

Original Article

Patient Satisfaction in Public and Private Hospitals in Cyprus

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Abstract

Background: The evaluation of the responsiveness of healthcare services, and thus the quality of healthcare services, can be conducted by measuring the satisfaction of patients with the level of quality they receive from the health services.

Objective: Investigation of the level of satisfaction, and the determining factors of satisfaction, for hospitalized patients in public and private hospitals in Cyprus.

Methods: A cross-sectional study was conducted. The study sample consisted of 1000 randomly chosen hospitalized patients from the internal, surgical, and orthopedic clinics of public and private hospitals in Nicosia, Limassol, Larnaca, Paphos and Famagusta. A brief, structured and validated questionnaire was used, which include questions about the demographic characteristics of the studied patients, the characteristics of medical attendants, the level of satisfaction with the medical and nursing staff, the hotel infrastructure of the hospital, and the general satisfaction with their hospitalization experience.

Results: We observed a high overall satisfaction in the studied population with the exception of slightly lower levels of satisfaction with the quality of food and the opportunity for communication and recreation. Widowers and married patients had higher overall evaluation scores compared to unmarried patients. Also, patients in private hospitals showed generally higher scores in all evaluated dimensions compared to the patients hospitalized in public hospitals.

Conclusions: Considering the high satisfaction level of the private hospital patients in the study, it is imperative for public hospitals to enact improvement measures concerning organization and management in order to upgrade their quality of health services, in order to earn a competitive place in the country's health services market.

Key Words: Satisfaction, inpatients, health services, determining factors, public hospitals, private hospitals.

Introduction

One of the most important aspects that characterizes the financing of the health system in Cyprus is the government's rising expenditure on health due to the rising costs in health care services. Data from the World Health Organization (WHO) and the Global Health Observatory Data Repository confirm that the total expenditure on health as a percentage of the GDP "climbed" to 7.4% in 2013 (from 6.1% in 2002) (WHO, 2013).

In this context, and also due to the existing competitive framework among the healthcare providers and the growing needs of the users of the healthcare services, the need for the assessment of the quality of the healthcare services provided is becoming more and more urgent. Specific assessment aims should include ways to improve cost effectiveness, how to increase patients' satisfaction, and the improvement of healthcare services (Raftopoulos, 2002).

The investigation of the responsiveness of healthcare services, and thus the quality of health services can be conducted by recording and mapping the patients' views regarding their satisfaction with the level of quality of the health services they receive (Donabedian, 1988; Ford et al., 1997).

The concept of patient satisfaction focuses on the assessment of the quality of the clinical interaction between patient and healthcare processes in care facilities. It covers the entire spectrum of the dimensions of healthcare (including aspects such as the provision of medical and nursing care, accommodation conditions and food quality). Additionally, it represents and expresses a complex mixture of the patient's health needs, the expectations they have for the type and quality of care, and the care finally received (De Silva & Valentine, 2000).

Since the 1960s, many studies have been conducted concerning the investigation and measurement of patients' satisfaction with health services (Ware et al., 1978; Lebow, 1975; Rivkin and Bush, 1974; Swan & Carroll 1980) as well as the definition of the factors that affect it (Thiedke, 2007). During the 1990s many attempts were made to encourage the enactment of the measurement and the monitoring of patients' experiences (OECD, 2013). On the one

hand the measurement and monitoring of the patients' experiences and views strengthens the patients themselves and actively involves them in the healthcare process. As a result they gain awareness and control in the management of their health and their treatment. On the other hand, the differences which characterize the provisions of healthcare services have been highlighted over time (OECD, 2013). As a result, improvements in the care providers themselves can also be observed (Iversen et al., 2010).

With the introduction of the General Health Plan (GHP) in Cyprus, and the process of restructuring and radically changing the health system, it is more urgent now than ever for improvements in the quality of provided healthcare services as well as for the increase of patients' satisfaction, with the aim of a harmonious coexistence of healthcare providers in the public and private sector.

The purpose of this study was to investigate the level of satisfaction and the determining factors influencing satisfaction, for hospitalized patients in public and private hospitals in Cyprus.

Methodology

Study Population

A cross-sectional study was conducted from January to May 2015. The study sample consisted of 1000 hospitalized patients, obtained by stratified random sampling, including hospitals located in five cities of Cyprus (Nicosia, Limassol, Larnaca, Paphos and Famagusta). Participants were recruited from the internal, surgical and orthopedic clinics of ten (10) public and private hospitals.

The inclusion criteria for the study included: having signed patients' consent, age 18 years and older, knowledge of the Greek language, having the mental capacity to understand and respond to questions, and a hospital-stay of at least 24 hours. Power analyses were performed for the rating of the satisfaction at each hospital included in this study, was used for the size of the sample, with a confidence interval of 10% and a 90% confidence level.

To investigate the degree of satisfaction and the determining factors of satisfaction with the healthcare services in public and private hospitals, a questionnaire was developed including questions about the demographic

characteristics of the studied patients, the characteristics of medical attendants, the level of satisfaction with the medical and nursing staff, the hotel infrastructure of the hospital and the general satisfaction with their hospitalization experience.

The questionnaire was developed after an extensive review of the literature on the concept of patients' satisfaction (in this case for hospitalized patients) with the use of health services, the existing tools and measurement scales, a qualitative survey of 24 patients, and a pilot study using a convenience sample of 50 patients for the reliability control of the tool used.

The demographic characteristics included gender, age, marital status, place of permanent residence, educational level, financial status, level of insurance, information whether the patients had been hospitalized before, the type of hospital and a question regarding the self-evaluation of their health situation (using a five point Likert scale from *very bad to very good*).

The hospitalization characteristics included type of hospital (*private/public*), ward, duration of stay (in days), type of admission (*emergency/planned*), sharing the room with other patient, and being informed by the staff about one's rights. The general satisfaction of patients with their hospitalization experience (overall evaluation of hospital) was measured on a five point Likert scale (*none, little, moderate, enough, and a lot*).

Data Analysis

To test the hypothesis of regularity the Kolmogorov-Smirnov test was applied. The categorical variables are presented as absolute (n=) and relative (%) frequencies, while the quantitative variables are presented as average value and standard deviation.

For the investigation of the existence of associations between two categorical variables, the chi-square test (χ^2) was applied. For the investigation of associations between categorical and ordinal variables, the chi-square trend test (χ^2 for trend) was applied. To check for associations between quantitative variables with normal distribution, and dichotomous variables, the student's t-test (t) was used. When testing for associations between two quantitative variables with normal distribution the Pearson's

correlation coefficient was applied. Finally, to measure association between quantitative and ordinal variables, Spearman's correlation coefficient was applied.

In the event that the dependent variable was a quantitative variable, more than 2 important independent variables, and resulted in a 0.2 level ($p < 0.2$) in the bivariate analysis, then a multivariate linear regression was applied. In this case, a multivariate linear regression method was applied with backward stepwise linear regression. Regarding the multivariate linear regression, the coefficients' beta (b), the corresponding 95% confidence interval and the p values are presented.

In the case where the dependent variable was a dichotomous variable and had more than 2 important independent variables and resulted in a 0.2 level ($p < 0.2$) in the bivariate analysis, a multivariate logistic regression was performed with backward linear regression. Results for multivariate logistic regression include, odds ratios, 95% confidence intervals and p values.

The bilateral level of statistical importance was set to be equal with 0.05. The data analysis was performed with the IBM SPSS 21.0 (Statistical Package for the Social Sciences).

Ethical considerations

Prior to conducting this research, necessary permits were obtained from the relevant organizations (National Bioethics Committee of Cyprus, Personal Data Protection Commissioner, Ministry of Health, and the Administration of all participating hospitals). Participation was voluntary and confidentiality was guaranteed.

Results

The studied population consisted of 1000 patients with a mean age 57 years old, (SD ± 18.2), 50.2% females and 71.3% married. Further demographic characteristics are presented in Table 1. The average score of the general satisfaction of patients' hospitalization experience was 8.5 (SD ± 1.4), in which 0 represented the lowest and 10 the highest satisfaction.

In addition, 86% (n=860) of the patients reported that they would choose (*a lot/very much*) the same hospital in a potential subsequent hospitalization and 82.6% (n=826) reported that

they would suggest (*a lot/very much*) the same hospital to a friend/relative.

The findings of the bivariate analysis among the demographic characteristics, the characteristics of treatment, and the rating of general satisfaction of patients from their hospitalization experience/the overall rating of the hospital are presented in Table 2. Multivariate linear regression, revealed that widowers and married patients had higher scores in the overall satisfaction with hospital stay experience compared to unmarried patients ($p<0.001$, $p<0.04$). A positive correlation is observed between the self-reported health and the overall hospital satisfaction ($p=0.001$). Patients in the hospitals of Famagusta and Larnaca showed higher scores in the overall hospital satisfaction compared to patients from Nicosia ($p<0.001$, $p=0.002$).

Furthermore, patients in private hospitals indicated higher scores in overall hospital satisfaction compared to patients from public hospitals ($p<0.001$).

Finally, patients who were informed by the staff about their rights had higher scores in the overall hospital satisfaction compared to the patients who were not informed ($p<0.001$) (Table 3).

In addition, the results of the bivariate analysis between the demographic characteristics and the choice of public or private hospital (Table 4) were further analyzed using multivariate linear regression. Patients declaring a very good financial status, chose a private hospital more often compared to patients with a very poor financial status ($p=0.038$).

Also, patients with private insurance and patients of the State Category B insurance (due to income criteria, the State does not entitle Category B to free medical care) chose more often a private hospital than patients of the State Category A insurance (which are low enough income to be entitled to free medical care) ($p<0.001$, $p=0.005$).

Finally, patients who were previously hospitalized only in a public hospital chose a private hospital more often compared to patients who were previously hospitalized in both public and private hospitals ($p<0.001$) (Table 5).

Discussion

The findings of this study provide very important information about the satisfaction of hospitalized

patients, and the determining factors of satisfaction in public and private hospitals in Cyprus.

The results of the overall satisfaction of the patients with the care provided to them by the hospital and their overall experience of the provided health services was particularly high, a finding consistent with the percentage of patients (86%) who reported that they would choose *a lot* the same hospital in a potential subsequent hospitalization (patients' loyalty to a hospital, propensity to return) and also with the percentage (82.6%) of patients saying that they would suggest *a lot* the same hospital to a friend/relative (willingness to recommend).

This finding is consistent with the results of several studies (Thi et al., 2002; Rahmqvist, 2001; Quintana et al., 2006; Hordacre et al., 2005; Papanikolaou & Ntani, 2007; Tsitsi, 2010; Horattas, 2010; Tengilimoglu et al., 1999) and could be explained according to the discrepancy theory.

The discrepancy theory relates to the distance of expectations from the perceptions of individual patients concerning real incidents, the smaller the discrepancy between the expectations and the perceptions of patients, the more satisfied they are (Linder-Pelz, 1982). Similarly, patients with reduced expectations report higher levels of satisfaction (Abramowitz et al., 1987).

The best self-reported health status was associated with higher ratings of the overall satisfaction of patients with the care they received by their hospital, a finding which is confirmed by almost all the relevant studies (Thi et al., 2002; Xiao and Barber, 2008; Young et al., 2000; Jaipaul and Rosenthal, 2003).

Even though in this study, 63, 9% of the patients were hospitalized in public hospitals (36.1% in private hospitals), one of the most important findings of this study is the fact that patients who were hospitalized in private hospitals had a higher rating of the overall satisfaction with the care they received compared to patients who were hospitalized in public hospitals. The significant association is evidently a reasonable conclusion since private hospitals cater to, and are most often chosen by patients with greater financial status. Therefore, the quality of their services is adjusted to their "customer" requirements (Mostafa, 2005).

Table 1. Demographic characteristics and characteristics of treatment of the patients in the study

Characteristics	N (%)
Sex	
Male	498 (49.8)
Female	502 (50.2)
Age	57.0 (18.2) ^a
Marital Status	
Single	120 (12.0)
Married	713 (71.3)
Widowed	111 (11.1)
Divorced	56 (5.6)
Place of residence	
City	483 (48.3)
Town	83 (8.3)
Village	434 (43.4)
Level of education	
Not completed primary education	92 (9.2)
Primary school graduate	199 (19.9)
High school graduate	159 (15.9)
Lyceum graduate	168 (16.8)
Technical school graduate	97 (9.7)
Technological educational institute graduate	161 (16.1)
Higher educational institute graduate	124 (12.4)
Self-assessed economic state	
Very bad	54 (5.4)
Bad	105 (10.5)
Average	525 (52.5)
Good	286 (28.6)
Very good	30 (3.0)
Self-assessed level of health	
Very bad	32 (3.2)
Bad	106 (10.6)
Average	390 (39.0)
Good	389 (38.9)
Very good	83 (8.3)

Characteristics	N (%)
Type of hospital	
Public	639 (63.9)
Private	361 (36.1)
Place of Hospital	
Larnaca	150 (15.0)
Nicosia	300 (30.0)
Limassol	280 (28.0)
Famagusta	120 (12.0)
Paphos	150 (15.0)
Duration of hospital stay (in days)	7.3 (8.3) ^a
Ward	
Internal Medicine	369 (36.9)
Surgical	384 (38.4)
Orthopedic	247 (24.7)
Reason for admission	
Emergency	724 (72.4)
Scheduled	276 (27.6)
Hospitalization with another patient in the same room	
Yes	727 (72.7)
No	273 (27.3)
Information from staff of patients' rights	
Yes	282 (28.2)
No	718 (71.8)
Medical card	
Category A	661 (66.1)
Category B	17 (1.7)
Government employee	110 (11.0)
Special category	33 (3.3)
Private insurance	179 (17.9)
Previous hospitalization	
None	185 (18.5)
Once	257 (25.7)
Twice	269 (26.9)
≥3 times	289 (28.9)
Hospital in previous hospitalizations	
Same as now	429 (52.6)
Other public	117 (14.4)
Other private	113 (13.9)
Other public and private	156 (19.1)

^a mean value (standard deviation)

Table 2. Bivariate correlations among the demographics and the characteristics of hospitalization and the rating of the general satisfaction of patients with their hospitalization/the overall rating of the hospital

Characteristics	Average hospital evaluation score (SD)	value p
Sex		0.6 ^a
Male	8.4 (1.4)	
Female	8.4 (1.4)	
Age	0.04 ^a	0.3 ^b
Marital Status		<0.001 ^c
Single	8.1 (1.4)	
Married	8.5 (1.4)	
Widowed	8.7 (1.4)	
Divorced	8.0 (1.6)	
Place of residence		0.001 ^c
City	8.3 (1.4)	
Town	8.4 (1.4)	
Village	8.6 (1.4)	
Level of education	0.04 ^a	0.3 ^d
Self-assessed financial state	0.18 ^a	<0.001 ^d
Medical card		<0.001 ^c
Category A	8.3 (1.5)	
Category B	8.9 (1.6)	
Government employee	8.6 (1.3)	
Special category	8.0 (1.5)	
Private insurance	9.0 (1.1)	
Previous hospitalization	0.00 ^a	0.9 ^c
Hospital in previous hospitalizations		0.005 ^c
Same as now	8.3 (1.4)	
Other public	8.6 (1.4)	
Other private	8.5 (1.6)	
Other public and private	8.7 (1.4)	
Self-assessed level of health	0.21 ^a	<0.001 ^d
Type of hospital		<0.001 ^a
Public	8.0 (1.4)	
Private	9.2 (1.1)	
City where hospital is located		<0.001 ^c
Larnaca	8.6 (1.1)	
Nicosia	8.2 (1.4)	
Limassol	8.3 (1.5)	
Famagusta	9.5 (0.8)	
Paphos	8.2 (1.6)	
Duration of stay (days)	-0.16 ^a	<0.001 ^d
Hospitalization ward		0.2 ^c
Pathological	8.4 (1.5)	
Surgical	8.5 (1.4)	
Orthopedic	8.3 (1.4)	
Reason for admission		0.1 ^a
Emergency	8.3 (1.5)	
Scheduled	8.9 (1.4)	
Hospitalization with another patient in the same room		<0.001 ^a
Yes	8.4 (1.4)	
No	8.4 (1.4)	
Information from staff to patients' rights		<0.001 ^a
Yes	9.1 (1.3)	
No	8.2 (1.4)	

Values are expressed as average (standard deviation) unless stated otherwise. ^a Inspection t. ^b correlation coefficient Pearson. ^c analysis of variance. ^d correlation coefficient Spearman.

Table 3. Multivariate linear regression with a dependent variant being the rating of the general satisfaction of patients from their hospitalization experience/the overall assessment of the hospital.

	coefficient b	95% confidence level for b	value p
Widowed compared to single	0.99	0.69 to 1.29	<0.001
Married compared to single	0.545	0.34 to 0.75	<0.04
Self-assessed health status	0.16	0.07 to 0.25	0.001
Hospitals in Larnaca compared to hospitals in Nicosia	0.31	0.12 to 0.51	0.002
Hospitals in Famagusta compared to hospitals in Nicosia	0.93	0.68 to 1.17	<0.001
Private hospitals compared to public hospitals	0.90	0.72 to 1.07	<0.001
Information from staff to patients' rights compared to the lack of information	0.48	0.29 to 0.66	<0.001

Table 5. Multivariate logistic regression with the choice of public or private hospital as dependent variable (public hospital: reference category).

	Ratio of odds	95% Confidence level for the ratio of odds	value p
Very good self-assessment of financial status compared to very bad	8.66	1.12 to 66.87	0.038
Medical card (Category A:reference category)			
Category B	11.70	2.09 to 65.59	0.005
Special category	4.13	1.41 to 12.08	0.01
Private insurance	207.43	59.40 to 724.32	<0.001
Hospital in previous hospitalizations (other public and private : reference category)			
Same as now	0.11	0.06 to 0.19	<0.001
Other public	2.06	1.15 to 3.67	0.015

Table 4. Bivariate correlations between the demographics and the choice of public or private hospital.

Characteristics	Hospital		Value p
	Public	Private	
Sex			<0.001 ^a
Male	347 (69.7)	151 (30.3)	
Female	292 (58.2)	210 (41.8)	
Age ^b	61.6 (16.9)	48.9 (17.5)	0.001 ^c
Marital Status			0.001 ^a
Single	62 (51.7)	58 (48.3)	
Married	456 (64.0)	257 (36.0)	
Widowed	87 (78.4)	24 (21.6)	
Divorced	34 (60.7)	22 (39.3)	
Place of residence			0.07 ^c
City	291 (60.2)	192 (39.8)	
Town	57 (68.7)	26 (31.3)	
Village	291 (67.1)	143 (32.9)	
Level of education			<0.001 ^d
Not completed primary education	85 (92.4)	7 (7.6)	
Primary school graduate	176 (88.4)	23 (11.6)	
High school graduate	114 (71.7)	45 (28.3)	
Lyceum/technical school graduate	160 (60.4)	105 (39.6)	
Technological/higher educational institute graduate	104 (36.5)	181 (63.5)	
Self-assessed financial state			<0.001 ^d
Very bad	50 (92.6)	4 (7.4)	
Bad	83 (79.0)	22 (21.0)	
Average	384 (73.1)	141 (26.9)	
Good	116 (40.6)	170 (59.4)	
Very good	6 (20.0)	24 (80.0)	
Medical card			<0.001 ^a
Category A	548 (82.9)	113 (17.1)	
Category B	2 (11.8)	15 (88.2)	
Government employee	70 (63.6)	40 (36.4)	
Special category	16 (48.5)	17 (51.5)	
Private insurance	3 (1.7)	176 (98.3)	
Hospital in previous hospitalizations			<0.001 ^a
Same as now	365 (85.1)	64 (14.9)	
Other public	48 (41.0)	69 (59.0)	
Other private	37 (32.7)	76 (67.3)	
Other public and private	84 (53.8)	72 (46.2)	
City where hospital is located			0.02 ^c
Larnaca	99 (66.0)	51 (34.0)	
Nicosia	200 (66.7)	100 (33.3)	
Limassol	180 (64.3)	100 (35.7)	
Famagusta	60 (50.0)	60 (50.0)	
Paphos	100 (66.7)	50 (33.3)	

Values are expressed as n (%) unless otherwise indicated. ^a Control χ^2 . ^b Average value (standard deviation).

^c Inspection t. ^d Inspection χ^2 for tendency.

In the present study patients with a *very good* hospital more often compared to the patients with self-reported financial status chose a private a very poor self-reported financial status. For

patients who reported a *very good* financial status, 80% of them had been treated in a private hospital. In addition, patients with Category B private insurance, chose a private hospital more often compared to category A patients, 98.3% of patients, who had private insurance had previously been hospitalized only in private hospitals: (private insurance is available, primarily, by individuals with higher financial status). 17.1% of patients who had a Category A medical card had previously been treated in private hospitals. Also, it was found that the previous hospitalization experience of patients plays an important part in the choice between public and private hospital, as patients who were previously hospitalized in a public hospital more often chose a private hospital.

Finally, significant associations were found between patients being informed of their rights by medical and nursing staff with their overall satisfaction with the healthcare services which they received during their hospitalization. In particular, patients who were informed by the staff about their rights as patients had the highest rating of satisfaction compared to patients who were not informed. It is clear that the emphasis given to the briefing of patients by the staff concerning their rights and the protection of those rights is insufficient, and the appropriate importance is not attributed (given the small proportion of patients who reported that they had been informed of their rights and the association of this factor with the high levels of satisfaction).

Limitations

Due to limitations in access to some clinics, and the budgetary restrictions of the researcher, only patients from three types of clinics (internal, surgical, orthopedic), were included in this study. Although this is a large sample group, and does include hospitals in 5 district capitals of Cyprus, these findings may not be representative of all types patients in Cyprus.

Conclusions

The present study is the first widely conducted study in Cyprus assessing patients' satisfaction in public and private hospitals. It is an important source of information for an extremely important issue which has been the subject of intense debate during the last few years in Cyprus, the introduction of the General Health Plan (GHP) to the health system in Cyprus. This plan

anticipates the autonomy and the restructuring of public hospitals, and compensation for the provision of public healthcare services in an equal framework with the healthcare services in the private sector.

One of the main findings of this study is the increased levels of satisfaction of patients in private hospitals in Cyprus compared to patients hospitalized in public hospitals. This finding reinforces the need for public hospitals to adapt their strategic and operational planning to respond adequately to the needs and demands of their patients, to secure a competitive place in the healthcare market in Cyprus, and for government financing to be used in the most efficient manner possible. The efforts of the political leadership and the hospital administration should turn towards the effective use of resources and the absorption of funds from the sectors related to the healthcare dimensions in which patients who were hospitalized in private hospitals expressed higher levels of satisfaction.

Finally, the discovery of a significant connection between the briefing of patients by the hospital staff about their rights, with the highest rating of overall satisfaction with the care provided to them, should make clear to policy and decision makers, hospital management, and all relevant stakeholders (organizations, patients' associations, professional associations etc) that they should steer their practices in the direction of promotion, and spread the importance of demonstrating what is properly expected of the law in respecting the patients' rights and the briefing which elaborates patients' rights.

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