

College of Business Administration Research Center

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ABSTRACT

Objectives: The main objectives of the study are: 1) to identify patients' expectations and satisfaction about "in-patient" services in the Saudi Ministry of Health (MOH) hospitals 2) to determine the gaps that may exist between patients' satisfaction and their expectations in relation to selected variables, including health personnel-related variables, organization-related variables and environment-related variables and 3) to provide information that help health decision-makers to set priorities to improve in-patient services in the MOH hospitals.

Methods: The study employed a self-administered questionnaire to collect data from 500 inpatients from the MOH hospitals in Riyadh City, of which 405 questionnaires were returned and valid for analysis. The data were collected on a group of factors relevant to in-patient services. The collected data were presented and analyzed in a descriptive fashion.

Results: The results showed significant differences between the general mean scores of in-patients' satisfaction and expectations among admitted patients in the MOH hospitals in most of the variables employed in the study. The largest gaps between patients' satisfaction and expectations existed in organizational variables, followed by health staff-related variables and environment-related variables.

Conclusion: Health policymakers and other health care providers should have an understanding of factors that are essential to build a higher quality of in-patient services in the MOH hospitals. Ignoring these factors may adversely affect the delivery of in-patient services to the Saudi population in general.

Keywords: Expectations, Satisfaction, Hospitals, Saudi Arabia.

INTRODUCTION

Compared to other health services, hospital “in-patient” services consume much of health resources and are one of the most significant areas that should warrant attention from health care providers and decision makers in the health care sector. In Saudi Arabia, as well as in other countries, the use of in-patient health services is increasing. This is evidenced by the annual health reports released by the Ministry of Health (MOH) in Saudi Arabia which showed that there were approximately 2.5 million admissions in the Saudi hospitals in the year 2006 (MOH, 2006). The vast majority of these admissions took place in the MOH hospitals. Decision-makers indicate that health resources are limited and the expenditure on in-patient health care is high and still rising. There is a general assumption in the medical literature that in order to save efforts and cost of health resources, there should be some sort of priority setting for health care resources.

This paper begins with significance of the study followed by research objectives, which lead to the literature review. Research methods section follows. Subsequently, results are presented and a discussion of results provided. Finally, limitations of the study and future research directions are provided.

Significance of the study:

Setting priorities for in-patient services has been reported from many countries, irrespective of the prevailing health care system (Baron-Epel et al, 2001; Gesell and Gregory, 2004; Pager and McCluskey, 2004), indicating that health services are scarce and resources should be allocated according to the people's needs (Hopton and Dlugolecka, 1995). Understanding peoples' expectations and satisfaction about in-patient services is one method to allocate the limited health resources. Much of the literature indicates that patients' expectations and satisfaction is one of the useful tools that can help allocate health resources.

In Saudi Arabia, setting priorities for in-patient services from the views of patients has not received a great deal of attention. Nearly all previous work was collected in small studies and has been done in a single health care facility (e.g. hospital or a primary health care center) (Al-Dawood and Elzubier 1996; Al-Almaie et al, 1998; Al-Omar 2000). While such work is valuable, it has limited generalizability and do not provide large information about in-patient health services.

In the Kingdom, the effects of an increasing number of admissions, for example, are of considerable public health importance since medical admissions are expensive in terms of the consumption

of resources such as time, medications, equipment and human resources. In fact, virtually all of the Five-Year Development Plans in the Kingdom stressed the need for better health services for the Saudi population. Since these development plans encourage the provision of high quality of health services in the Kingdom, and little work has been conducted on the assessment of the quality of health care in developing countries (Roemer and Montoya-Aguilar, 1998), studying patients' expectations and satisfaction is a very important step in the assessment of the current in-patient services in the MOH hospitals; the main provider of health care in the Kingdom.

It is anticipated that the findings of this study could help in gaining an understanding of the gap between what patients expect to get from in-patient services and their satisfaction of these and therefore be of importance in developing knowledge and understanding of patients' priorities for in-patient services in the Kingdom. Therefore, it is anticipated that this study will provide valuable information that will help health decision-makers in setting priorities about in-patient services and will help filling-in some of the gaps in the provision of such services in the Saudi hospitals.

Objectives of the study

The aim of this study is to explore the current expectations and satisfaction held by patients with respect to in-patient services

provided by MOH hospitals in Saudi Arabia. Specifically, this study was set to achieve the following objectives:

1. To identify patients' expectations (priorities) about in-patient services in MOH hospitals
2. To assess patients' satisfaction with in-patient services in these hospitals.
3. To determine the gaps that may exist between patients' satisfaction and their expectations in relation to selected health staff, organizational and environmental variables.
4. To provide information that may help health decision-makers to set priorities to improve in-patient services in the MOH hospitals.

LITERATURE REVIEW

Setting priorities in health care has received much attention in the medical literature since health resources are scarce and expensive. Planning health services should depend on a comprehensive assessment of the population needs. One way to accomplish this is to ask people about their expectations and satisfaction about the services they have or willing to have. Understanding the gap that may exist between what people expect and what they actually get from the health care system is a key factor in the provision of good quality of health care. In-patient care is one critical area that should be investigated.

Therefore, this section reviews the literature on some aspects central to the work of this study. Specifically, this literature review will shed light on the following six aspects:

1. In-patient services in Saudi Arabia.
2. Patients' expectations of in-patient hospital services.
3. Patients' satisfaction of in-patient hospital services.
4. Bridging the gap between patients' satisfaction and expectations
5. Factors influencing in-patients' satisfaction and expectations.
6. Quality issues related to hospital in-patient health services.

1. In-patient services in Saudi Arabia

In Saudi Arabia, in-patient health service is delivered through various channels including Ministry of Health, other governmental agencies and the private sector. However, the Saudi health care system has been characterized by a strong public sector component since the majority of health services are provided by the MOH and the other governmental agencies.

In 2006, the total of in-patients in the hospitals of all health care sectors in the Kingdom was approximately 2.5 millions, of which about 55% of them were in the MOH hospitals, 19% in other governmental hospitals and about 26% in the private sector hospitals

(MOH, 2006). These figures are still escalating and, as such, threaten the budgets of health care sectors in the Kingdom as well as the quality of services rendered to the general population.

Despite the growth of in-patient services in the public hospitals in Saudi Arabia, the quality of services provided to patients is increasingly brought into question mainly due to a lack of professional training and use of modern technology (Al-Qahtani, 1993; Al-Qahtani and Al-Methheb1999). The Saudi Health care system is concerned about meeting its patients' expectations and about the quality of care it provides and has initiated ongoing quality improvement programs as evidenced by the establishment of quality health departments virtually in all major hospitals (Al-Gahtani, 2003; Al-Ahmadi and Roland, 2005).

In-patient services are not only an expensive component of the Saudi health care system, but also account for a considerable amount of the patients' satisfaction and expectations about the health services provided by the Saudi hospitals. Therefore, setting priorities in the provision of such services is believed to be an important topic for a research project.

While much empirical research has been conducted on patients' expectations and satisfaction in this area in Western countries (Stevenson et al, 2004; Thompson et al, 2004; Hooper et al,

2005; Toiviainen et al, 2005), little research has been conducted on this significant subject in Saudi Arabia in-patient services. The available research was either limited (Al-Qahtani, 1993 ; Al-Qahtani and Al-Methheb, 1999; Uddin et al, 2002; Khoshoggi, 2003) or directed to certain issues in health care such as cost (Saeed, 1999), certain facilities such as primary health care centers (Al-Ahmadi and Roland, 2005) and certain departments in a hospital (Iqbal et al, 2007). The lack of empirical research in this significant area confirms research findings concerning the lack of empirical research into developing countries in general (Barker, 1995; Gonzalez-Block, 2004; Mostafa, 2005). This study attempts to fill this research gap by empirically investigating patients' expectations and satisfaction about in-patient services provided by MOH hospitals in Saudi Arabia.

2. Patients' expectations

Several studies identified the importance of patients' expectations and the role they play for individual patients and in the health care system as a whole. Patients' expectations are important for a variety of reasons. First, patients' expectations have become an increasingly important element of health care for researchers and health care professionals alike. The long-term trend in patient care has been a move from physician-centered care to patient-centered care (Kravitz, 1996). One result of this shift is a growing interest in patients' expectation. The first step in establishing a therapeutic partnership between doctor and patient begins with identifying the

patients' expectation for the medical visit (Kroenke, 1998). Patients visiting their doctor generally arrive with expectations for the care that they will receive. These expectations range from a desire for information or psychosocial support to expectations for specific tests or treatments (Joos et al, 1993). Fulfillment of patient expectations is associated with higher visit satisfaction and health outcomes for patients (Eisenthal et al, 1979) and cost (Eisenberg, 1985).

Second, the importance of patients' expectations extends beyond individual patients. Patients' expectations are important for clinicians and other health care providers, policymakers, as well as researchers. For physicians, identifying, understanding and fulfilling patients' perceived needs and expectations has been identified as an inherent goal of medicine (Hauser and Featherman, 1977). Meeting patients' expectations results in greater satisfaction with the physician and health care (Kravitz, 1996). Higher satisfaction, in turn, results in better health outcomes through better adherence to therapy and treatment regimens (O' Brien et al, 1992). Third, other noteworthy findings from expectations and satisfaction studies are the association found between satisfaction and loyalty to physician and health care plans and malpractice suits. Patients that have higher levels of satisfaction do less doctor shopping and are more loyal to their health plans (Ware and Davies, 1983). Satisfied patients also have a lower propensity to sue for malpractice.

3. Patients' satisfaction

The issue of satisfaction has been examined and tools for measuring satisfaction have been formulated concerning hospitalized patients (Goldberg et al, 2003). It is difficult to point out valid and reliable questionnaires that properly cover the various domains of ambulatory medicine. A review of 195 studies dealing with satisfaction from medical services reveals a gloomy picture on the quality of measurement instruments in this area (Sitzia, 1999). In the literature, there are several studies on patient's satisfaction which offer the potential to obtain a representative sample of views perceptions and expectations about health services and they were being widely used in the assessment of health needs and in priority setting (Pollock, 1993).

The current literature indicates that patient satisfaction is considered a key measure of quality of care (Al-Mandhari et al, 2004; Groenewegen et al, 2005). Factors influencing patient satisfaction may play a significant role in determining the quality of patient care. Individual characteristics such as age and education together with characteristics of the general practitioner's practice are associated with satisfaction too but at best are a major predictor of satisfaction (Sitzia and Wood, 1997).

Patient satisfaction with health care is a subject that has commanded more and more attention in the medical literature in general and in Saudi Arabia in particular, especially after the introduction of health insurance and the prospectus privatization of health services in Saudi Arabia (Umeh, 1994; Saeed and Al-Omar, 1998; Alnaif, 2006).

Research of patient satisfaction carried out in the past two decades showed that improvement in health status of the population is the best predictor of a patient satisfaction with the hospitalization (Al-Mandhari et al, 2004; Venn and Fone, 2005). In other words, the level of satisfaction is the product of improvement in the patient's health as a result of hospitalization.

In conclusion, setting priorities in the allocation of health resources (such as funding, health personnel, etc) represent a challenge to any health care system and the Saudi health care system is no exception. Much of the research has been found in different countries with different health care systems. A significant amount of such research identified that setting priorities and the allocation of health resources can be made through listening to the patients' views, expectations and perceptions.

4. Bridging the gap between patients' satisfaction and expectations

Patients' expectations and satisfaction are increasingly being recognized by hospital administration and health care providers as an important aspect of health care (Al-Dawood and Elzubier, 1996) that help in the assignment of priorities among health services. The patients' expectations and satisfaction may be affected by various factors which could be demographic or related to hospital staff structure or the complexity of administrative procedures in the hospitals concerned.

Measuring priorities together with satisfaction gives knowledge not only about patients' satisfaction but also about what the issues mean to the patients and to what degree they are evaluated as important. Therefore, identification of patients' priorities may be an important instrument to improve ways of measuring care quality and may also help as a guideline when it comes to improving health care. Some authors identified that by analyzing not only patient satisfaction but also the relationship between priorities and satisfaction in response to the individual questions, it is possible to highlight special areas in need of attention (Ammentorp et al, 2005).

Al-Dawood and Elzubier (1996) investigated factors that are important to patients and reported that the highest rate of satisfaction was regarding the set of investigations carried out while the lowest rate was regarding waiting time. Such findings indicate that

investigations carried out for patients to determine the health conditions warrant a priority in the provision of health care to patient.

Determining the priorities that should be allocated to health care and quality of health care delivered in hospitals could be evaluated by many ways such as patient satisfaction and expectations. In fact many health care standardization and accreditation bodies, as well as governmental bodies expect health organizations to use patient satisfaction and expectations measurement as a quality evaluation tool (Al-Omar, 2000).

Ammentorp et al (2005) found in their research that the greatest gap between expectations and satisfaction was in the waiting time related to admission, waiting time related to fulfillment of the patient's needs and information given about care and treatment. In this study, authors reported that patients were most satisfied with the nurses' behavior and physicians' performance.

A study in Singapore carried out by Lim and Tang (2000) reported that in today's highly competitive healthcare environment, hospitals increasingly realize the need to focus on service quality as a means to improve their competitive position, customer-based determinants and perceptions of service quality therefore play an important role when choosing a hospital. In this study, authors made

an analysis covering 252 patients and revealed that there was an overall service quality gap between patients' expectations and perceptions. The study concluded that improvement are required across all the dimensions employed in the study; namely tangibility, reliability, responsiveness, assurance empathy and accessibility and affordability.

Studies about patient satisfaction in Saudi Arabia are scarce and limited to a single hospital or a primary health care center. However, such studies identified the importance of patients' expectations and satisfaction in allocating resources and in determining priorities for health care services (Al-Dawood and Elzubier 1996; Al-Almaie et al, 1998; Al-Omar 2000).

5. Factors influencing in-patients' satisfaction and expectations

In the medical literature, there are several studies that evaluated the influence of several factors on the patients' expectations and satisfaction about hospital services. For instance, the study conducted by Butler et al (1996) investigated the effects of demographic factors on users and observers of perceived hospital quality in two geographic areas, the southern and mid-western USA (Butler et al, 1996). Using a sample of 473 participants, the results revealed no significant difference between the two groups on the

human performance dimension. However, the study revealed a significant difference on the perceived facility quality dimension. Results of this study also showed that facility-related quality is valued higher for female respondents than male respondents. Finally, no evidence found that hospital quality perceptions are affected by age or respondents employed in the study (Mostafa, 2005).

A study in Lithuania examined the relationship between meeting patients' expectations and patients' satisfaction with medical consultations. The study analyzed 460 sets of questionnaires and revealed that satisfaction with medical consultations was higher among patients who have a greater number of expectations met (Zebiene et al, 2004). The study also found that physicians' success in meeting different types of patient expectations have different influences on patient satisfaction. The most important expectations to be met were "understanding and explanation" followed by expectations of "emotional support".

The study carried out by Marley et al (2004) investigated the role of leadership, clinical quality, and process quality on patient satisfaction. A causal model is hypothesized and evaluated using structural equation modeling for a sample of 202 US hospitals. Statistical results supported the idea that leadership is a good exogenous construct and that clinical and process quality are good

intermediate outcomes in determining patient satisfaction (Mostafa, 2005).

Based on a sample of 130 respondents in the United States, Andaleeb (1998) proposed and tested a five-factor model that explains considerable variation in customer satisfaction with hospitals. These factors include communication with patients, competence of the staff, their demeanor, quality of the facilities, and perceived costs. An examination of the standardized beta values in the regression model used in the study suggests that perceived competence of the hospital staff and their demeanor have the greatest impact on customer satisfaction. These are followed closely in importance by perceived hospital costs (Mostafa, 2005). The quality of communication and the general condition of the facilities were also significant but less important in explaining customer satisfaction with hospital services.

6. Quality issues related to hospital in-patient health services

The concept of service quality has been established and examined in a number of industries; however, it is only recently that the service sector and, in particular, hospital services, has received the same attention (Mostafa, 2005). Patient satisfaction measurement is now seen as both administrative and practices improvement tool. In fact, many health care standardization and accreditation bodies, as well as governmental bodies expect health organizations to use

patients' expectations and satisfaction measurement as a quality evaluation tool (Al-Omar, 2000).

In his research Al-Omar (2000) reported that the application of quality management methods in the health field is considered as a very important issue for a better health care service. Quality of health care services could be evaluated by many ways. Patients' expectations, satisfaction and future patients' behavior (loyalty) are among the measures to be utilized (Fisk et al, 1990). Al-Assaf (1999) placed "the focus on customers" as the first among five attributes of healthcare quality. It is assumed that improved patient satisfaction is expected to lead to a promising return intention (John, 1992). In fact, Woodside et al (1989) argue that patient's purchase intention is related to patient satisfaction with the quality of rendered services.

Patients' perceptions and expectations of quality of care are critical to understand the relationship between quality of care and utilization of health services (Baltussen et al, 2002). Experiences in France (Labarere et al, 2001), Singapore (Lim and Tang, 2000), India (Bhardwaj et al, 2001), Slovenia (Kersnik, 2000), Japan (Tokunaga and Imanaka, 2002), Bangladesh (Aldana et al, 2001) suggest that there is a strong link between quality, satisfaction, expectations and the use of health services. Similarly, studies in Arab countries such as that conducted in Jordan (Alasad and Ahmad, 2003), Egypt (Mostafa,

2005), Oman (Al-Mandhari et al, 2004) United Arab Emirates (Margolis et al, 2003) as well as in Saudi Arabia (Al-Qatari and Haran, 1999) provide growing evidence that the perceived quality of health care services has a strong impact on health services utilization patterns.

The WHO measures of health care quality affirmed that patient participation and evaluation of health care services is not only helpful but socially, economically, and technically wanted (Kerssens et al, 2004). Patients' perceptions is an important quality tool which needs a thorough investigation of related issues (Henson et al, 1996). The differences between what patients expect and what they perceive can serve to mirror the realities of hospital care (Tengilimoglu et al, 1999).

Patient satisfaction with health care delivery is an important goal in itself as well as an indicator of the quality of the care (Love et al, 2004). The issue of health service quality has become an important research topic in view of its significant relationship to costs (Jarlier and Charvet-Protat, 2000), profitability (Grol, 2001), customer satisfaction (Westaway et al, 2003), customer retention (Baron-Epel et al, 2001), service and performance (wager and Rondeau, 1998).

In an empirical study (Li, 1997) explored the relationship between hospital quality management and service quality performance

for a sample of 150 community hospitals in the USA using a path-analytic model. The study revealed strong relationships between hospital service quality performance and the analysis of service process and workforce development. The data also indicated that medical technology investment alone does not contribute to a significant improvement in hospital service quality (Mostafa, 2005). Other studies found similar results (Wager and Rondeau, 1998; Marco and Buchman, 2003).

For policymakers, understanding patients' expectations is important because patient expectations have become key elements in the measurement of health care quality. Expectations influence the delivery of health services and the costs of care (Rubin et al, 1993). Finally, for researchers, patients' expectations are important because they represent key independent variables in studies of patient satisfaction (Kroenke, 1998), physician behavior (Webb and Lloyd, 1994), consumer choice of health plans and providers, and quality of care (Karvitz et al, 1996). Patients' expectations can also serve as dependent variables in studies of how patients' expectations develop and the extent to which they can be altered by education or other efforts by health care providers and other in the health care industry (Weiss and Davis, 1983).

METHODS

Population and sample

The target population of this study is all in-patients in MOH hospitals operating in Riyadh city, Saudi Arabia. Two MOH hospitals in Riyadh city were randomly selected for this study to represent the population. A self-administered questionnaire was developed and 500 were distributed to inpatients based on the number of beds in each hospital. A cover letter explaining how to respond to the questionnaire items was attached. Of which 405 were returned (81%) and valid for analysis.

The instrument

The study instrument is the questionnaire which is consisted of two parts. The first part included some questions about the socio-demographic characteristics of the respondents. In the second part, two four-point scales were included. One was about the patients' expectations of in-patient services and the other was about patients' satisfaction with these services.

The questionnaire was developed in a way that allows respondents to grade their expectations on a four-point scale as follows:

- 1 = my expectation is not met at all
- 2 = my expectation is not met
- 3 = my expectation is met
- 4 = my expectation is highly met

Similarly, respondents were allowed to rate their satisfaction about in-patient services on a four-point scale as follows:

- 1 = I am not satisfied at all
- 2 = I am not satisfied
- 3 = I am satisfied
- 4 = I am highly satisfied

The researchers developed a gap index to examine the gap between patients' expectations and satisfaction with respect to a number of variables. These variables were grouped into three groups of variables namely; health staff-related variables, organization-related variables and environment-related variables (**Table 1**). This grouping of factors was arbitrary and was not based on any objective standard, but it was based on the review of the relevant literature on factors influencing patients expectations and satisfaction (McNamara, 1993; Weinberger et al, 1996; Almuzaini et al, 1998; Lathwal and Banerjee, 2001).

Table 1. Variables included in the study

Health staff-related variables	Organization-related variables	Environment-related variables
<ul style="list-style-type: none">• Presence of same-gender physician in the hospital• Competent quality physicians• Competent quality nurses• Competent quality auxiliary staff• Friendly staff	<ul style="list-style-type: none">• Presence of recreational facilities• Access to advanced medical technology• Availability of medicine (pharmacy)• Hotel-like services in the hospital• Convenient visiting hours• Good nutrition services• Easy admission procedures• Cleanliness of the hospital• Reasonable waiting time• Convenient appointments	<ul style="list-style-type: none">• Closeness of hospital to place of residence• Clearly planned and designed hospital• Ease in reaching hospital• Hospital external design• Hospital location

The gap between patients' expectations and satisfaction can be balanced when there is compatibility between patient's expectations and his/her satisfaction. The index can be negative when a patient satisfaction is less than his or her expectation. Similarly, the index can be positive when the patient's satisfaction exceeds his or her expectations.

Validity and reliability

Three steps were conducted to increase the validity of the questionnaire: First, the items forming the questionnaire were developed after reviewing the relevant literature. Second, the comments and suggestions of five faculty members of the Business Administration College at King Saud University about the questionnaire were taken into consideration. Third, 10 in-patients were asked to answer the questionnaire (pilot study) and their suggestions and notes were also taken into consideration. The reliability of the questionnaire was measured using the coefficient alpha; it was 87.53% for the expectations scale questionnaire and 82.10% for the satisfaction scale questionnaire.

Procedures

Each participating patient was given a questionnaire with a covering letter. Patients with at least 3 days of stay in the hospital were selected randomly and included in this study. Data were entered and analyzed with the assistance of the Statistical Package for Social Science (SPSS) software. The analyses included frequencies, percentages, means and standard deviations. Paired t-test was used to test the significant differences between the expectation scale items and satisfaction scale items. The significance level used for the inferential statistics was set to 0.05.

RESULTS

This and exploratory study and its primary focus is to investigate the gaps (which may exist) between patients' expectations and satisfaction with in-patient services in MOH hospitals. It is the intention of this study that these gaps should warrant attention from health care planners and decision-makers in the Ministry of Health and priorities should be set to overcome these gaps. Accordingly, this sections presents results emerged from the study.

Profile of respondents

Table 2 shows the frequency distribution of respondents according to the socio-demographic variables included in the study. Socio-demographic variables indicate that the majority of the respondents were Saudis (80.3%), females (68.9%) and married (79.7%). The mean age of respondents was 31.6 years with a standard deviation of 12.77 years and the largest proportion of respondents rated their health status as normal or moderate (73.4). More than two-thirds of the respondents (72.6%) had an educational level of high school or above. Less than half (45.4%) of them were in employment. The average monthly salary of all respondents was SR 3,889 with 22.9 of them having additional sources of income.

Table 2. Socio-demographic characteristics of respondents		
Variable	Frequency (N=405)	%
Age	(M=31.55, SD=12.77)	
Monthly salary	(M=3889.8, SD=3836.9)	
Education		
Illiterate	70	17.3
Intermediate	115	28.4
High school	109	26.9
University or above	111	27.4
Sex		
Male	126	31.1
Female	279	68.9
Nationality		
Saudi	325	80.3
Non-Saudi	80	19.7
Health status		
Normal	155	38.3
Moderate	142	35.1
Severe	81	20.0
Very severe	27	06.6
Occupation		
Employed	184	45.4
Unemployed	221	54.6
Having other source of income		
Yes	93	22.9
No	312	77.1
Source of payment		
Self	120	29.6
Others	285	70.4
Social status		
Married	323	79.7
Unmarried	82	20.3
M=Mean, SD=Standard Deviation		

Results related to health staff variables

Table 3 shows the differences in the mean score between patients' satisfaction and their expectations (the gaps) according to the selected health staff-related variables. The table shows that in all variables (except for the item "the availability of same-gender physician") patients had a lower mean score of satisfaction than expectations". This indicates that patients were less satisfied with factors related to health personnel and this satisfaction did not match completely with their expectations.

When the difference between respondents' expectations and satisfaction was tested for significance, different results emerged. Patients had a significantly less mean score of satisfaction than expectations for three variables: competent quality physicians (t-test = -2.501 and $p < 0.05$), competent quality nurses (t-test = -3.905 and $p < 0.001$) and friendly staff (t-test = -3.550 and $p < 0.001$).

Despite that respondents had a lower mean score of satisfaction (3.22) than expectations (3.25) for the item "competent quality auxiliary staff", the significance was not statistically significant. On the contrary, despite that respondents had a higher mean of satisfaction (3.17) than expectations (3.13) for the item the availability of "same-gender physician" the difference was not statistically significant.

Table 3. Differences in mean scores between patients' satisfaction and expectations according to selected health staff-related variables

Variable	Dimension	Mean scores	S.D.	T-Test	P-Value
Same-gender physician	Satisfaction	3.17	0.765	0.505	0.573
	Expectation	3.13	0.869		
Competent quality physicians	Satisfaction	3.32	0.668	-2.501	0.035*
	Expectation	3.44	0.622		
Competent quality nurses	Satisfaction	3.20	0.718	-3.905	0.000**
	Expectation	3.43	0.604		
Competent quality auxiliary staff	Satisfaction	3.22	0.666	-0.551	0.582
	Expectation	3.25	0.678		
Friendly staff	Satisfaction	3.21	0.677	-3.550	0.000**
	Expectation	3.42	0.648		

Results related to organization-related variables

Table 4 shows the differences in the mean score between patients' satisfaction and their expectations according to the selected organization-related variables. The results indicate that, in all organization variables employed in the study, patients had a lower mean score of satisfaction than expectations. This indicates that patients were less satisfied with factors related to the organization context and this satisfaction did not complement completely with their expectations.

Patients had a significantly less mean score of satisfaction than expectations for nine out of ten variables. Despite that respondents had a lower mean score of satisfaction (3.33) than expectations (3.35)

for the item “convenient visiting hours”, the significance was not statistically significant.

Table 4. Differences in mean scores between patients’ expectations and satisfaction according to organization-related variables

Variables	Dimension	Mean scores	S.D.	T-Test	P-value
Good nutrition services	Satisfaction	3.15	0.794	-3.976	0.000**
	Expectation	3.41	0.683		
Cleanliness of the hospital	Satisfaction	3.16	0.865	-4.263	0.000**
	Expectation	3.47	0.698		
Availability of recreation facilities	Satisfaction	2.52	0.967	-2.736	0.007**
	Expectation	2.75	0.911		
Good hotel-like services in the hospital	Satisfaction	2.52	0.981	-3.560	0.000**
	Expectation	2.84	0.981		
Availability of medicine (pharmacy)	Satisfaction	3.34	0.650	-3.627	0.000**
	Expectation	3.55	0.629		
Reasonable waiting time	Satisfaction	3.07	0.805	-3.383	0.001**
	Expectation	3.29	0.630		
Access to advanced medical technology	Satisfaction	3.29	0.680	-2.501	0.013*
	Expectation	3.44	0.668		
Convenient visiting hours	Satisfaction	3.33	0.623	-3.96	0.693
	Expectation	3.35	0.702		
Easy admission procedures	Satisfaction	3.13	0.752	-3.440	0.001**
	Expectation	3.35	0.670		
Convenient appointments	Satisfaction	3.14	0.737	-4.850	0.000**
	Expectation	3.44	0.658		

Table 5 shows the differences in the mean score between patients’ satisfaction and their expectations according to the selected environment-related variables. The results indicate that in two variables, respondents had a lower mean score of satisfaction than expectations. Patients reported a lower mean score of satisfaction

(3.27) than expectations (3.33) for the item “easy to reach hospital”, but the difference was not statistically significant. Similarly, patients reported a lower mean score of satisfaction (3.14) than expectations (3.19) for the item “quite location of the hospital” but the difference was not statistically significant.

On the contrary, as can be seen in the table, respondents had a higher mean score of satisfaction than expectations for the items “closeness of hospital to residence” and “clearly planned and designed hospital”, but the differences were not statistically significant. However, respondents had a significantly higher mean score of satisfaction (3.06) than expectations (2.70) with the item “hospital external design” (t-test = 5.511 and $p < 0.001$).

Table 5. Differences in mean scores between patients’ expectations and satisfaction according to environmental-related variables.

Variable	Dimension	Mean scores	S.D.	T-Test	P-Value
Closeness of hospital to residence	Satisfaction	3.30	0.711	1.686	0.093
	Expectation	3.20	0.731		
Easy to reach hospital	Satisfaction	3.27	0.613	-1.224	0.222
	Expectation	3.33	0.648		
Clearly planned and designed hospital	Satisfaction	3.06	0.700	1.467	0.144
	Expectation	2.98	0.732		
Hospital external design	Satisfaction	3.06	0.692	5.511	0.000**
	Expectation	2.70	0.847		
Quiet location of the hospital	Satisfaction	3.14	0.811	-0.799	0.425
	Expectation	3.19	0.821		

Table 6 summarizes the results of *significant* differences between respondents' satisfaction and expectations according to the variables employed in the study. The table presents these differences according to the gaps in mean scores which existed between respondents' satisfaction and expectations. These gaps are arranged in a descending order. This implies that the larger in mean score between satisfaction and expectations, the larger the gap is.

The results show that there were 12 significant variables with negative gaps; indicating that respondents' satisfaction was less than their expectations in these variables. The largest gap (- 0.32) between respondents satisfaction and expectations was found in the item "Good hotel-like services in the hospital", followed by the item "cleanliness of the hospital" (-0.31). The value of each gap is presented in the table. However, the only significant variable with positive gap was "hospital external design" (+0.13) in which respondents' satisfaction mean score is higher than respondents expectations mean score.

Table 6. Significant differences in mean scores between patients' expectations and satisfaction according to all variables employed in the study (Gaps are presented in descending order)

Variables	Dimension	Mean scores	S.D.	Gap ¹	T-Test	P-value
Good hotel-like services in the hospital	Satisfaction	2.52	0.981	- 0.32	-3.560	0.000**
	Expectation	2.84	0.981			
Cleanliness of the hospital	Satisfaction	3.16	0.865	- 0.31	-4.263	0.000**
	Expectation	3.47	0.698			
Availability of recreation facilities	Satisfaction	2.52	0.967	- 0.23	-2.736	0.007**
	Expectation	2.75	0.911			
Convenient appointments	Satisfaction	3.14	0.737	- 0.30	-4.850	0.000**
	Expectation	3.44	0.658			
Good nutrition services	Satisfaction	3.15	0.794	- 0.26	-3.976	0.000**
	Expectation	3.41	0.683			
Competent quality nurses	Satisfaction	3.20	0.718	- 0.23	-3.905	0.000**
	Expectation	3.43	0.604			
Reasonable waiting time	Satisfaction	3.07	0.805	- 0.22	-3.383	0.001**
	Expectation	3.29	0.630			
Easy admission procedures	Satisfaction	3.13	0.752	- 0.22	-3.440	0.001**
	Expectation	3.35	0.670			
Friendly staff	Satisfaction	3.21	0.677	- 0.21	-3.550	0.000**
	Expectation	3.42	0.648			
Availability of medicine (pharmacy)	Satisfaction	3.34	0.650	- 0.21	-3.627	0.000**
	Expectation	3.55	0.629			
Access to advanced medical technology	Satisfaction	3.29	0.680	- 0.15	-2.501	0.013*
	Expectation	3.44	0.668			
Competent quality physicians	Satisfaction	3.32	0.668	- 0.12	-2.501	0.035*
	Expectation	3.44	0.622			
Hospital external design	Satisfaction	3.06	0.692	+ 0.13	5.511	0.000**
	Expectation	2.70	0.847			

¹Gap: The gap in perception is calculated by subtracting expectations mean score from the satisfaction mean score

Table 7 shows a summary of the mean score for respondents' satisfaction and expectations about in-patient services in the MOH hospitals. In general, patients admitted to hospitals had a significantly lower mean score of satisfaction (3.15) than their expectations (3.24) (t-test = 2.624 and $p < 0.01$) with a mean score gap of -0.09.

Table 7. The difference in the general mean scores for respondents' satisfaction and expectations for all items employed in the study						
In-patient services in the MOH hospitals	Dimension	M	S.D.	Gap¹	T-Test	P-Value
	Satisfaction	3.15	0.418	- 0.09	2.624	0.009**
	Expectation	3.24	0.406			
M = Mean score S.D. = Standard Deviation * Statistically significant at 0.05 ** Statistically significant at 0.01 Gap ¹ : The gap in perception is calculated by subtracting expectations mean score from the satisfaction mean score						

DISCUSSION

This section presents a discussion for results emerged from the study. Specifically, this section is divided into four parts. In the first part, a general statement relevant to the study is given. In the second part, the discussion will shed some light on the influence of health staff-related variables on the patients' satisfaction and expectations. A discussion of results related to the organizational variables will be the subject of the third part. In the final part, a discussion about environmental factors will be presented. However, it should be noted that these parts are interrelated and cannot be isolated from each other when discussing their influences on patients' satisfaction and expectations.

General statement

One of the main objectives of any health care system is to provide a high-quality of services to its clients. However, since health resources are limited and expensive, setting priorities and allocating various resources is a major challenge and therefore should depend on an understanding of what clients expect. The Ministry of Health, the major provider of health care in the Kingdom, has established and implemented quality health care programs in virtually all of its hospitals. These programs concerned with the provision of high quality of care to all users of the health services.

Compared to other health services, in-patient services consume much of the resources rendered at hospitals. In-patient services utilize much of the sophisticated medical technology, highly qualified health staff such as physicians, nurses and allied health personnel. Support services, intensive care units and auxiliary departments such as laboratories and radiology departments are only few examples of resources consumed on a daily-basis by a very significant percentage of patients admitted to the hospitals.

Accordingly, an understanding of the case of “in-patient” services is a topic which deserves an investigation; in an attempt to help contain some of the efforts and costs and, at the meantime, improve the patients’ satisfaction and expectations about health services provided to them. It is the intention of the present study to shed some light on aspects related to the “phenomenon” of in-patient services in MOH hospitals and to explore the current situation and pave the way for further research.

Health staff-related factors

The results of the present study indicate that, in all aspects related to health personnel, respondents expressed less satisfaction than expectations. Previous research indicate that the presence of

competent quality of health staff such as physicians, nurses and auxiliary staff is essential in fulfilling patients' expectations. Previous studies indicated that competent physicians (Marco and Buchman, 2003), nurses (Mattke et al, 2004) and other paramedical health staff (Westaway et al, 2003) play a significant role in patients' expectations and satisfaction.

The result of the study showed that there was a significant difference in the mean score between patients' satisfaction and expectations in the "availability of friendly staff" aspect. This finding is in line with previous research which indicated that doctors friendliness, courteous behavior, social conversation, encouraging and empathic behavior, partnership building are all positively related to patient satisfaction (Williams et al, 1998). In their review, Stevenson and colleagues (2004) found in their study that a greater proportion of the patients who thought of their physician as being friendly reported being satisfied after the visit than did those who did not.

The findings reported here are in agreement with previous research which indicated the importance of the availability of same-gender health staff in the medical wards. Previous research in different countries has identified the importance of the availability of same-gender treating health personnel (Derose et al, 2001; Risberg et al, 2003).

Organization-related factors

In this study, patients' satisfaction was less than their expectations virtually in all organizational variables included in the study. These included aspects related to waiting times, the availability of advanced medical technology, presence of appointment effective system and easiness in hospital procedures. These findings tend to support previous studies which highlighted these issues. For instance, much work has highlighted the importance of waiting time (Leddy and Becker, 2003; Silvester et al, 2004), access to advanced sophisticated medical technology and equipment (Unikrishnan and Rao, 2002; Al-Gahtani, 2003), availability of medicine in the hospital (Stevenson et al, 2004), presence of good nutrition (Watters et al, 2003), presence of hotel-like services (Randall and Senior, 1994) and cleanliness of the hospital (Al-Omar, 2000) in fulfilling patients' satisfaction.

Previous research carried out in Saudi Arabia (Saeed, 1993; Saeed, 1994; Al-Faris et al, 1996; Al-Omar, 1998; Al-Omar, 2000) reported similar findings and confirmed the importance of these organizational factors in affecting patients' satisfaction.

Environment-related factors

Contrary to expectations, the majority of environmental factors employed in this study did not reach significant differences between

patients' satisfaction and expectations. Previous research identified the importance of environmental and spatial factors such as the closeness of the hospital to patient's place of residence and the location of the hospital when investigating patients' satisfaction. The study carried out by Beland et al (1990) reported that persons residing close to the hospital are more likely to use its services than persons residing in more distant areas. Similarly, Roghmann and Zastonyy (1979) found similar results and concluded that distance to hospital is inversely related to likelihood of use of hospital services; which subsequently increases the patients' satisfaction.

The study carried out by McKee et al (1990) confirmed the association between use of hospital services and distance to hospital. Similarly, Prince and Worth (1992) found in their study that the use of hospital services was highest amongst patients living closer to hospital location and consequently affects their satisfaction. Other reports in the literature which deal with geographical location of patients also showed that distance was inversely related patients' expectations and satisfaction, with neighborhoods further from the hospital having lower satisfaction rates (Wingert et al, 1968; Walker, 1976; Hilker, 1978).

Although not measured in the present study, it may be useful to consider the geographic distribution of hospital in-patient services in

Saudi Arabia. The geographic distribution of hospitals is a potentially important structural feature of in-patient services that may be expected to influence the patients' expectations and satisfaction. It would be appropriate to address this issue in more details in future research.

Previous research carried out in Saudi Arabia reported similar findings (Saeed, 1993; (Saeed, 1994; Al-Faris et al, 1996; Al-Omar, 1998; Al-Omar, 2000) and suggested that hospital location, easiness in accessing health care facilities and hospital design were significant variables in influencing patients' expectations and satisfaction.

CONCLUSION

This study is an exploratory by its nature. The study sheds some light on the perception of patients about in-patient services in a sample of Saudi hospitals. The significance of this study is that its population is composed of people who consume much of health resources. Health authorities in Saudi Arabia could benefit from its results by enhancing the quality of in-patient services. However, the fact that this study was only conducted in a single city makes its results unrepresentative of the whole in-patient services in the Kingdom.

The findings of this study suggest that patients come to hospitals with some expectations and perceptions. Understanding patients' expectations and satisfaction about services provided in these facilities may help better planning for better health services.

Comparing the findings reported here with findings reported in other different healthcare systems is difficult and may lead to discrepant conclusions. Many countries have distinctly different healthcare systems. For example, some are based on a 'Gatekeeping' primary care and others are on an easy access to specialists as long as the patient can pay (Ajdari and Fein, 1998; Koperski, 2000; Mainous et al, 2001). However, studies indicate that the provision of in-patient care consume a large amount of health resources compared to the utilization of other health services. This should prompt policy makers to propose health plans to cope with such use.

Based on the results of this study, the prime target for intervention should be the removal of obstacles to access to health care. Probably, equal distribution of health services and facilities in the community and the provision of high quality of in-patient services and a modification of the old-style management in the Saudi hospitals will help overcome some of these obstacles. For health personnel, continuous medical education is important to keep health staff competent and updated. Organizational aspects such as procedures,

appointment systems and the length of waiting times should be reviewed regularly in order to improve the performance of the hospital and to increase the patient satisfaction.

Limitations and further research

There are several limitations that worth mention. First, the findings reported here may be influenced by the study design and the available data. The second limitation concerns the patients' expectations and satisfaction. Patient expectation or satisfaction is not necessarily the major criterion by which hospital services should be evaluated. However, the attitude of consumers of in-patient services is a very essential issue that must be taken into consideration when evaluating in-patient health services (Al-Omar, 2000). A third limitation is that there might be other important factors not included in the study. Probably the inclusion of additional accessibility and availability factors in future research will help in better understanding of the patients' satisfaction of in-patient health services.

A fourth limitation is that the study did not examine the correlation that might exist between respondents' variables (such as socio-demographic characteristics) and the level of expectations and satisfaction. This should be taken into consideration in the future research. Fifth, the results of this study were based on information provided by patients and were subject to the usual problems of bias associated with the accuracy of recalling and reporting on health care

events. Finally, due to financial and time resources, this study took place in a limited number of hospitals in Riyadh City. Accordingly, the study does not claim to be comprehensive and the results may have limited generalizability.

Nevertheless, it is believed that the results emerged from this exploratory study provide a valuable insight into some of the factors which appear to influence in-patients' expectations and satisfaction about "in-patient" services in Saudi Arabia. Future research, should acknowledge the limitations reported here in order to elicit a greater volume of information concerning the topic of patients' expectations and satisfaction in the Saudi hospital services which should help policymakers in setting priorities for health care of the Saudi population.

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توقعات المرضى ورضاهم عن خدمات التنويم في مستشفيات وزارة الصحة بمدينة الرياض،
المملكة العربية السعودية

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الأهداف: ترمي هذه الدراسة إلى (١) التعرف على توقعات المرضى ورضاهم نحو خدمات التنويم المقدمة لهم في مستشفيات وزارة الصحة (٢) بيان الفروق (إن وجدت) بين ما يتوقعه المرضى من خدمات وما يحصلون عليه فعلا وذلك بالنسبة للعديد من المتغيرات المتعلقة بخدمات التنويم مثل المتغيرات ذات الصلة بالعاملين والمتغيرات التنظيمية والمتغيرات البيئية (٣) تزويد صانعي القرارات في القطاع الصحي بمعلومات تساعدهم في عملية تحديد الأولويات المتعلقة بخدمات التنويم في مستشفيات وزارة الصحة.

الطريقة: استخدمت الدراسة الإستبانة لجمع البيانات من ٥٠٠ شخص من المرضى المتنومين في مستشفيات وزارة الصحة بمدينة الرياض، وقد تم استعادة ٤٠٥ استبانة قابلة للتحليل. تم جمع البيانات عن مجموعة من المتغيرات التي تخدم أهداف الدراسة وقد تم عرض البيانات وتحليلها بطريقة وصفية.

النتائج: أظهرت الدراسة أن هناك تمايزا بين متوسط درجات التوقع ومتوسط درجات الرضا للمرضى المتنومين في أغلب المتغيرات التي اشتملت عليها الدراسة، وبشكل خاص كانت أكبر فجوة (gap) بين متوسط درجات التوقع ودرجات الرضا هي تلك المتعلقة بالمتغيرات التنظيمية ، يليها الفجوة في المتغيرات المتعلقة بالعاملين والمتغيرات البيئية.

