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Factors influencing the inpatients satisfaction in public hospitals: A systematic review



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ABSTRACT

Objective: The aim of the current study is designing a model for patient satisfaction and defining priority factors that impact patient satisfaction of healthcare services.

Method: The preliminary literature search was undertaken in December 2014. A subsequent search was carried out in October 2015, which covered a majority of databases including PubMed, Scopus, ProQuest, and Magiran. Studies related to inpatients in hospitals included and related to specific area were excluded. No time bound was applied. Two of the authors independently appraised the quality of studies, and subsequently, the grouping of the variables was done using MAXqda 12 software, and the analysis was done through vote – counting method.

Result: Out of 1315 articles, 85 articles were chosen for final consideration. Most of which have been carried out in developed

countries. The main factors affecting consumer satisfaction in hospitals were grouped into two categories. 1- Patient attribute factors: that involved expectations, health status, demographic and socio-economic. 2- Health system factors: that involved service quality, hospital features, staff satisfaction and insurance.

Conclusion: In this study the risk of bias for each study not researched. It has been contended that the construct of consumer satisfaction is a multidimensional and subjective one. The finding of the current study suggests that all these variables be considered when evaluating patient satisfaction. The evaluation process should be performed cautiously as service providers have little direct influence over patient attribute factors.

Keywords: Patient satisfaction, Consumer satisfaction, Factor, Model, Hospital, Systematic review

Highlights: This study tries to substantiate the optimal strategy of healthcare improvement with patient satisfaction as a result in all aspects of service provision (medical care, nursing, etc.).

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INTRODUCTION

In industry market, it is significant for companies to try to satisfy their customers. Satisfied customers usually return and buy more and inform others of the successful purchase they had. Thus, they possibly pay a premium for the privilege of doing business with a supplier they trust. It is apparent from the statistics that the cost of keeping an existing customer is only one-tenth of winning a new one. Therefore, winning a customer means establishing a successful business which should be valued as the most important factor.¹

As the importance of the customer in the industrial market, service providers and patients as well as healthcare system customers have gained momentum and attention in the past two decades for medical professions. Patient satisfaction lacks a clear, agreed-upon definition. Many have tried to offer an accepted definition by proposing or testing various theories, though there is not a consensus over the definition yet. For example, Susie Linder-Pelz (1982, p. 580) defines patient satisfaction as “positive evaluations of distinct dimensions of healthcare,” such as “a single clinic visit, treatment throughout an illness episode, a particular healthcare setting or plan, or the healthcare system in general.”

Lack of consensus on a general definition is also reflected the patient satisfaction questionnaires that aim at evaluating issues ranging from the communication skills of healthcare professionals to the cleanliness of hospitals, and the ease of parking during visits or scheduling a clinic appointment. The problem with lack of clear-cut established definition is the confusion of the term with “patient-centered care” and “shared decision-making.” The Institute of Medicine defines patient-centered care as a type of “care that is respectful of and representative to individual patient preferences, needs, and values ensuring that patient values guide all clinical decisions.” Shared decision-making is “an approach where clinicians and patients make decisions together using the best available evidence.” These terms are similar to patient satisfaction in that they each ascribe importance to patients’ views and opinions about their healthcare. Indeed, all three concepts may have originated from efforts to increase patient engagement in healthcare, thereby promoting patient compliance and positive health outcomes. However, patient-centered care and shared decision-making represent factors in the actual provision of healthcare, whereas

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patient satisfaction is an evaluation that follows the provision of healthcare.²

To measure patient satisfaction, the affecting factors should be available in order to find a reliable scientific method which we can intervene in this area. Patient satisfaction is defined as a desirable outcome of care, possibly representing an element of the overall health of an individual.³ Researchers studying satisfaction with medical care,^{4,5} have found out that the level of patients' satisfaction along with the care received show a direct relationship with behavioral intentions such as following post-discharge health-care regimens and seeking follow-up cares. Moreover, marketing researchers^{6,7} have acknowledged patient satisfaction as the main predictor of future behavioral intentions related to the purchase of healthcare services. Patient satisfaction is also used as the indicator in decision-making by the organizations that purchase healthcare services for their subscribers. The information is usually used in deciding whether or not to cooperate with a specific healthcare agency.⁸

Although the existing literature authenticates the multidimensionality of the consumer satisfaction construct, there is no identified general agreement about the nature or content of the consumer satisfaction dimensions. Thus, the current study tries to clarify and collect factors from patients at various studies in the field of customer satisfaction that was conducted in the hospital settings. So the followed question formed our search strategy based PICOS: what is the searched factors (C) in various studies (S) that influence inpatient (P) satisfaction (O) in hospitals (I)?

METHOD

Information Sources

The preliminary literature search was undertaken in December 2014. Following that the updating search

was done in October 2015. The search included academic and gray literature. The academic thematic databases included PubMed, Scopus, ProQuest, Magiran (Persian database). References of the selected articles were researched to make sure that all articles and the related ones were identified and evaluated for the purpose of the study. [Figure 1]

Search Strategy

Based on PICOS search strategies for electronic databases were developed by one of the authors (AS) and peer-reviewed by search specialists. The search strategy was first applied to PubMed (Appendix) and then adjusted to search other databases.

Eligibility Criteria (Inclusion/Exclusion)

All articles related to inpatients in the following settings were included in the study: a) public hospitals, teaching hospitals, university hospitals, general hospitals, state hospitals, health-promoting hospitals network, civil service hospital, not-for-profit hospitals; b) No time limit was applied to the articles chosen with regard to the publication year; c) Articles written in English and Persian were included; d) Articles specific to a particular treatment, condition, facilities, disease or patient groups were excluded.

Critical appraisal of studies: quality assurance process

Quality assurance was maintained in three stages: (1) potential citations were imported into endnote software, and the repeated ones were removed; (2) studies were scanned on the basis of title and abstract; (3) two of the authors independently appraised the studies; any discrepancies in the critical appraisal were resolved through discussion, and any issue that could not be resolved was discussed with a third. There were three types of studies: observational, qualitative and review for which STROBE checklist,⁹ CASP Qualitative Research Checklist,¹⁰ and CASP Systematic Review Checklist¹¹ were used respectively.

Data Extraction

A checklist was applied for data extraction, and two researchers performed extracting the information of study the study characteristics independently. The information included kind of hospital, country, determinants investigated, study type, sample, and data collection, measurement of satisfaction, method of analysis, results, and conclusions.

Analysis: Overall Approach to Synthesis

The synthesis was done in two phases explained below:

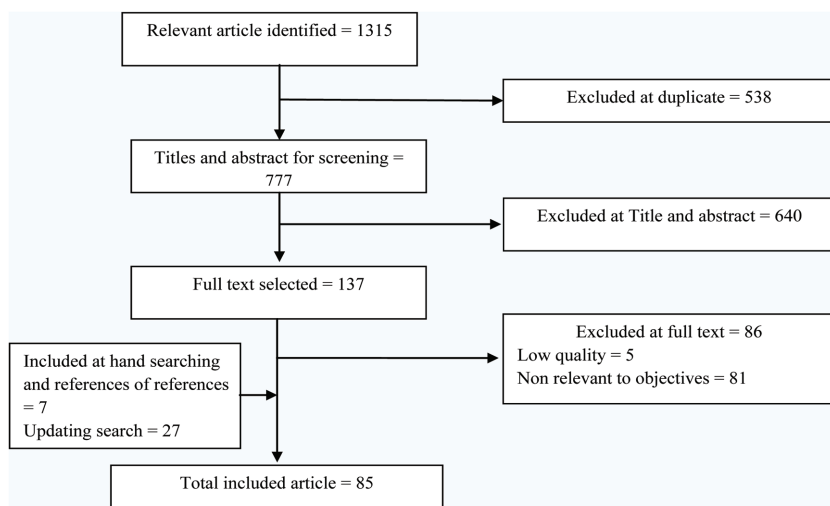


Figure 1 Literature review and retrieval flow diagram

1. Grouping the effective factors which included
2. Extracting main findings
Importing the extracted findings to MAXQda software (version 12). After extracting factors, variables grouped into theme and sub-theme and deriving a model from the analyzed data.¹²

Vote Counting The Factors

The analytical purpose and understanding the significant influence of factors, vote counting was done. Vote counting is a simple but limited method for synthesizing evidence from multiple evaluations, which involves simply comparing the number of positive studies (studies showing benefit) with the number of negative studies (studies showing harm). It does not take into account the quality of the studies, the size of the samples, or the size of the effect.¹³ There was no additional analysis.

RESULT

Search Result

Our academic database searches yielded 1315 articles [Figure 1], after eliminating irrelevant and repeated articles we kept 90 articles (2, 7, 14-101). Moreover, five articles were excluded by quality appraisal criteria for its low quality (14, 18, 34, 39, 42). The literature search identified 85 studies, (79 articles and 6 theses) which met the determinants of satisfaction. Among the chosen studies, 30 studies (35%) were conducted in IRAN, 20 (24%) in the USA, and the remaining 35 (41%) were carried out in other countries (Europe, Asia, Australia and Africa).

Quality Assessment Result

Quality assessment was done by two of researchers. Most observational studies (81%) received “yes” score; only a few of them (5%) received “no” score and 14% received “can’t tell” score from STROBE checklist.

A total of 90% of the qualitative studies received “yes” score, and only 10% received “can’t tell” score from CASP Qualitative Research Checklist.

Likewise, 70% of the review studies received “yes” score, and 20% received “no” score. The remaining 10% of the studies also received “can’t tell” score from CASP systematic review Checklist.

Characteristics of included studies

The majority of studies 71 (84%) were conducted after 2000 and 14 studies (16%) were published before 2000. Out of 85 studies, 79 (93%) of them were observational, 3 (3.5%) qualitative and 3 were literature (3.5%) reviews [Table 1].

The structural framework for the review studies distinguished two groups of determinants: those relating to patient attributes and those relating to health system attributes. Patient attributes included expectations, health status, demographic and socio-economic characteristics of patients, and health system characteristics included health service provider characteristics, staff (physician, nurse, other staff) satisfaction and insurance & cost. Factors affecting the patient’s satisfaction are described below:

Factors relating to Patient attribute:

1-A: Expectations and satisfaction

The relationship between expectations and satisfaction was investigated in five from 85 studies (6%). The main study features and findings are summarized in [Table2]. There is an evidence of the association between satisfaction and expectations, indicating that the overall satisfaction with a hospital is almost related to fulfillment of patient expectations.^{7, 81, 82, 99} For instance, a study concludes that the higher a patient’s expectations for their care, the higher would be their satisfaction.⁵⁸

1-B: Health status and satisfaction

The relationship between health status and satisfaction was investigated in twelve from 85 studies (14%), the main study features and findings of which are summarized in Table 3. [Table3]. Furthermore, ten studies revealed that good health status was significantly and positively related to higher levels of patient satisfaction.^{22, 47, 48, 63, 68, 72, 80, 86, 89, 96-98}

1-C: Demographic characteristics and satisfaction

A number of thirty-four from 85 studies (40%) examined the relationship between patients’ demographic characteristics (age, gender, marital status) and their reported satisfaction with healthcare. The main study features and findings are summarized in table 4. [Table4]. Out of twenty studies, fifteen studies pointed out that gender had no significant impact on satisfaction with care.^{20, 21, 23-25, 29, 31, 33, 48, 57, 59, 73, 84, 91, 94} Also, in five studies men’s satisfaction

Table 1 Characteristic of Included Study

Study type	Country	Data	Method
Article	N= 79	Iran N= 30	Pre-2000 N= 14
Thesis	N= 6	Usa N= 20	2000-2015 N= 71
-	-	Turkey N= 4	-
-	-	France N= 3	-
-	-	Canada N= 3	-
-	-	Other N= 25	-

with care was reported higher than that of women.^{28, 38, 60, 71, 84} In contrast, five studies proved women satisfaction.^{26, 27, 32, 40, 50}

A number of fourteen out of twenty-two studies found a positive correlation between age and satisfaction,^{23, 31-33, 38, 47, 57, 59, 71, 72, 84, 96, 97} though, eight studies indicated that this relationship was not a significant one.^{19, 22, 24, 40, 48, 73, 91, 94} Among the eight studies that were investigated five studies found out that marital status had no significant effect on satisfaction^{23, 31-33, 94} and three studies also pointed out that married people presented more satisfaction.^{17, 38, 71}

1-D: Socioeconomic status and satisfaction

The relationship between patients' socio-economic characteristics (education, income, residence, occupational status) and their reported satisfaction with healthcare was investigated in twenty-five from 85 studies (29%). The main study features and findings are summarized in [table 5](#). [Table 5]. Among nineteen studies that investigated education as a factor affecting satisfaction, sixteen studies implied that less educated people were more satisfied with the care^{17, 20, 21, 24, 25, 29, 31, 32, 36, 38, 50, 60, 71, 76, 89, 94} and three studies showed no significant relationship between education and satisfaction and care.^{19, 22, 40} Regarding the effect of income on satisfaction, four of six studies noted that satisfaction decreased

with increasing income^{36, 62, 71, 97} and two studies found income to have no significant effect on satisfaction.^{24, 25}

The impact of residence on satisfaction was also covered in studies, among which six studies showed that urban patients were less satisfied^{33, 38, 71, 89, 91, 94} and three studies also noted that residence had no significant effect on satisfaction.^{19, 31, 40} One study showed more satisfaction in urban people after surgery. However, the same study found no significant relationship among urban people before surgery.²⁸ Among seven studies, four found the relationship between occupation and satisfaction not significant^{22, 25, 31, 94} whereas, three studies indicated that employed people showed more satisfaction.^{32, 38, 40}

Health System Attributes

2-A: Health service provider's characteristics and patient satisfaction

Health service provider's characteristics that influenced patient satisfaction, were divided into two categories: service quality and hospital features.

2-A-A: Service quality

A total of fifty-six from 85 studies (66%) examined the relationship between service quality and their reported satisfaction with healthcare. The main study features and findings are summarized in [\[Table 6\]](#). Service quality factor is a subset of hospital-related service providers. Evidence showed that direct and significant statistical relationship between all dimensions of service quality and patient satisfaction.^{2, 15, 16, 22, 27, 30, 35, 37, 40, 41, 43-50, 52-56, 59-62, 64-67, 69, 70, 72, 74, 75, 77, 78, 80, 82, 83, 85-93, 95, 97, 99-101}

2-A-B: hospital features

A number of 17 from 85 studies (20%) examined the relationship between hospital features such as length of stay, ward, hospital size, and patient satisfaction. The main study features and findings are summarized in [\[Table 7\]](#). Out of eight studies, five showed no relationship between hospital stay and satisfaction.^{22, 31, 73, 89, 94} However, two studies indicated a positive and statistically significant relationship between the length of stay and satisfaction,^{40, 84} and one study indicated that increased hospitalization time leads to an inversely proportional satisfaction.²⁶

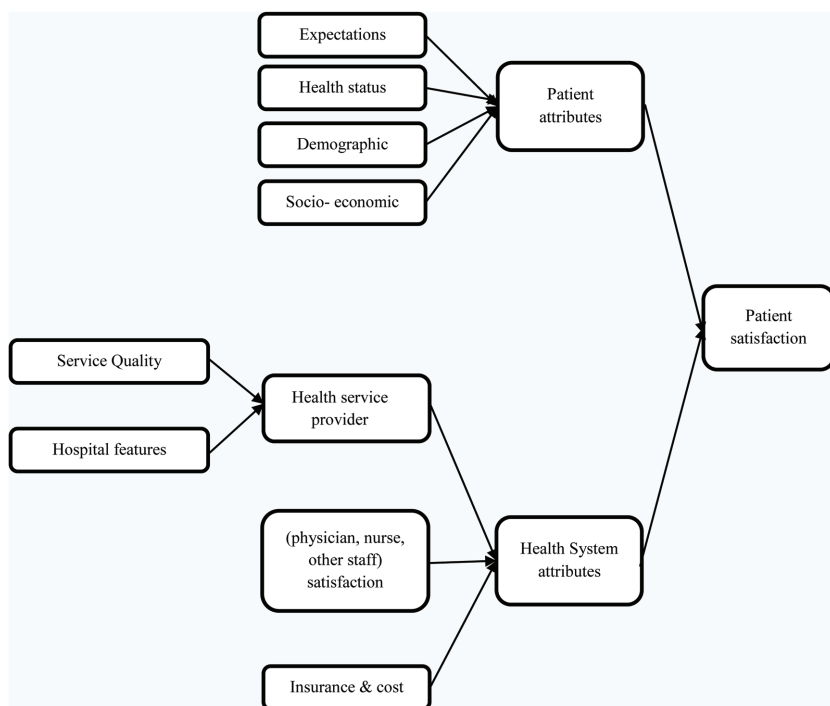


Figure 2 Factors model; affecting patients satisfaction

Moreover, nine studies investigated the influence of the type of ward on satisfaction, among which three showed a significant relationship between two factors, meaning that patients in surgical wards were more satisfied.^{60, 84, 91} However, in other four studies it was found that patients in non-surgical wards were more satisfied^{25, 89, 94, 96} and one study indicated that department was not associated with global satisfaction.⁵⁹ The findings of another study proved that patients who were admitted to special rooms were 6.2 times more likely satisfied than those who were admitted to the usual class/rooms.⁶² Three studies showed that patients in smaller hospitals were more satisfied than large hospitals.^{69, 71, 76}

2-B: (Physician, nurse, other staff) satisfaction

The relationship between staff satisfaction and patient satisfaction was investigated in three from 85 studies (3.5%), the main study features and findings of which are summarized in [Table 8]. All three studies resulted that staff satisfaction was associated with patient satisfaction. This relationship was significant and positive.^{16, 51, 52}

2-C: Insurance & cost

The relationship between insurance and patient satisfaction was investigated in six from 85 studies (7%). The main features and findings of which are presented in [Table 9].

Five out of six studies showed that the percentage of satisfaction among patients with insurance was higher than those without insurance.^{17, 32, 38, 71, 89} Although, one study indicated that No significant relationship existed between health insurance coverage and observed satisfaction.²⁴

DISCUSSION

Healthcare is changing rapidly, and industries are trying hard to keep up with such a rapid progress and keeping up with healthcare changes is a real challenge. MDG advertising examined the latest industry insights from a variety of trusted sources to highlight the trends and tools that will redefine healthcare in 2015. These cover the marketing, digital experience, and consumer needs in healthcare to help medical and pharmaceutical professionals improve the health of their businesses, to help put these predictions into practice, this forecast features opportunities and options to turn these shifts into strategies.¹⁰² To release strategic objectives in hospitals as a second level referral, the healthcare system is needed to identify factors influencing the customers in this area.

Factors influencing patient attributes include expectations, health status, gender, age, marriage status, education, income, place of residence and work status which were significantly associated with satisfaction. As well, health system attributes include factors such as characteristics of good service quality, increase hospitalization time, non-surgical wards, smaller hospitals, staff satisfaction and having insurance and lower health expenditure that were found significantly associated with satisfaction.

Satisfaction is a positive sense that is felt after receiving a service or a product. Overall, satisfaction with a hospital is related to fulfillment of patient expectations.^{7, 81, 82, 99} In other words, if received service equals with patient expectations patients will feel satisfied. If the service stands higher than patient expectations, patients will be surprised and on the contrary, low service will make them unsatisfied. The degree of surprise varies according to time and place, and it is also related to the gap between patient expectation and service provider performance.¹⁰³ In various satisfaction models and indicators such as Swedish Customer Satisfaction Barometer, American Customer Satisfaction Index, European Customer Satisfaction Index, the Swiss Customer Satisfaction Index and Malaysian Customer Satisfaction Index, perceived value and expectations are considered to be a stimulant of satisfaction. Based on these findings, resource allocation decisions should be re-evaluated in the light of patients' expectations. Health managers must understand that perception of the current experience of care and services is important in patient expectations and the rate of next referral patients and offers and suggestions to others.

In line with other studies,¹⁰⁴ the result showed that health status could affect satisfaction. Patient with better health status was more likely to be satisfied with the care they received.^{22, 47, 48, 63, 68, 72, 80, 86, 89, 96-98} It is very important to examine the mechanism through which initial satisfaction of care is linked to subsequent health outcomes in order to achieve a better understanding of the dynamic relationship between health status and satisfaction with healthcare.

Among demographic variables relationship between age and marital status has been found significant for patient satisfaction. As in previous studies,¹⁰⁵⁻¹⁰⁷ we showed that older patients tended to have higher satisfaction scores.^{23, 31-33, 38, 47, 57, 59, 71, 72, 84, 96, 97} It may reflect generational or life cycle effects are meaning that older people are more stoical and accepting than the young ones, or that they engender more respect and care from service providers. Alternatively, it may be justified by a cohort effect meaning that they have lower expectations based

on prior experiences when standards were lower. In contrast to other study findings,¹⁰⁷ our study found that those who were married had higher satisfaction scores.^{17, 38, 71} The age factor also applies in the case of married and may be due to the increased satisfaction in married people than singles.

Similarly, others,^{12, 107} between education and satisfaction there was a statistically significant negative relationship meaning that patients who were less educated were more satisfied.^{17, 20, 21, 24, 25, 31, 32, 36, 38, 50, 60, 71, 76, 89, 94} Also in line with other research findings, the current study found a negative relationship between income and satisfaction which showed that patients who had less income were more satisfied.¹² Likewise,¹⁰⁸ there was a significant relationship between residence and satisfaction which proved urban patients were satisfied.^{33, 38, 71, 89, 91, 94} As other studies,¹² the current study found employment to have a direct impact on satisfaction; therefore employed people were more satisfied.^{32, 38, 40} This may be due to the fact that highly educated, more income, urban and employed people have more critical thinking and thus have high levels of expectation in all aspects of life. This can lead to the conclusion that former group might not have enough access to knowledge about good standard healthcare. Since factors related to patient attributes differ with various hospitals and cannot be changed in limited time, health managers should interpret the results of satisfaction to consider demographic variables in covered populations.

As other studies,^{109, 110} the current study found a significant relationship between service quality and satisfaction.^{2, 15, 16, 22, 27, 30, 35, 37, 40, 41, 43-50, 52-56, 59-62, 64-67, 69, 70, 72, 74, 75, 77, 78, 80, 82, 83, 85-93, 95, 97, 99-101} In the health-care industry, hospitals provide the same types of service, but not the same quality of service. Medical service encounters will influence patients' overall satisfaction in two ways: (A) interpersonal-based medical service encounters directly affect patient satisfaction, which represents a direct effect; and (B) service quality and patient trust are used as intervening variables that affect patient satisfaction, which represents an indirect effect. Furthermore, consumers today are more aware of alternatives on offer and the rising standards of service have increased their expectations. They are also becoming increasingly critical of the quality of service they experience.⁵⁶

Among factors dealing with hospital features, in contrast to other studies,^{107, 111} our study found that the length of hospital stay had a positive and significant effect on satisfaction,^{22, 31, 73, 89, 94} as the patients may feel that they have received more attention. Patients in non-surgical wards showed more satisfaction^{25, 89, 94, 96} which could be due to pain and physical health status. Similar to other studies,¹¹²

the current study found hospital size related to efficiency and patients in small hospitals manifested more satisfaction.^{69, 71, 76} Higher satisfaction with small hospitals has been previously attributed to the possibility that patients perceive larger hospitals as impersonal and intimidating. Patients may perceive the care to be more personal or perhaps they know the providers. If there is a chance that hospital staff will have to interact with patients after discharge, perhaps they are more courteous or more attentive in their jobs.

Staff satisfaction (physician, nurse, other staff) had also a positive and significant influence on satisfaction.^{16, 51, 52} Human resources as the most important asset of any organization, determine the different ways of using other resources which consequently leads towards achieving the goals set by the organization, and the realization of organizational goals are set. When organizations invest in human resources to create a happy and motivated workforce, they provide high-quality care which plays an important role in the development and prosperity of society.¹¹³ When companies are looking for ways to improve customer service, they usually try to put more resources available to the customers and resolve their needs quickly. But an intelligent and forward-thinking organization usually reconsiders any action in dealing and communicating with their employees and tries to keep them satisfied in the first place. Studies show that employee satisfaction resulted in customer satisfaction.¹¹⁴

Insurance and costs also have a direct influence on satisfaction.^{17, 32, 38, 71, 89} Rising healthcare costs and financing constraints has caused more attention on health economics. Though the attempts are not for increasing revenues and reducing costs not at any price, they are for trying to make good use of the facilities available.²⁹ Usually, pay out of pocket is studied more in Asian countries where the cost of services is high and insurance rates are low.

The health of people is always a national priority and demands a high and continuous governmental responsibility. Responsiveness is therefore always a social goal. The general notion of responsiveness can be decomposed in many ways. One basic distinction is between elements related to respect for human beings as persons – which are largely subjective and judged primarily by the patient – and more objective elements related to how a system meets certain commonly expressed concerns of patients and their families as clients of health systems, some of which can be directly observed at health facilities.¹¹⁵ So satisfaction is proposed as a performance indicator of health systems responsiveness. Hospitals, as well as a key bottleneck in the health system, need to determine the satisfaction level of their customers.

A total of 85 articles were identified from which evidence was analyzed about how individual factors and various health service features affected reported satisfaction. There are some limitations that exist: A) We had to use the Vote-counting method to conclude the votes but Vote-counting procedure gives one vote to each study regardless of its sample size and the statistical precision with which the outcome was tested B) Risk of bias for each study not researched. Most of the studies were observational and used correlational methods because manipulating the quality of care attributes to measure the impact on reported satisfaction is ethically and practically problematic. Individual factors that affected satisfaction were grouped into four categories: expectations, health status, demographic and socioeconomic characteristics. Although service providers have little direct influence over individual factors, an understanding of the mediating role of these variables is important for an accurate interpretation of user evaluations of healthcare delivery. Features of healthcare delivery are potential policy variables; evidence of dissatisfaction can be addressed by managers and professionals, subject to resource and cost-effectiveness considerations.

CONCLUSION

Consumer satisfaction is a multidimensional concept, and the impact of each factor for each hospital is quite specific and dependent on culture, the specialty of hospitals, demographic variables, economic status and so on. Improvements should also be conducted when deemed necessary as a consequence of the obtained results.

In order to improve their performance, hospital policy makers should raise the satisfaction level and identify the needs of their internal and external customers. It should be noted that the current study was conducted only in university and public hospitals and factors influencing patients' satisfaction may differ depending on the structures of the organizations. Thus, each hospital should measure and evaluate patient satisfaction levels regularly in order to determine its own dynamics.

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