International Journal of Economic Studies and Management (IJESM)
ISSN 2789-049X
Int. J. Econ. Stud. Manag. 4, No.4 (AUGUST-2024)

Intersecting dimensions of patient experience: evaluating the impact on satisfaction in Moroccan public healthcare

Ahmed ROUTABI
Management, Information and Governance Research Laboratory, Morocco
Faculty of Economic and Social Legal Sciences Ain Sebaâ
Hassan II University of Casablanca - Casablanca - Maroc

Bouchra BENNANI
Management, Information and Governance Research Laboratory, Morocco
Faculty of Economic and Social Legal Sciences Ain Sebaâ
Hassan II University of Casablanca - Casablanca - Maroc

Abstract : In a continuous effort to improve the quality of services rendered by public sector health facilities, patient-user satisfaction must be viewed as a legitimate outcome of care. The primary objective of our study was to measure the level of satisfaction of users of maternal and child hospitalization services within public hospitals in Casablanca. This is a single-pass descriptive cross-sectional study that took place from January 4 to February 26, 2023. The study population corresponded to all patient-users who underwent or whose children underwent hospitalization in neonatology or maternity services. Data was collected through a questionnaire inspired by the SAPHORA-MCO version 2009, adapted for the evaluation of patient satisfaction in medicine. The measured dimensions were the variables of satisfaction extracted from the questionnaire directly related to the quality of care, hotel comfort, and organization of discharge protocol, and the determinants of overall satisfaction related to individual users' experiences. In terms of results, we inferred that the main determinants of overall satisfaction are the quality of care and hotel comfort. This study highlighted the priority expectations of users of hospitalization services. However, substantial improvements should be made primarily to the administrative discharge procedures and information given on the continuity of care to achieve better satisfaction.

Keywords : Patient satisfaction ; Evaluation ; Public Hospitals ; Healthcare System ; users' experiences

Digital Object Identifier (DOI): https://doi.org/10.5281/zenodo.13367254

1. Introduction

1.1. Background

The quality of healthcare services is a critical determinant of patient satisfaction and overall health outcomes. In the contemporary healthcare landscape, patient satisfaction is not only a marker of service excellence but also a pivotal component of healthcare delivery that impacts patient retention, compliance, and the perceived value of care (Al-Abri & Al-Balushi, 2014). A vast body of research underscores the importance of various dimensions of healthcare quality, such as accessibility, staff professionalism, communication, and the physical environment, in shaping patient satisfaction (Parasuraman et al., 1988; Senić & Marinković, 2013). These dimensions are integral to the SERVQUAL model, which is widely used to assess service quality and identify gaps in service delivery.

1.2. Research Problem

In the Moroccan context, patient satisfaction is a critical measure of healthcare service performance. However, understanding what contributes to overall patient satisfaction remains somewhat fragmented. Previous research often focused on isolated aspects of patient experience without considering the interplay between various factors. The model we propose in this study shines a light on three key areas: the quality of care, the hotel comfort within healthcare facilities, and the organization of patient discharge, each with a potential impact on overall patient satisfaction.

Quality of care is frequently cited as a major determinant of satisfaction, yet its assessment can vary based on individual criteria and perceptions. Hotel comfort, which encompasses elements such as cleanliness, food quality, and the comfort level of rooms, emerges as an area of increasing interest for patients and their families. Discharge organization, referring to the clarity of information provided and ease of transition to post-hospital care, is also a critical factor, often overlooked in patient satisfaction studies.

Our study aims to bridge these gaps by holistically evaluating how these three areas interact and contribute to overall patient satisfaction. By identifying the connections and relative weights of these various factors, we seek to provide precise recommendations for improving healthcare policies and practices in Morocco. Therefore, this research tackles the central question: *how do quality of care, hotel comfort, and discharge organization combine to shape overall patient satisfaction in Moroccan healthcare services?*

1.3. Objective

This study aims to fill the research gap by analyzing the determinants of patient satisfaction in Moroccan public healthcare services, with a special focus on maternal and child health services. By identifying, the key factors that influence patient satisfaction, this research seeks to provide insights into areas where the Moroccan healthcare system can improve. The study will explore various dimensions of healthcare quality, including but not limited to, service accessibility, staff professionalism, communication efficiency, and the condition of healthcare facilities.

The primary aim of this study is to grasp how patient-users perceive and appreciate the healthcare services provided and delivered by public hospitals and to evaluate the obtained results. Hence, the specific objectives of this study are as follows:

- Obtain feedback from patient-users about the suitability of healthcare services, related to hospitalization services, to their actual needs;
- Appreciate and gather information about the overall satisfaction of patient-users by introducing the instigated change process into the healthcare and medico-social ecosystem.

1.4. Significance

Basic healthcare must not only be accessible and available, but it also needs to be sufficiently acceptable to all categories of populations for whom it is intended (CESE, 2018). Basic health services must therefore provide services whose quality is consistent with the expectations and needs of patient-users (CESE, 2018). With the significant number of service users, quality management has become a vital task in public hospitals. These institutions must now concern themselves with the needs of users through satisfaction evaluation. The identification of quality from the patient's perspective is a necessary shift towards hospital management accountability and improving care quality. In the absence of systematization of qualitative evaluation of the services provided at the healthcare level, it is currently impossible to make an objective judgment on the perceived quality of care.

Understanding the determinants of patient satisfaction in the context of Moroccan public healthcare services is of paramount importance for several reasons. Firstly, it can inform healthcare providers and administrators about the areas that require improvement to enhance the quality of care. Secondly, it provides policymakers with evidence-based insights to guide the development of healthcare policies and interventions that are patient-centered. Finally, improving patient satisfaction in maternal and child health services can lead to better health outcomes, higher levels of patient engagement, and increased utilization of healthcare services, contributing to the overall health and well-being of the population.

2. Theoretical framework

A significant portion of research concerning patient satisfaction tends not to be grounded in theoretical frameworks, with Linder-Pelz's work in 1982 standing as a notable exception. He applied various psychosociological theories, encompassing discrepancy theory, achievement theory, and equity theory, to propose hypotheses about what influences patient satisfaction. These three theories collectively contribute to the disconfirmation paradigm. This model anticipates the emergence of satisfaction through a process of comparison, wherein satisfaction arises from the disparity between a standard (such as expectations, values, or norms) and the perceived outcome. Expectations can be positively disconfirmed, meaning they are exceeded; confirmed, signifying they are met; or negatively disconfirmed, implying they have not been fulfilled (Thi, Phi Linh Nguyen & Thanh Nguyen Nguyen, 2003).

2.1. Theoretical foundations of patient satisfaction

a) Fulfillment Theory :

In the fulfillment theory framework (Phi Linh, 2018), satisfaction is perceived as the discrepancy between an individual's prior expectations and the actual services received. This concept suggests that satisfaction is the result of subtracting the expected level of service (E) from the actual service delivery (O). Hence, the equation for fulfillment theory in assessing satisfaction can be articulated as:

Satisfaction = O - E

Here, 'E' represents the expected service, and 'O' signifies the actual service encountered.

b) Discrepancy Theory:

Within the framework of discrepancy theory (Phi Linh, 2018), satisfaction is defined as the ratio of the difference between actual outcomes and prior expectations to the initial expectations themselves. In other words, this theory posits that satisfaction is derived by dividing the gap between what has actually

occurred (O) and what was anticipated (E) by the expected level (E). This relationship is mathematically represented as:

$$= \frac{(O - E)}{E}$$

Where 'E' stands for the expected outcome, and 'O' denotes the actual outcome as previously specified.

c) Equity Theory:

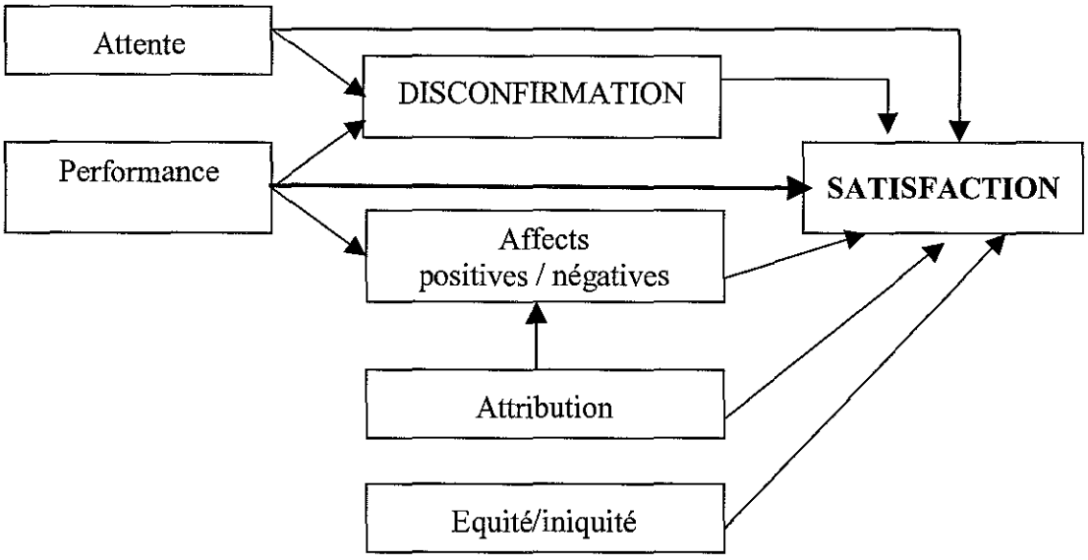
In equity theory, patient satisfaction is achieved when individuals perceive their allocation of resources in comparison to others, aligned with established norms or rules of agreement, meaning that individuals believe they are treated with fairness. Equity theory diverges from theories of achievement and discrepancy by highlighting the significance of interpersonal comparisons regarding how one is treated relative to others, as opposed to intrapersonal comparisons between one's own expectations and perceptions of reality (Phi Linh, 2018).

2.2. Patient satisfaction models

Patient satisfaction models are key frameworks in healthcare, aimed at enhancing the understanding and measurement of patient satisfaction. These models consider factors such as the quality of care, which includes the technical skill of healthcare professionals, facility and equipment standards, and treatment effectiveness. Patient assessments often hinge on health improvements post-treatment. Effective communication, characterized by clarity, compassion, and addressing patient concerns, is essential. The human aspect, including kindness, empathy, and respect from healthcare staff, significantly influences patient satisfaction, emphasizing the importance of treating individuals with personal regard. Accessibility to healthcare services, short waiting times, appointment availability, and facility convenience also play a crucial role in shaping patient perceptions. Furthermore, the coordination of care, involving efficient care pathways and specialist collaboration, is crucial for avoiding service fragmentation and ensuring a seamless patient experience. Lastly, emphasizing patient autonomy and involvement in care decisions is vital for satisfaction, highlighting the importance of active participation in the healing process. These elements collectively serve as the foundation for evaluating and improving patient satisfaction in healthcare.

The "cognition-affect" model (Oliver, 1980), presents a multifaceted approach to understanding patient satisfaction (see figure 1). It begins with a patient's expectations of healthcare services, which set the stage for assessing the actual performance of those services. Satisfaction is then influenced by the process of disconfirmation, where the actual service is compared with the initial expectations. Positive or negative emotions are evoked based on whether these expectations are met, exceeded, or unfulfilled. These emotions, or affects, arise not only from the direct comparison but also from factors independent of the service's performance. Additionally, patients engage in attribution, a cognitive process where they assign causes to their emotional reactions. The model also incorporates considerations of equity, where patients weigh the fairness of their treatment against that of others. Ultimately, patient satisfaction is the cumulative result of these interconnected factors—performance, disconfirmation, affect, attribution, and perceived equity—creating a dynamic interplay that determines their overall satisfaction with healthcare services.

Figure 1: Cognition-affect model



Source : adapted from (Oliver, 1980)

2.2.1.The concept of satisfaction

Human satisfaction is a multifaceted concept intertwined with a variety of factors, such as lifestyle, past experiences, future anticipations, and the values of an individual and society. This notion has been meticulously analyzed by the Survey Research Center in Michigan (Campbell et al., 1976). The research conducted by this center partitioned the satisfaction that individuals might experience into different "domains" of life, including personal health, excluding received healthcare, asserting that each of these domains has conceptual coherence.

Irrespective of one's perception of this holistic approach, the consensus is that general healthcare satisfaction is predominantly a derived concept. For those who don't perceive themselves as needing healthcare, discussing their level of satisfaction concerning healthcare services becomes contentious. As satisfaction is a derivative concept, all research must probe the sources of dissatisfaction, besides different preferences about aspects of the healthcare facility, the identification of medical staff, and so on. According to certain technical standards, practicing good quality medicine may result in low satisfaction rates as numerous patients may not necessarily share the same viewpoint on what constitutes quality medicine. Since the most frequent source of dissatisfaction is the communication of information about the illness and appropriate treatment, these "clinical" issues and related expertise, which fall under the power of the physician and patient, should be at the center of any dissatisfaction investigation.

Moreover, as dissatisfaction sources can significantly vary, satisfaction may be defined quite differently by different people and even by the same person at different times (Locker & Dunt, 1978). This interpersonal variability casts doubt on the merit of trying to define a unified conception of satisfaction: moreover, patients' expectations will vary based on the presumed success of the intervention and their medical care experience. Understanding the influence of experience on satisfaction can elucidate why patients who remember the pre-NHS era are more satisfied with the NHS and the services it provides than those who have known nothing other than the NHS (Prescott-Clarke et al., 1988). However, there are few other consistent relationships between measured satisfaction and potential sociodemographic characteristics.

This situation appears surprising. Firstly, different groups may have different response trends; for instance, older patients might be more relaxed, and better-educated patients might apply higher

standards in their evaluations. Secondly, different groups might be treated differently during the care process: older patients might be treated more gently, and physicians might communicate more with middle-class patients (Manning, 1981). Yet, (Fox & Storms, 1981) felt compelled to summarize the situation as follows: "The literature on healthcare satisfaction displays contradictory results concerning sociodemographic variables. The situation has become so chaotic that some authors reject the variables [sociodemographic] as reliable predictors of satisfaction (Fox & Storms, 1981). In the meta-analysis of (Hall & Dornan, 1988), relationships were extremely weak (with a maximum correlation coefficient of r = 0-14) even when statistically significant. Moreover, even established correlates of satisfaction such as the patient's health status (Pascoe, 1983), the doctor's communicative behavior, and the doctor's technical competence (Hall et al., 1988) do not yield high correlations.

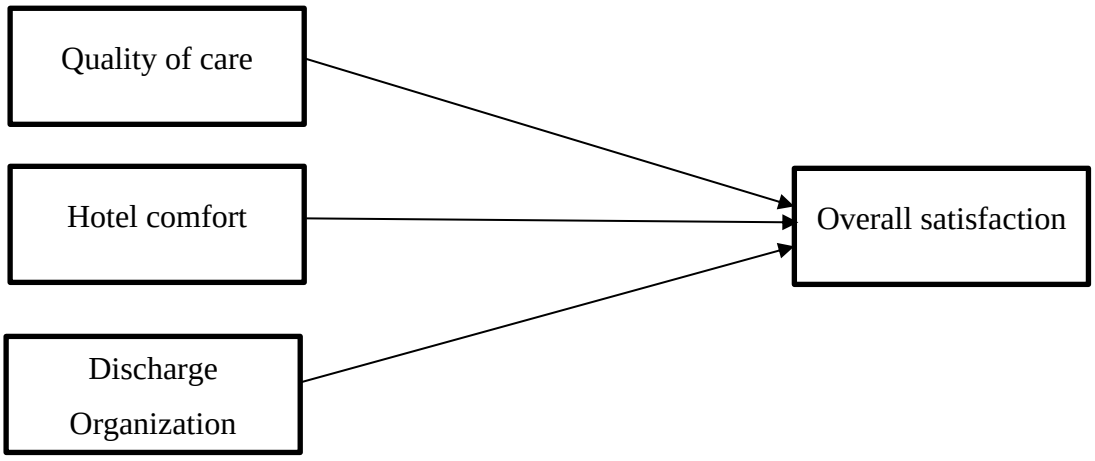
Simultaneously, many current conceptualizations of the "satisfaction" variable limit operationalizing the reaction to the medical encounter rather than active involvement in the therapeutic process. (Speedling & Rose, 1985) advocated for a shift towards a more proactive approach to the concept of patient participation, but they restricted their suggestions to obtaining the patient's preferences as input data for clinical decisions. However, this confines the patient to actively contribute within a very rigid "QALY" (Quality Adjusted Life Year) framework (Carr-Hill, 1991).

3. Research Methodology

This is a descriptive cross-sectional study conducted in a single pass from January 4th to February 26th, 2023. The study population comprised all patient-users who underwent, or their children, hospitalization in the neonatology or maternity service. We adopted a 2009 version of the SAPHORA-MCO survey adapted for evaluating patient satisfaction in medicine. From the hypotheses established following the literature review, we chose to develop a hypothetical research model suggesting that various factors could impact the likelihood of patient-users being satisfied with the care services provided by public hospitals.

The variables that form the basis of the hypotheses are illustrated below:

Figure 2: Proposed hypothetical research model



Source: Authors

As shown in the theoretical framework of our analysis, in order to model the factors influencing the perception of inpatient service users, the following hypotheses can be considered to measure our hypothetical model:

H1: There is a direct relationship between the quality of care and the overall satisfaction experienced by users of inpatient services;

H2: There is a direct relationship between hotel comfort and the overall satisfaction experienced by users of inpatient services;

H3: There is a direct relationship between the organization of discharge protocol and the overall satisfaction experienced by users of inpatient services.

To verify our model, we have selected as our study population all patient-users residing in the city of Casablanca, Morocco, who have benefited from care services with hospitalization of more than 72 hours at public hospitals. To do this, the sample size was selected based on the equation of Steven K. Thompson (*Sampling*, 2012). Given that the target population is quite large, we have retained a convenience sample of 232 beneficiaries. Subsequently, to carry out our survey, we developed a survey containing two sections composed of the following variables:

• Demographic factors (Age, Education, Profession...etc.);

• Quality of care;

• Hotel comfort;

• Discharge organization.

Each section of the questionnaire contains a number of items designed to evaluate the factors affecting the overall satisfaction of patient-users. A Likert scale was used to rank the degree of satisfaction of users. The questionnaire was designed in French, then translated into Moroccan dialect, as it is the language used in Morocco. The Arabic version of the questionnaire was checked and retranslated according to scientific standards to ensure semantic equivalence and the relevance of its use. The questionnaire test was conducted among 35 patient-users. It was conducted in order to achieve the following objectives (Saunders et al., 2009):

- Get an idea of the time needed to answer the questionnaire;
- Check that respondents fully understand the formulation of questions, and identify ambiguous questions;
- Ensure a similar understanding of the formulation of questions between the researcher and respondents;
- Identify questions that respondents might find difficult to answer;
- Refine the measurement scales of variables, to ensure their quality.

Considering the necessity of direct interaction for optimal comprehension and accurate targeting, the questionnaire was administered face-to-face. For this purpose, a local association dedicated to the development of the rising generation was enlisted to assist with the administration of the questionnaire and the subsequent data collection.

4. Findings and Discussion

Given that the population chosen for this study pertains only to women and/or their children who have experienced services in public hospitals, specifically within maternal and neonatal or infant hospitalization services. Demographic characteristics showed a well-proportioned frequency regarding

the distribution of participants according to age, with just 57.4% aged between 18 and 35 years, and 42.6% constituted by a segment of the target population exceeding 35 years. Furthermore, over 65.5% of participants have a secondary academic level (high school and college), followed by the university level of education with a rate close to 22.4%, while the primary level is 7.3%, and finally, a non-schooling rate of 4.7%. Moreover, we observe that the overwhelming majority of participants, or 71.6%, are professionally active, against a rate of 28.4% of people who are in an inactive state. In parallel, the descriptive results showed that the most recurrent mode of entry to hospitalization is the "Service Doctor" with a rate of 39.2%, followed by the "Emergency Transfer" mode with a rate of about 32.8%, and finally the "Direct" transfer which was attributed a rate of 28%.

Before proceeding with the statistical data analysis, appropriate measures were taken to refine and prepare the collected data. The results revealed that the data were both reliable and valid. Following the Kolmogorov-Smirnov test with a generated p-value lower than 5%, it was found that the sample likely does not come from a population with a normal distribution.

Table 1: Item Reliability Test

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,960	,960	26

Source: Results from SPSS Statistics software

The Cronbach's Alpha coefficient was calculated for all constructs and its value is higher than 0.770 (closer to 1), indicating significant internal consistency of the items taken for the hypothesis testing (Gliem & Gliem, 2003).

Table 2: Descriptive Analysis of Indicator I (Quality of care)

Indicator I: Quality of Care	**Poor**	**Fair**	**Good**	**Very good**	**Excellent**	**Average**	**SD**	**Overall assessment**
	Number	Number	Number	Number	Number			
	%	%	%	%	%			
Reception in the care service	18	16	156	21	21	3,05	0,91	Fair
	8%	7%	67%	9%	9%			
Respect for privacy	9	26	97	90	10	3,28	0,87	Good
	4%	11%	42%	39%	4%			
Information about health status	10	35	112	64	11	3,13	0,88	Fair
	4%	15%	48%	28%	5%			
Physician behavior	8	18	126	50	30	3,33	0,92	Good

	3%	8%	54%	22%	13%			
Nursing staff behavior	10	20	110	61	31	3,36	0,97	Good
	4%	9%	47%	26%	13%			
Politeness and friendliness of staff	8	20	106	67	31	3,40	0,94	Good
	3%	9%	46%	29%	13%			
Availability of staff	7	29	106	56	34	3,35	0,98	Good
	3%	13%	46%	24%	15%			
Wait time for examinations	31	34	82	65	20	3,04	1,14	Fair
	13%	15%	35%	28%	9%			
Pain management	24	40	95	52	21	3,03	1,08	Fair
	10%	17%	41%	22%	9%			
Treatment follow-up	20	39	101	49	23	3,07	1,06	Fair
	9%	17%	44%	21%	10%			
Information about anesthesia	19	36	105	58	14	3,05	0,99	Fair
	8%	16%	45%	25%	6%			
Information about surgical procedures	20	43	85	63	21	3,09	1,08	Fair
	9%	19%	37%	27%	9%			
Overall satisfaction with the quality of care	17	24	128	48	15	3,09	0,93	Fair
	7%	10%	55%	21%	6%			
Average of the first indicator						3,17		Good

Source: Results from SPSS Statistics software

Based on the table (cf. table n°.2), we note that the overall appreciation of the first indicator related to quality of care is moderately "Good", mainly due to the positive and substantial impact of certain items such as "respect for privacy", "behavior of doctors", "behavior of nursing staff", "politeness and friendliness of the staff", and "availability of staff".

Table 3: Descriptive Analysis of Indicator II (Hotel comfort)

Indicator II: Hotel Comfort	**Poor**	**Fair**	**Good**	**Very good**	**Excellent**	**Average**	**SD**	**Overall assessment**
	Number	Number	Number	Number	Number			
	%	%	%	%	%			
Cleanliness and Comfort of the room	13	20	148	22	29	3,15	0,94	Fair
	6%	9%	64%	9%	13%			

Temperature of the room	5	36	96	80	15	3,28	0,88	Good
	2%	16%	41%	34%	6%			
Noise in the room	9	37	102	69	15	3,19	0,92	Good
	4%	16%	44%	30%	6%			
Availability of television	12	27	115	63	15	3,18	0,91	Good
	5%	12%	50%	27%	6%			
Punctuality of meal times	22	22	114	66	8	3,07	0,95	Fair
	9%	9%	49%	28%	3%			
Quality and variety of meals	34	26	107	52	13	2,93	1,07	Fair
	15%	11%	46%	22%	6%			
Average of the second indicator						3,12		**Fair**

Source: Results from SPSS Statistics software.

Based on the table (see table 3), we observe that the overall evaluation of the second indicator related to hotel comfort is moderately "Poor." This is mainly due to the negative and substantial impact of certain items such as the degree of appreciation of the cleanliness and comfort conditions of the room, and a generally negative perception regarding the punctuality and variety of meal times. The authors believe that this dissatisfaction could, however, be nuanced through a triangulation of sources of information integrating a qualitative study.

Table 4: Descriptive Analysis of Indicator III (Discharge organization)

Indicator III: Discharge organization	**Poor**	**Fair**	**Good**	**Very good**	**Excellent**	**Average**	**SD**	**Overall assessment**
	Number	Number	Number	Number	Number			
	%	%	%	%	%			
Information on medication	15	16	148	26	27	3,15	0,94	Fair
	6%	7%	64%	11%	12%			
Information on potential activities after discharge	8	29	110	77	8	3,21	0,83	Good
	3%	13%	47%	33%	3%			
Information provided on continuity of care	13	31	114	61	13	3,13	0,91	Good
	6%	13%	49%	26%	6%			
Administrative discharge procedures	20	26	102	68	16	3,15	1,00	Fair
	9%	11%	44%	29%	7%			

Average of the third indicator	3,16	**Good**

Source: Results from SPSS Statistics software

Based on the table (see table 4), we observe that the overall rating for the third indicator regarding hotel comfort is moderately "good", mainly due to the salient impact of certain items such as patients confirming they received relevant information on continuity of care and potential activities to ensure adoption of good health behaviors.

Table 5: Descriptive Analysis of Indicator IV (Global satisfaction)

Indicator IV: Global Satisfaction	**Poor**	**Fair**	**Good**	**Very good**	**Excellent**	**Average**	**SD**	**Overall assessment**
	Number	Number	Number	Number	Number			
	%	%	%	%	%			
Overall, my perception of the services provided throughout my hospitalization	11	17	144	42	18	3,17	0,85	Good
	5%	7%	62%	18%	8%			
I confirm my overall satisfaction with the hospitalization services provided by public healthcare establishments	7	26	118	68	13	3,23	0,84	Good
	3%	11%	51%	29%	6%			
I predict that I will continue to use these services.	20	24	128	50	10	3,03	0,92	Fair
	9%	10%	55%	22%	4%			
Average of the fourth indicator						3,14		**Good**

Source: Results from SPSS Statistics software

Based on the table (see Table 5), we observe that the overall rating of the fourth indicator related to global satisfaction is moderately "Good". This could suggest the emergence of certain services that have had a qualitatively strong impact and ultimately created positive effects on the hospitalization experience of the respondents.

Principal Component Analysis:

After conducting the necessary analyses related to factorizing the initial variables to extract canonical (synthetic) variables, it was found that the determinant of the correlation matrix is not equal to zero and therefore there is no issue of multicollinearity. Thus, the results showed that our sample is adequate for

a principal component analysis and the Kaiser-Meyer-Olkin adequacy index displayed a positive result KMO=0.955 (see Table 6). Therefore, the principal component analysis allowed the determinants of overall user satisfaction to be classified into four dimensions explaining 67.5% of the overall variance.

Table 6: Kaiser-Meyer-Olkin (KMO) adequacy index

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,955
Bartlett's Test of Sphericity	Approx. Chi-Square	4315,409
	df	325
	Sig.	,000

Source: Results from SPSS Statistics software

We performed a varimax rotation in SPSS by reassigning the coefficients to better facilitate the interpretation and reading of the components (see Table 7). We ultimately retained four main components as a combination of different variables, naming them according to our base model.

Table 7: Component matrix after rotation

Rotated Component Matrix[a]

	Component			
	1	2	3	4
Information on medications	,771			
Information provided on continuity of care	,734			
Overall, my perception of the services provided throughout my hospitalization	,719			
Administrative procedures at discharge	,718			
Information on potential activities after discharge	,625			
I confirm my overall satisfaction with the hospitalization services provided by public healthcare establishments	,616			
I predict that I will continue to use these services	,604			
Cleanliness and comfort of the room	,588			
Respect for meal times	,540			
Welcome in the care unit	,535			
Information on anesthesia		,817		
Follow-up of treatment		,799		
Information on surgical procedures		,746		
Pain management		,739		

Waiting time for exams	,687		
Overall satisfaction with care	,635		
Politeness and friendliness of the staff		,809	
Behavior of doctors		,780	
Behavior of nursing staff		,763	
Availability of staff		,701	
Respect for privacy		,595	
Information on health status		,546	
Quality and variety of meals			,629
Room temperature			,623
Noise in the room			,612
Access to television			,579

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 7 iterations.

Source: Results from SPSS Statistics software

After analyzing the quality of the multiple linear regression model using the R^2 and Fisher's F-test, we observed that the R^2 is 0.608, which means that the explanatory variables contribute 60.8% to the variability of the dependent variable, namely overall satisfaction. Thus, Fisher's F-test shows a significant improvement in the predictive power of the regression equation.

Table 8: Summary of the regression coefficient of determination R^2

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,780[a]	,608	,602	138,0065	,608	13,614	3	228	,000	1,950

a. Predictors: (Constant), Hotel comfort, Quality of care, Discharge organization

b. Dependent Variable: Overall satisfaction

Source: SPSS Statistics software results

Hypothesis testing:

Based on the regression coefficients β (see Table 9), we found that healthcare quality ($\beta = 0.456$, $p < 0.001$) and hotel comfort ($\beta = 0.230$, $p < 0.001$) were directly and significantly associated with overall user satisfaction, while the organization of the discharge protocol and its relationship with overall satisfaction did not have a positive influence ($\beta = 0.078$, $p > 0.001$). Therefore, hypotheses H1 and H2 are credible and significant, and hypothesis H3 has likely been rejected. Moreover, we can deduce that

the variable "healthcare quality" has a more significant contributory capacity than the variable "hotel comfort".

Tableau 9 : Standardized Coefficients

Coefficients[a]

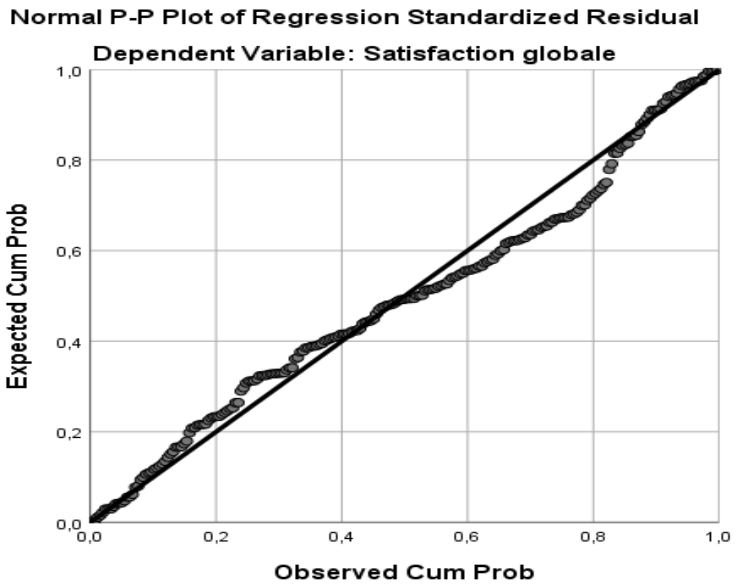
Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	654,700	899,066		5,654	,000		
	Discharge organization	1,869	1,596	,078	-2,450	,450	,245	2,456
	Quality of care	7,324	4,803	,456	3,405	,000	,705	2,890
	Hotel comfort	6,878	5,476	,230	3,980	,000	,879	5,356

a. Dependent Variable: Overall satisfaction

Source: SPSS Statistics software results

Based on the Durbin-Watson test to analyze the validity of the model (see Table 8), we can observe that it indicates a value of 1.950, which is a borderline value within the safe range. Therefore, we can say that the residuals are not correlated and that the regression model is valid. Furthermore, examination of the corresponding graph (see Figure 2) shows that although there is a slight deviation, the standardized residuals follow a straight line, confirming the normality of their distribution. A careful examination of the residuals shows that they are normally distributed and that none of them has a statistically high value, leading to the conclusion that the prediction is appropriate for all responses.

Figure 3: Standardized residuals



Source: SPSS Statistics software results

Our graph (see Figure 2) indicates that most of the points appear to closely follow the diagonal line, especially in the center of the distribution. This suggests that the residuals are normally distributed, which is a good indication that the assumptions of normality for regression analysis are met. Currently,

there is a clear concern to better consider the expectations and needs of healthcare system users and to refocus the organization of hospital institutions around the patient. This has led to the adoption of quality approaches in the healthcare sector in Morocco (Heikel, 2020). However, measuring the user's perception of the care received amounts to measuring a subjective and complex notion that encompasses several relatively independent dimensions, not all of which have the same weight on the overall perception of the user. Thus, it is necessary to distinguish satisfaction with respect to human relationships with professionals, technical quality of care (attitude and competence of professionals), continuity of care, physical environment (hotel-like comfort), for example (Canoui-Poitrine et al., 2008). Nevertheless, the results of this study will enable institutional decision-makers in the healthcare sector to predict and anticipate to what extent users are inclined to favor public hospital care services and at what level of acceptability.

5. Conclusion

This study has shown that users who have benefited from hospitalization services in public hospitals under the jurisdiction of the Casablanca prefecture have a moderately positive satisfaction. This satisfaction primarily focused on the quality of care, which mainly consisted of the behavior of the healthcare staff, pain management, waiting time for exams, treatment follow-up, etc.; and hotel comfort, which was measured by the cleanliness and comfort of the room, room temperature, adherence to meal times, etc. On the other hand, the organization of the discharge protocol (information provided on the continuity of care, administrative procedures for discharge, etc.) remains one of the factors that needs improvement and on which to focus to ensure complete satisfaction. The conclusions of this study have identified both theoretical and practical importance. In theory, this study contributes to the corpus of knowledge on the evaluation of user satisfaction with public hospital services. However, future research could include a larger sample size and other variables such as administrative burden and difficulties in accessing subsidized pharmaceutical products.

6. Scientific implications

Understanding patient satisfaction is essential in healthcare services, as it directly influences the quality of care and the overall efficiency of healthcare delivery systems. Our study delves into this realm, offering comprehensive insights into the determinants of patient satisfaction, particularly within the context of Casablanca's public hospitals. These insights not only highlight the current state of these services but also pave the way for a wide range of scientific implications that span across policy, practice, theory, and research methodology. The empirical evidence provided by our research enriches the existing body of knowledge on patient satisfaction in public hospital services. It contributes a comparative perspective by highlighting the unique factors influencing patient satisfaction in Moroccan public hospitals. This addition to the literature suggests potential pathways for future research, which could include expanding the sample size for a broader generalization, incorporating longitudinal data to capture changes over time, and exploring a wider array of variables that may impact patient satisfaction.

From a policy standpoint, our findings pinpoint critical areas needing attention, such as the organization of discharge protocols. This insight opens the door for policy reforms aimed at enhancing the discharge process, ensuring that patients are well-informed and face fewer administrative obstacles upon leaving the hospital. Moreover, the positive responses regarding staff behavior and pain management spotlight strengths within Casablanca's public hospitals, suggesting that these areas could serve as benchmarks for other hospitals aiming to improve the quality of care.

Resource allocation, driven by patient satisfaction with aspects of care like cleanliness and comfort, underscores the importance of investing in areas that directly influence patients' perceptions of quality. Additionally, the significant role of healthcare staff behavior in patient satisfaction underscores the need for continuous training and development programs focusing on patient care, communication skills, and empathy. The study also suggests a shift towards more holistic care models that encompass both medical and administrative aspects of patient care, highlighting the integral role of administrative logistics in overall satisfaction. Moreover, the development of patient-centered care strategies that prioritize patient experiences, including minimizing waiting times and enhancing treatment follow-up protocols, is essential.

In conclusion, the implications of our study extend beyond theoretical contributions, offering tangible suggestions for improving healthcare services and informing policy formulation. By emphasizing the need for comprehensive care models, patient-centered strategies, and targeted resource allocation, our findings provide a roadmap for enhancing the public hospital system in Morocco and similar contexts, ensuring that patient satisfaction remains a central focus of healthcare delivery.

References

1. Al-Abri, R., & Al-Balushi, A. (2014). Patient satisfaction survey as a tool towards quality improvement. *Oman medical journal*, *29*(1), 3.
2. Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). *The quality of American life : Perceptions, evaluations, and satisfactions*. Russell Sage Foundation.
3. Canoui-Poitrine, F., Logerot, H., & Frank-Soltysiak, M. (2008). Évaluation de la satisfaction des professionnels et des patients d'une unité multidisciplinaire de chirurgie ambulatoire. *Pratiques et organisation des soins*, *39*(4), 323-330.
4. Carr-Hill, R. A. (1991). Allocating resources to health care : Is the QALY (Quality Adjusted Life Year) a technical solution to a political problem? *International Journal of Health Services*, *21*(2), 351-363.
5. CESE. (2018). *Rapport-Soins-de-santé-de-base-vers-un-accès-équitable-et-généralisé.pdf*. http://www.cese.ma/media/2020/10/Rapport-Soins-de-sant%C3%A9-de-base-vers-un-acc%C3%A8s-%C3%A9quitable-et-g%C3%A9n%C3%A9ralis%C3%A9.pdf
6. Fox, J. G., & Storms, D. M. (1981). A different approach to sociodemographic predictors of satisfaction with health care. *Social Science & Medicine. Part A: Medical Psychology & Medical Sociology*, *15*(5), 557-564.
7. Gliem, J. A., & Gliem, R. R. (2003). *Calculating, interpreting, and reporting Cronbach's alpha reliability coefficient for Likert-type scales*.
8. Hall, J. A., & Dornan, M. C. (1988). Meta-analysis of satisfaction with medical care : Description of research domain and analysis of overall satisfaction levels. *Social science & medicine*, *27*(6), 637-644.
9. Hall, J. A., Roter, D. L., & Katz, N. R. (1988). Meta-analysis of correlates of provider behavior in medical encounters. *Medical care*, 657-675.
10. Heikel, J. (2020). *Évaluation des effets de la couverture sanitaire universelle (CSU) sur l'utilisation effective des services de santé au Maroc* [PhD Thesis]. Université Paris-Nord-Paris XIII.
11. Locker, D., & Dunt, D. (1978). Theoretical and methodological issues in sociological studies of consumer satisfaction with medical care. *Social Science & Medicine. Part A: Medical Psychology & Medical Sociology*, *12*, 283-292.
12. Manning, N. (1981). PM Strong, The Ceremonial Order of the Clinic, Parents, Doctors and Medical Bureaucracies, Routledge and Kegan Paul, Henley-on-Thames, 1979. Xiii+ 266 pp.\pounds 8.95;-Gwyn Bevan, Harold Copeman, John Perrin and Rachel Rosser, Health Care Priorities and Management, Croom Helm, London, 1980. 294 pp.\pounds 16.95. *Journal of Social Policy*, *10*(1), 139-140.
13. Oliver, R. L. (1980). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research*, *17*(4), 460-469. https://doi.org/10.1177/002224378001700405

14. Parasuraman, A., Zeithaml, V. A., & Berry, L. (1988). SERVQUAL : A multiple-item scale for measuring consumer perceptions of service quality. *1988*, *64*(1), 12-40.

15. Pascoe, G. C. (1983). Patient satisfaction in primary health care : A literature review and analysis. *Evaluation and program planning*, *6*(3-4), 185-210.

16. Phi Linh, N. T. (2018). *Satisfaction des patients hospitalisés en France et au Viet Nam*.

17. Prescott-Clarke, P., Brooks, T., Machray, C., & Lethbridge, J. (1988). *Focus on Health Care : Surveying the Public in Four Health Districts. 1; The Findings..., Vol 5; Portsmouth and South East Hampshire Health District*. Royal Institute of Public Administration.

18. *Sampling* (Third Edition). (2012). John Wiley & Sons, Inc. https://doi.org/10.1002/9781118162934.ch5

19. Saunders, M., Lewis, P., & Thornhill, A. (2009). Research methodology for business students. *Harlow: Pearson Education limited*.

20. Senić, V., & Marinković, V. (2013). Patient care, satisfaction and service quality in health care. *International Journal of Consumer Studies*, *37*(3), 312-319. https://doi.org/10.1111/j.1470-6431.2012.01132.x

21. Speedling, E. J., & Rose, D. N. (1985). Building an effective doctor-patient relationship : From patient satisfaction to patient participation. *Social Science & Medicine*, *21*(2), 115-120.

22. Thi, Phi Linh Nguyen & Thanh Nguyen Nguyen. (2003). *Le système de santé et la situation sanitaire du Viet Nam. Viet Nam Contemporain.*