of 1 was the lowest in terms of care perception, while a mean score of 5 was considered the highest. Mean scores were calculated by summing the participants' answers to all items in a related subscale, and dividing the total score by the instrument's number of items, per subscale. Based on a previous study (12) where RHCS was used, a mean value of 4 or more was defined to indicate "excellent" patient satisfaction and quality care. It can also be considered to meet Magnet standards (27).

The overall patients' perceptions variable was a computed variable of 7 subscales with 48 items. One-way analysis of variance (ANOVA) and *t*-test were conducted to test the relationship between demographic characteristics and patients' perceptions of quality care in healthcare settings. In the multiple linear regression, the Beta values and confidence intervals (95%) were calculated if the ANOVA was significant. Statistical significance was set at $*P < .05$, $**P < .01$, and $***P < .001$. Age was recorded into 2 groups: ≤ 40 years and > 40 years. The education variable was recorded either as post-secondary school education (including university degree and diploma degree), or as a basic level of education (including secondary school degree and no degree). The occupational status variable was recorded as 1 of 3 groups: unemployed (including students and housewives), employed (including personal business owners), and retirees. Days spent at the hospital were categorized as ≤ 5 days and > 5 days. The data were processed using the SPSS version 27.0.

Results

Patients' Demographic Characteristics

The overall response rate was 61.2% (367 of 600 overall targets). Table 1 displays the demographic characteristics of patients.

Patients' Perceptions of Quality Care

Table 2 presents the mean scores of all 7 subscales of quality care, revealing that they were above the target level (≥ 4.0) in both hospitals. Overall, patients' perceptions of quality care were rated excellent ($M = 4.11$). Among the 7 subscales, professional practice had the highest score ($M = 4.24$), followed by interdisciplinary collaboration ($M = 4.17$) in both hospitals. The awareness of physical needs and human resources subscales scored close to the target level (mean of 4.04), but indicated excellent satisfaction levels with the quality of food, environment sanitation, and the number of staff. Table 2 shows the average mean, standard deviations, and Cronbach's alpha of all variables from the lightest to the lowest.

Table 1. Patients' Demographic Characteristics (N = 367).

Variable		Total	
		N	%
Hospital	"A"	218	59.4
	"B"	149	40.6
Age in (years)	<= 40	214	64.1
	> 40	120	35.9
Ethnicity	Omani	332	93.0
	Non-Omani	25	7.0
Gender	Male	149	41.5
	Female	210	58.5
Living	Alone	39	11.3
	With family	305	88.7
Education	Post-secondary school education	140	40.0
	Basic level of education	210	60.0
Occupational status	Un-employed	154	43.9
	Employed	159	45.3
	Retiree	38	10.8
Admission area	Medical	117	34.7
	Surgical	156	46.3
	Obstetrics and gynecology	64	19.0
Hospital admission	Planned	132	37.7
	An emergency	218	62.3
Admission reason	Examination	47	13.3
	Treatment	306	86.7
Length of stay in (days)	<= 5	192	67.6
	>5	92	32.4

N, number of respondents.

Relationship Between Demographic Characteristics and Subscales

Table 3 shows that patients' perceptions of quality of care at hospital "A" ($M=4.11$; $SD=0.554$) and "B" ($M=4.11$; $SD=0.367$) were high, but with significant differences ($P<.001$). Generally, significant differences were found to be related to patient admission either by planned or as emergency within the subscales interdisciplinary collaboration and outcome variables. Planned-admitted patients ($M=$

Table 2. Patients' Perception of Quality Care.

Subscale	Total		Cronbach's alpha
	M	SD	
Professional practice	4.24	0.535	0.951
Interdisciplinary collaboration	4.17	0.612	0.809
Pain and apprehension	4.12	0.643	0.818
Outcome variables	4.09	0.639	0.912
Information and participation in own care	4.06	0.518	0.906
Cognition of physical needs	4.04	0.663	0.856
Human resources	4.04	0.668	0.750
Overall quality	4.11	0.486	0.902

M, mean; SD, standard deviation.

Note: score 1-5; 1, lowest; 5, highest.

4.23; $P<.05$; $M=4.15$; $P<.05$) were more satisfied with interdisciplinary collaboration and outcomes of care than emergency-admitted patients ($M=4.14$; $M=4.08$), respectively.

Demographic Characteristics Contributing to the Overall Quality Care

Linear regression analysis was performed to examine which demographic variables contributed to overall quality care. The combined demographic characteristics explained only 3% of the variance in the overall quality care score ($R^2=0.031$) (see Table 4). This analysis demonstrated the relationship between gender and quality care. The standardized regression coefficients were significantly higher in male patients than female patients ($\beta=-0.128$; $P<.05$).

Discussion

The study showed that the overall patients' perception of quality care was excellent. In general, patients showed higher satisfaction when healthcare providers paid attention to their individual needs, treated them with kindness, and when patients felt that they participated in their own care. Patient satisfaction is one of the nursing sensitive indicators for the quality of nursing care (28). This result was supported by different studies reported positive and high patient satisfaction due to elevated healthcare provider factors (staff and organization), effective physician's consultations and associated services, efficient admission process, professional nurse-physician relation and nursing administration (11,29-31). Other studies conducted in Singapore (32), Jordan (33), southwestern Nigeria (34), and Ethiopia (4) nevertheless reported, respectively, moderate to low patient satisfaction towards quality of care and hospital services mainly because of nursing and physical care, communication, participation on their care, education and work environment.

Overall, patients were highly satisfied with the professional practice of healthcare providers. This result was similar with other study, which employed the same scale and reported that professional practice had the highest score ($M=4.49$) (12). Even though cognition of physical needs and human resources scored lower compared to the other subscales in this study, it had a higher level of satisfaction, indicating the influence of healthcare professionals' staffing levels on patient satisfaction (35).

Our study found significant differences in interdisciplinary collaboration and outcome variables between planned- and emergency-admitted patients; planned-admitted patients rated patient safety higher than emergency-admitted patients. This result was supported by other studies which found that the perception of patients admitted through the emergency department (ED) on all aspects of care was poorer than that of patients admitted as elective cases (34,36-38). The patient's positive perception care at the ED can be influenced

Table 3. Relationship Between Demographic Characteristics and Subscales of RHCS (N = 367).

Demographic characteristics	Professional practice M	Information and participation on own care M	Cognition of physical needs M	Human resources M	Pain and apprehension M	Interdisciplinary collaboration M	Outcomes variables M	Overall M
Hospital "A"	4.23**	4.07***	4.07	4.04**	4.09**	4.17*	4.08*	4.11***
Hospital "B"	4.25	4.04	4.00	4.05	4.13	4.16	4.13	4.11
Age in (years)								
<= 40	4.21	4.04	3.99	4.01	4.03	4.16	4.07	4.07
>40	4.29	4.08	4.13	4.07	4.21	4.18	4.15	4.16
Gender								
Female	4.34	4.08	4.14	4.12	4.15	4.26	4.15	4.18
Male	4.18	4.04	3.97	3.99	4.08	4.12	4.07	4.06
Ethnicity								
Omani	4.23	4.05	4.03	4.04	4.11	4.16	4.09	4.10
Non-Omani	4.29	4.12	4.02	3.99	4.07	4.24	4.16	4.13
Living								
Alone	4.24	4.05	4.04	3.98	4.02	4.17	4.22	4.11
With family	4.25	4.06	4.05	4.06	4.13	4.17	4.09	4.12
Education								
Post-secondary school education	4.22	4.04	4.00	4.03	4.04	4.13	4.04	4.07
Basic level of education	4.27	4.07	4.08	4.06	4.16	4.19	4.13	4.14
Occupational status								
Un-employed	4.22	4.06	4.01	4.03	4.13	4.15	4.11	4.10
Employed	4.26	4.04	4.08	4.08	4.08	4.19	4.09	4.11
Retiree	4.34	4.23	4.13	4.01	4.22	4.21	4.14	4.18
Admission area								
Medical	4.18	4.04	4.07	3.97	4.03	4.14	4.04	4.07
Surgical	4.29	4.07	4.03	4.11	4.18	4.19	4.10	4.14
Obstetrics and gynecology	4.24	4.04	4.01	4.02	4.14	4.13	4.19	4.11
Hospital admission								
Planned	4.34	4.14	4.09	4.15	4.15	4.23	4.15*	4.18
An emergency	4.20	4.03	4.03	4.01	4.11	4.14	4.08	4.09
Admission reason								
Examination	4.23	4.09	4.02	4.19	4.14	4.26	4.08	4.15
Treatment	4.26	4.06	4.04	4.03	4.11	4.16	4.10	4.11
Length of stay in (days)								
<= 5	4.28	4.02	3.99	4.07	4.08	4.15	4.09	4.09
> 5	4.22	4.12	4.16	3.99	4.10	4.18	4.07	4.12

M, mean; * P value significant <.05; ** P value significant <.01; *** P value significant <.001.

by patients' educational level, waiting time (34), information given on examination and treatment, receiving effective pain relief, and opportunity to participate in decisions related to their care (36). Healthcare leaders and decision makers can improve the work model though improve the triage workflow, revise the staff working routine and involve patients in decision making as well as they can improve the patients' experience at ED though receiving continuous patients' feedback to identify the gap and focus on it (4,34,36).

The findings of this study indicate that male patients were more satisfied with care received than female patients. This

result was similar with previous studies (39,40), who found that male patients are somewhat more satisfied with care than female patients, who tend to focus more on sanitation and care. In other study, no relationship between gender and patient satisfaction levels was found (41). Furthermore, this result was not in line with a study conducted by Abbasi-Moghaddam et al. (11), which revealed that female patients rated the highest quality score. Healthcare leaders suggest that quality of care can be upgraded through hospital hygiene and following infection prevention protocol, which increase patients' satisfaction and care seeking behaviors (42).

Table 4. Linear Regression Analysis Assessing Whether Demographic Characteristics Contributing to the Overall Quality Care (N = 367).

Dependent variable: Patient perception			
Independent variable	β	95% CI	
Age in (years): > 40 (ref: \leq 40)	0.046	-0.529	1.190
Ethnicity: Non-Omani (ref: Omani)	0.006	-1.362	1.537
Gender: female (ref: male)	-0.128*	-1.737	-0.012
Living: living with family (ref: alone)	0.033	-0.688	1.288
Education: basic level of education (ref: post-secondary school education)	0.045	-0.472	1.088
Occupational status			
Employed (ref: un-employed)	-0.013	-0.949	0.769
Retiree	-0.005	-1.421	1.309
Working area			
Surgical (ref: medical)	0.077	-0.322	1.374
Obstetrics and gynecology	0.106	-0.198	2.075
Hospital admission: An emergency (ref: planned)	-0.053	-1.105	0.381
Admission reason: Treatment (ref: examination)	-0.022	-1.169	0.762
Length of stay in (days): > 5 (ref: \leq 5)	0.032	-0.621	1.123
F	0.917		
R ²	0.031		
Adjusted R ²	-0.003		

β , standardized regression coefficient; *P value significant $<$.05.

Limitations

Quality care is a broad concept that may be influenced by different characteristics, however, in this study a valid and reliable questionnaire was used for data collection. In addition to quantitative studies, qualitative studies should be carried out to gain a deeper understanding of quality care concept and related environmental and internal organizational factors. Researchers have suggested providing more insight into interviews and focus group discussions with patients and healthcare providers to assess the quality of services. Additionally, this study was conducted only in 2 tertiary hospitals, which may affect the generalizability of results even in Oman.

Conclusion

Based on patients' perceptions, the level of quality care was high, indicating competent healthcare delivery professionals and patient satisfaction. Healthcare leaders need to advance and improve patients' perception of quality of food being served through standing on personalized order and perceiving a variation in meal to become fancier. In addition, they need to consider the hospital cleanliness by adhering to infection prevention protocols and giving awareness about benefit the cleanliness. Furthermore, human resources are important factor to upgrade the quality care services. In this regard,

healthcare leaders can either recruit new qualified staff if possible or increase staff retention and reduce turnover. In addition, nurses and physicians should highlight the importance of care, especially for emergency-admitted patients, and pay more attention to patients' needs and participation in their care. This study demonstrated the relationship between gender and the overall quality care as male patients were found to be more satisfied with quality care than counterpart did. The present study has provided insightful perspectives on the healthcare delivery outcomes. These perspectives pave way for improvements in the work schedule routine and involvements patients in decision making about their care to upgrade the quality of services. Continuous measurement of quality care shall identify the existing gaps in practice and research to demonstrate the requirement to improve the healthcare services and maintain sustainability. A future study drawing comparisons between patient and healthcare professionals' perspectives will help to better understand overall quality care and patient satisfaction. Moreover, it may also be interesting to explore how the pandemic has affected the healthcare system, and the quality of care perceived by patients.

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Authors' Note

All authors listed meet the authorship criteria according to the latest guidelines of the International Council of Medical Journal Editors and that all authors are in agreement with the manuscript. All authors designed this study. FA conducted data collection. All authors analyzed and interpreted the data. FA drafted the manuscript, and all authors contributed substantially to its revision. FA takes responsibility for the manuscript as a whole.

Statement of Human and Animal Rights

This study was conducted after receiving an ethical statement from the University of Eastern Finland Committee on Research Ethics (Statement 16/2018). In addition, the permission to conduct the study was obtained from the MOH in Oman (Proposal ID: MOH/CSR/18/XXXX). Written informed consent was obtained from patients for their anonymized information to publish in this article.

Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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