Universal Journal of Public Health 10(6): 633-641, 2022
DOI: 10.13189/ujph.2022.100611 http://www.hrpub.org

Managing Public Hospital Care Quality through a Patient-Centered Approach: Evidence from a Balkan Country

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Received October 13, 2022; Revised December 12, 2022; Accepted December 27, 2022

Cite This Paper in the Following Citation Styles

(a): *[1] Sllavka Kurti, Petrit Dollani, Rezarta Kalaja , "Managing Public Hospital Care Quality through a Patient-Centered Approach: Evidence from a Balkan Country," Universal Journal of Public Health, Vol. 10, No. 6, pp. 633 - 641, 2022. DOI: 10.13189/ujph.2022.100611.*

(b): *Sllavka Kurti, Petrit Dollani, Rezarta Kalaja (2022). Managing Public Hospital Care Quality through a Patient-Centered Approach: Evidence from a Balkan Country. Universal Journal of Public Health, 10(6), 633 - 641. DOI: 10.13189/ujph.2022.100611.*

Abstract The evaluation of patients' experiences with hospital healthcare is crucial in identifying important aspects that help in improving such experiences. Recognizing the importance of patient empowerment incorporating the latter voice in healthcare decision making can lead to improvements in health services, health outcomes, and hospital performance. This cross-sectional study aims to propose a validated instrument to evaluate and identify key hospital care aspects that influence patient satisfaction with the quality of the care provided. For a three-month period, 307 randomly selected patients hospitalized in Albanian public hospitals were invited to participate in this study. Respondents' experiences with the quality of healthcare services during their hospitalization are collected using a validated instrument, an adapted version of the Patient Satisfaction Questionnaire, PSQ-III. The instrument collects patient experiences related to ten aspects of hospital care. Statistical analysis revealed that five out of ten considered dimensions have a significant impact on patient satisfaction: Interpersonal relationships, technical quality, communication with medical staff, financial aspects, and administrative procedures are all significant factors. The findings of the study provide hospital management and medical staff with information about aspects that enhance or hinder patient satisfaction. It serves as the basis for developing strategies that may enhance the level of patients' satisfaction with the healthcare provided by public hospitals.

Keywords Public Hospital, Healthcare Quality, Patient Satisfaction, Balkan Country

1. Introduction

According to the World Health Organization's policy framework presented in 2007, there has been a growing interest in the patient's perspective on health care and how health systems can better meet the needs of all health care various stakeholder groups and consider them in a holistic manner. Patient satisfaction assessment can help health organizations improve and maintain service quality [1] and often is integrated into hospital management policies to monitor the quality of healthcare provided. Furthermore, evaluating and understanding patient satisfaction is critical for health providers to understand their performance status, and it is also a useful tool for examining and forecasting client expectations [2]. Patient satisfaction is a fundamental requirement for health care providers and is particularly important when patients themselves make their own decision on selection of the institution health care providers [3]. Studies have shown that patient satisfaction also affects the level of follow-up and patient compliance [4], trust [5], and decision to reuse the same service [6]. Reporting the experiences of patients in the hospital is a

valuable instrument [7]. The information provided by the assessment of patient satisfaction with healthcare can be used as an input in decision-making related to healthcare service management, planning, and control and as well as a critical component in developing service improvement action plans [8].

Based on the review of literature, different authors identify various variables or dimensions of care quality that influence patient satisfaction with the quality of healthcare. While a group of researchers [9-11], proposed specific dimensions that are related to specific health care situations, other researchers focused their efforts on identifying those dimensions that could be applied in universal situations [12], [13]. Wäre et al., [14] identified eight dimensions that influence patients' declared levels of satisfaction with the health care they receive. These factors part of patient satisfaction questionnaire were summarized in i) interpersonal relations, ii) technical quality, iii) access, iv) costs, v) results, vi) continuity, vii) physical environment and viii) availability of healthcare. Despite the fact that various researchers generally agree that these can be considered universal dimensions [15], Patient Satisfaction Quality (PSQ) dimensions vary depending on the context of the research study [16]. Given that patient satisfaction with service quality is a context-specific construct, nine quality of care related factors were chosen to be considered and analyzed more specifically as dimensions of service quality in the study. Based on the PSQ and literature review, these dimensions are:

1.1. Physical Environment

The environment in which care is provided refers to the hospital physical aspects. It consists of the environment in which the service is provided and consists of tangible elements, such as the appearance of the building, interior decoration, uniforms, equipment, and facilities [17]. Physical environment appears to be a dimension that influences patient satisfaction, according to the health care literature [16], [18-20].

1.2. Interpersonal Relations

This dimension, also known as functional quality, includes trust, respect, privacy, courtesy, sensitivity, responsibility, active listening, and interactions between staff and patients [21]. This dimension of care quality refers to how providers interact with their patients and has been identified as an important component of patient satisfaction levels. Many studies reported that interpersonal relations between medical staff and patients have a significant and positive impact with patient satisfaction level [22], [23].

1.3. Technical Quality of Care

Technical quality of care refers to the provider's competence and adherence to high diagnostic and therapeutic standards [21]. In other words, it refers to the extent to which employees' and health institutions' tasks meet established standards. Wäre's study [14] sought to demonstrate the positive relationship between this dimension and patient satisfaction A result confirmed also by subsequent research [15], [16], [24].

1.4. Accessibility

Access has been conceptualized in a variety of ways. In this study, access is defined as the ability to reach and obtain appropriate health care services in situations where there is a perceived need for care [25], [26]. Accessibility to healthcare services is an important subject to be considered in the study of healthcare [27], [28] and considered as one of the most important factors influencing patient satisfaction with health care delivery and is positively related to it [29].

1.5. Waiting Time

The total amount of time a patient spends in a facility from the time she/he arrives at the registration desk until the time the service is delivered is referred to as waiting time [30]. The amount of time a patient have to spend for a health service affects his level of satisfaction [31]. There is a negative relationship between increased waiting time to receive health care and patient satisfaction with health care provider [32], [33], [34].

1.6. Time Spent with Medical Staff

According to Anderson et al., [35] time spent with the medical staff is considered a significant predictor of overall patient satisfaction. Various studies have shown that the time spent by the doctor is very important from both sides, based on what was observed and a review of the literature [36]. Furthermore, studies have shown that a long waiting time combined with a short visit time results in low levels of patient satisfaction, implying that both measures are important [37], [38].

1.7. Communication

Communication between the doctor and the patient is another factor to consider when determining patient satisfaction level. From the review of the literature, it is noted that different authors not only highlight the importance of this dimension [39] but go further and report the positive impact that the latter has on the assessment of patient satisfaction [23], [40], [41].

1.8. Continuity

In the context of quality of care, an important concept is continuity in the care process, which refers to having a

regular, safe source of care, always when and as often as patients need it [42] and having possibility to have the same provider [43]. Previous research has shown that there is a positive relationship between this dimension and patient satisfaction [41], [44]. Improving the continuum of care can increase patient satisfaction with both providers and their health care organization [45-47].

1.9. Financial Aspect

Financial aspect in this study refers to out-of-pocket payments including formal and informal payments made by patients when receiving any type of heath care services [48]. Studies on the cost of care have found that patients who participate in prepaid health insurance plans are more satisfied with the financial aspects of care than those who do not [49], as well as the price paid in relation to the health service received affects satisfaction levels [50]. The higher the cost of the service in relation to the quality of the health service, the lower the declared level of patient satisfaction [51].

1.10. Administrative Procedures

The administrative procedure in the hospital, which includes processes such as patient admission, stay and departure, bill payment, consultation schedule, and so on, is the last quality care dimension considered in this study. Administrative procedures aid in the provision and assurance of a service while also adding value to the service's users or consumers [52]. The ease and convenience with which these administrative procedures are carried out is critical to ensuring patient satisfaction with the quality of hospital care [16], [23], [53].

2. Materials and Methods

The aim of this cross-sectional study is to identify main factors affecting the satisfaction of the patient with the quality of healthcare provided by public hospitals within a context of a Balkan country. The respondents were patients over the age of 16 randomly selected, who had been admitted to the public hospitals in Albania, for at least two nights to gather relevant experience. The questionnaires were self-administered, and paper based. The patient's ability to read and complete the questionnaire was considered as a prerequisite criterion. The sample is considered a good theoretical population as it includes patients from various public hospitals and represents a wide range of age groups, work experiences, and educational backgrounds [54]. According to the purpose of the study, the dimensions of the designed structured questionnaire are provided and adapted from the PSQ-III Patient Satisfaction Questionnaire by Marshall et al., [55], a shortened and improved version of the PSQ instrument by Wäre et al., [14]. PSQ – III is considered by various researchers as an adaptable, reliable, concise, and valid instrument that can be easily applied and adapted in different countries and departments of the health system [56].

According to Urden [57], using quantitative instruments to assess patient satisfaction with medical care will yield better results. Thus, the questionnaire for the study has a quantitative design with ten multidimensional variables and closed-ended questions with the goal of assessing overall satisfaction with health services at public hospitals. Instrument validity was determined by administering printed questionnaires to 12 patients (these patients were not included in the final study) to determine legibility, clarity, simplicity, and ease of understanding. As most of the patients understood the statements and found it simple to fill out no changes were made. From November 2021 to January 2022, random patients hospitalized in public hospitals in Albania were invited to participate in the study. The final database comprises the full and valid information of 307 respondents. Multiple linear regression had been assessed to discover the correlation between healthcare dimensions affecting the patient satisfaction with a p value ≤ 0.05 level of significance.

Hospital health service assessment through the following dimensions and rated according to the Likert scale (1-strongly disagree to 5-strongly agree): Physical environment, (6 questions), Interpersonal relations (6 questions), Technical quality (8 questions), Accessibility (6 questions), Communication with the medical staff (6 questions), Financial aspects (5 questions), Time spent with medical staff (4 questions), Waiting time (4 questions), Administrative procedures (4 questions). Overall satisfaction as dependent variable is evaluated by 3 questions. All collected data were processed and analyzed with SPSS 25 version.

3. Results

3.1. Reliability of the Research Instrument

One of the study's objectives is to develop a validated instrument to assess patient experiences with public hospitals that will be useful in the Albanian context. Research instrument further testing and validation is required before accepting any construct as dimensions underlying instruments for evaluating patient satisfaction. As the instrument is adapted with dimensions related to the context where the study is conducted, the reliability of the questionnaire (56 items) was tested, and the Cronbach alpha was calculated using this study sample (307 respondents). Cronbach alpha for all 10 factors (variables), in the questionnaire is 0.905 indicating a very high reliability value of these items (variables) that assess the patient satisfaction with the health care quality. Alpha reliability coefficients for factors 1-10 range from 0.859 to 0.923 (see Table 1). Items were subjected to a principal components varimax rotated factor analysis and the specific factorial loads range from 0.411 to 0.721, this indicates that all variables are significant and will be included in the subsequent regression analysis

Table 1. Reliability test of the research instrument

Factor	Cronbach's Alpha	Nr of items
Physical Environment (PhE)	.888	6
Interpersonal relations (IR)	.923	6
Technical Quality (TC)	.902	8
Accessibility (AC)	.872	6
Communication (CO)	.882	6
Care Continuity (CC)	.893	4
Financial Aspects (FA)	.916	5
Time spent with medical staff (TS)	.859	4
Waiting time (WT)	.923	4
Administrative Procedures (AP)	.886	4
Patient Satisfaction (PS)	.923	3

A correlation table for the independent variables was created to assess multicollinearity. The data in the Table 2 show that the obtained values are not worrying, so we continue the analysis. The corresponding VIF (variance inflation factor) values are from 1.549 to 2.895 maximum, when the limit is VIF=5, or the Tolerance values are all greater than 0.2.

Table 2. Multicollinearity

	PhE	*IR*	*TC*	*AC*	*CO*	*CC*	*FA*	*TS*	*WT*	*AP*
PhE	**1.000**									
IR	.467	**1.000**								
TC	.504	.614	**1.000**							
AC	.552	.562	.606	**1.000**						
CO	.447	.552	.610	.606	**1.000**					
CC	.501	.489	.508	.634	.598	**1.000**				
FA	.539	.402	.558	.488	.523	.651	**1.000**			
TS	.571	.577	.597	.557	.654	.483	.658	**1.000**		
WT	.427	.395	.381	.381	.391	.467	.470	.530	**1.000**	
AP	.442	.470	.480	.541	.502	.571	.501	.598	.488	**1.000**

**. The correlation is significant at the 0.01 level of significance (two-sided)

3.2. Descriptive Results

The study included 307 patients, 50.4% of whom were female. Most of them with 52.7% declare to have lower monthly income, less than 30.000 ALL while only 6.6% declare to earn more than 70.000ALL per month. 44.5% of the respondents declare to have higher education.

Table 3. Sample descriptive

Age		**Gender**		**Education**		**Monthly Incomes**	
Age	In %	Sex	In %	Level	In %	In Albanian Lek	In %
16 – 30	16.2	*Male*	49.6	*Primary education*	21.4	*< 30.000*	52.7
31 – 45	26.7			*High School*	44.5	*30.001 – 50.000*	11.8
46 – 60	33.6	*Female*	50.4	*University Degree*	27.5	*50.001 – 70.000*	13.3
> 60	23.5			*Postgraduate*	6.6	*> 70.000*	12.2

In terms of length of stay in the hospital, 31% of respondents declared they have stayed 2 nights, 36.4% say they have stayed 3-5 nights, and 32.4% say they have stayed more than 5 nights, providing us a more valuable opinion about the overall quality of service in the hospital. In terms of reception time, 34.8% of respondents stated that they were urgent cases and did not wait at the reception, and the same percentage stated that they spent less than 35 minutes receiving the necessary orientation for the initial examination or hospital admission. The rest of the patients questioned stated that the waiting time varied from 35-60 minutes, respectively with 22%, and 8.2% from 45-60 minutes.

The descriptive results show that in 83.4% of cases they stated that they were clear about the admission/hospitalization procedures, while the rest stated to have some ambiguities regarding these procedures. A relatively high percentage of patients, 40.5%, declare that they are uninsured. While 53.4% of those who declare that they are insured are covered by state insurance, only 6.1% are covered by private insurance schemes.

3.3. Hospital Care Aspects Influencing Patient Satisfaction

To answer the research question: what factors influence more the general level of patient satisfaction? The study will use multiple regression analysis, incorporating all the factors predicted by the model into the analysis. According to the regression analysis coefficients, Table 4 shows that the variables that have the greatest influence on overall level of satisfaction are: interpersonal relationships, technical quality, communication with medical staff, financial aspects, and administrative, explaining 56.9% (R^2=.569) of the variance values of patient satisfaction. The statistical significance of these factors is also shown by the analysis of variance ANOVA where the value of Fisher's coefficient (Control Statistics of this analysis) is $F_{(9;307)}$=37.096 and the Sig value=0.000

Table 4. The coefficient

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	**.031**	.192		.161	.872
Physical Environment	.042	.055	.043	.758	.449
Interpersonal Relations	**.155**	.057	.161	2.733	**.007**
Technical Quality	**.130**	.066	.124	1.965	**.051**
Accessibility	.089	.069	.080	1.287	.199
Communication with medical staff	**.179**	.066	.170	2.718	**.007**
Financial Aspect	**.262**	.056	.281	4.635	**.000**
Waiting Time	-.004	.075	-.004	-.052	.959
Time spent with medicals	.005	.049	.005	.097	.923
Administrative Procedures	**.123**	.056	.125	2.201	**.029**

Dependet variable: Overall patient satisfaction. $p<0.05$

Satisfaction is an important dimension of perceived quality of care that is frequently used to quantify how closely a patient's health care experience corresponds to the level and quality of care expected [58]. Regression equation explains how general satisfaction can be improved through main significant dimensions:

General Satisfaction=0.031+0.155 Interpersonal Relationships + 0.130 Technical Quality +0.179Communication with medical staff + 0.262Financial Aspects + 0.123 Administrative Procedures

The study goes beyond the analysis by exploring into the components of each key factor to better understand how specific items affect patient satisfaction levels. Further regression analysis of the *Interpersonal Relations* factor revealed that this factor explained 35% (R2=.35) of the variation values of patients' satisfaction. This variable's most important items are the freedom to express needs/concerns, as well as the medical staff's interest and care. ANOVA values F (6;307) =23.061 and Sig value=.000 confirm the statistical significance of these factors.

Technical quality factor explains 46% (R2=.46) of the patient satisfaction variation values. According to regression analysis, the following items have the greatest influence on patient satisfaction: accuracy and quality of diagnosis, doctor competencies, treatment with modern methods, modern equipment, and treatment quality. The statistical significance of these factors is also verified by the value F (8;307) =57.078 and Sig =.000.

The analysis data show that for the independent variable - *communication with medical staff* - two factors explain 41.2% of the variance in overall satisfaction values, which are: communication with medical staff about treatment, and attentive listening from medical staff to the patient's concerns. Analysis through ANOVA and the Fisher coefficient F (6; 307) =29.703 and Sig=.000 confirm the statistical significance of these factors.

A further analysis was performed to *financial aspect* variable as well to determine which of the items in this construct has the most influence on the overall level of satisfaction. It was discovered that there are two items “expenses justify the healthcare service received" and "ability to afford health care costs," which explain approximately 42% of the values of the level of overall satisfaction. Both factors are statistically significant, as determined by ANOVA, with F (5;305) =36.261 and p=0.000.

4. Discussion

The study aims to answer the main research question by highlighting the main factors influencing patient satisfaction with hospital healthcare quality. As can be seen from the regression equation, all the coefficients (β) are positive implying that as the values of each factor increase, so does the value of the patient's overall satisfaction. Based on the literature review and adaptation to the context in which the research was carried out, nine dimensions of hospital health care were determined to be influencing patient satisfaction levels. It resulted those five out of nine dimensions affect the satisfaction, explaining near 57% of the variation of the patient’s satisfaction with the quality of healthcare.

Raposo et al., [59], Freeman [60], Robert and Aruguete [61] reported similar findings as this study, identifying the patient-physician relationship and interaction with medical staff as important factors influencing patient satisfaction.

Even though technical quality is less easily observable from the patients' perspective, it affects their level of satisfaction with the quality of care [14], [15], [62]. Hospitalized patients place a higher value on medical staff technical skills. This has been found to be correlated with overall satisfaction [63]. The communication with medical staff resulted as a significant dimension of patient satisfaction. A result highlighted also by several studies [16], [37], [64]

It is founded that the financial aspects had the higher correlation coefficient related to the other factors (0.539) Numerous studies [24], [65] have shown the impact of financial aspects on patient satisfaction assessment with the healthcare. This dimension is certainly very sensitive and directly related to the patient, especially for those who are not covered by insurance and must pay a large amount of money out of pocket when receiving healthcare services.

Out-of-pocket payments account for nearly half of health-care spending in low-income nations, compared to 30% in middle-income countries and 14% in high-income ones [64]. This means that policies and initiatives should be implemented to reduce the impact of this phenomenon on citizens. Meanwhile, with the emphasis on hospital quality management, attention should be paid to quality care factors such as technical quality, communication with staff, and administrative procedures, which are directly dependent on the healthcare provider. Management should conduct continuous assessments to evaluate and, if necessary, intervene with improvements on specific care factors or items.

5. Conclusions

Interpersonal relationships, technical quality, communication with medical staff, financial aspects, and administrative procedures significantly affect the level of the patient satisfaction with the hospital healthcare. Communication with medical staff about treatment procedures and attentive listening from medical staff to the patient's concerns play a crucial role in improving their satisfaction. Patient's perceived freedom to express needs/concerns, medical staff's interest and care demonstrated during the hospitalization, as well as accuracy and quality of diagnosis, doctor competencies,

and the modernization of the equipment used in the hospital are significant factors affecting the satisfaction level of the hospitalized patients. In comparison to all considered factors, financial aspects had the greater impact on overall patient satisfaction with the public hospital care.

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