Patients' expectations, satisfaction and future behavior in hospitals in Riyadh city

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ABSTRACT

Objective: The main objectives of this study are to assess patient satisfaction at both Ministry of Health and private hospitals in Riyadh city, to compare the perceived satisfaction of patients to their expectations prior to admission at both sectors, and to determine the variables that influence the patient's future intention.

Methods: A self-administered questionnaire was used to collect data from 500 patients (392 were returned fully completed) in 7 private and Ministry of Health hospitals. In addition to the descriptive statistics, paired and independent t-tests, phi and Cramers' V tests were used for the inferential statistics of the data analysis.

Results: The results showed a significant difference between the general mean scores of expectation and satisfaction levels among the private sector, as well as the Ministry of Health patients. Though 12 variables were significantly less than expected among Ministry of Health patients, 6 were significantly associated with the Ministry of Health patient's future behavior. They were staff kindness, waiting time, cleanliness of the hospital, perceived nurses' quality, perceived physicians' quality, and availability of advanced medical technology. Yet, 11 variables were significantly less than expected, only 3 variables showed significant influence on the private patient's future behavior. They were availability of medicine or pharmacy, availability of advanced medical technology, and staff kindness.

Conclusion: This study showed the important areas stand behind the dissatisfaction of patients at both sectors. In addition the study revealed the most important area that influence patient future intention for each sector. This could help hospital managers, at both sectors, in focusing their corrective effort on such areas to improve their hospitals' service's quality.

Keywords: Patients expectations, satisfaction, hospital service quality, patients' future behavior.

T he application of quality management methods in the health field is seen as a very important issue for a better health care service.[1] Quality of health care services could be evaluated by many ways. Patient satisfaction and future patients' behavior (loyalty) are among the measures to be utilized.[2-4] Al-Assaf placed "the focus on customers" as the first among 5 attributes of healthcare quality.[5] It is assumed that improved patient satisfaction is expected to lead to a promising return intention.[6] In fact, Woodside et al argue that patient's purchase intention is related to patient satisfaction with the quality of rendered services.[3] In 1990, (as stated by June Schmele), the WHO affirmed that patient involvement in health care is not only helpful but socially, economically, and technically wanted. Schmele also stated that practicing patient involvement in health, as an important quality tool, needs a thorough investigation of related issues.[7] The differences between what patients expect and what they perceive can serve to mirror the realities of hospital care.[8] 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 patient satisfaction measurement as a quality evaluation tool.[8] The first health objective listed in the third strategic principle of the 6th Saudi Development Plan (SDP) stresses the need for better health services for the improvement of its people's health.[9] Since the SDP encourages more involvement by the private sector in the provision of health services,[10] and little work has been conducted on the assessment of the quality of health care in developing countries,[11] studying patients' wants and satisfaction is a very important issue for Saudi healthcare managers. Therefore, this paper serves to achieve the following objectives: To measure hospital inpatient-satisfaction about quality aspects of services provided compared to their expectations prior to experiencing the hospital; To find out the most important factors that influence the patients' future return intention; To identify, for hospital management, aspects in which focus can be effectively increased in order to make quality improvement; and to draw useful recommendations that can help improving hospital care.

Study questions. This study aims at answering the following questions: 1. Is there a significant difference between the general MOH patients' satisfaction and their expectations prior to admission? 2. Is there a significant difference between the general private hospitals patients' satisfaction and their expectations prior to admission? 3. Which hospital service aspects identified as significantly dissatisfying for MOH patients? 4. Which hospital service aspects identified as significantly dissatisfying for the private sector patients? 5. What are the dissatisfying hospital service aspects that statistically differentiate between "not coming back" and "coming back" patients at the MOH hospitals? 6. What are the dissatisfying hospital service aspects that statistically differentiate between "not coming back" and "coming back" patients at the private hospitals?

Methods. *Population and sample.* The target population of this study is all hospital inpatients in both MOH and private hospitals operating in Riyadh city, Saudi Arabia. Two governmental and 5 private hospitals (the number of private hospitals was increased due to the fact that they have fewer inpatients) in Riyadh were randomly selected for this study to represent the target population. Probability sampling (stratified random sampling technique) was used to insure that both sectors were represented. A structured questionnaire was developed and 500 were distributed based on the number of beds in each hospital. A cover letter explaining how to respond to the questionnaire items was attached. Of which 398 were returned (80%) but 392 were valid.

The instrument. The study instrument or questionnaire consists of two parts. Part one included some questions about the demographic information with one question about the future intention of the patient (I will come back or I will not come back to this hospital). Part two included two four-point scales. One was about the patients' expectations, and the other one was about their satisfaction about the fulfillment of their expectations.

The questionnaire was developed in a way that allows patients to grade their responses the expectations scale on a four-point scale: not expected at all = 1, not expected = 2, expected = 3, and highly expected = 4. The satisfaction scale ranged from my expectation is not met at all = 1; the expectation is not met = 2, the expectation is met = 3, and the expectation is highly met = 4.

Validity and reliability. Three steps were conducted to increase the validity of the questionnaire: The items forming the questionnaire were developed after reviewing the relevant literature, the comments and suggestions of five faculty members of the Administrative Sciences College at King Saud University about the questionnaire were taken into consideration, 10 in-patients were asked to answer the questionnaire (pilot study). 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. Patients were given a questionnaire with a covering letter. Patients with at least 3 days were included in this study. Data were entered and analyzed with the Statistical Package for Social Science (SPSS) for windows. The analysis included percentages, frequencies, means and standard deviations. Paired t-test was used to test the significant differences between the expectation scale items and satisfaction scale items (20 items for the MOH patients and 21 for the private patient; the treatment cost item was added). The significance level used for the inferential statistics was 0.05.

Results. Means and standard deviations of each item of the patients' socio-demographic variables are shown in Table 1. Paired t-test was conducted to find out the differences between the MOH patients' responses to the expectation scale items vs. satisfaction scale items. Though there was no significant difference in the general satisfaction between the MOH and the private sector patients, the results showed that the general satisfaction level among the MOH patients was less than that of the

private patients (mean satisfaction score for MOH patients = 3.15 and for private patients = 3.19). This result is similar to a study conducted by Tengilimogluet et al in Turkey.[8] The results of the paired t-test are shown with their associated p-values in Table 2. Thirteen items showed significant differences between expectations and satisfaction (one of them showed that the satisfaction level was higher than the expectation level).

The results in Table 2 show that there is a significant difference between the general mean scores of expectation and satisfaction levels among the MOH patients (t-test = 2.624 and p<0.01). Twelve items were significantly less than expected for the MOH patients. The items included convenient appointments (t-test = -4.850 and p<0.001), cleanliness of the hospital (t-test = -4.263 and p<0.001), nutrition services (t-test = -3.976 and p<0.001), perceived nurses' quality (t-test = -3.905 and p<0.001), availability of medicine or pharmacy (t-test = -3.627 and p<0.001), hotel services (t-test = -3.560 and p<0.001), staff kindness (t-test = -3.550 and p<0.001), simplicity of admission procedures (t-test = -3.440 and p = 0.001), waiting time (t-test = -3.383 and p= 0.001), availability of recreation facilities (t-test = -2.736 and p<0.01), availability of advanced medical technology (t-test = -2.501 and p<0.05), and perceived physicians' quality (t-test = -2.501 and p<0.05).

The paired t-test was also conducted to find out the differences between the private-hospitals patients' responses to the expectation scale items vs. satisfaction scale items. The results of this test are shown with their associated p-values in Table 3. Fourteen items showed significant differences between expectations and satisfaction (three of them showed that the satisfaction levels were higher than the expectation levels).

The results in Table 3 show that there is a significant difference between the general mean scores of expectation and satisfaction levels among the private sector patients (t-test = 2.468 and p<0.05). The items that were significantly less than expected were 11. These items included perceived physicians' quality (t-test = -4.564 and p<0.001), availability of advanced medical technology (t-test = -4.534 and p<0.001), perceived nurses' quality (t-test = -3.992 and p<0.001), convenient appointments (t-test = -3.909 and p<0.001), availability of medicine or pharmacy (t-test = -3.813 and p<0.001), waiting time (t-test = -3.620 and p< 0.001), staff kindness (t-test = -3.398 and p=0.001), availability of recreation facilities (t-test = -2.863 and p<0.01), perceived quality of auxiliary staff (t-test = -2.551 and p<0.05), cleanliness of the hospital (t-test = -2.401 and p < 0.05), and nutrition services (t-test = -2.262 and p<0.05).

The items with significant differences between expectation and satisfaction among the MOH

hospital patients (and private hospital patients) were examined to find out their influence on the patients' future behavior. That is, to know the association between the variables and the future intention of patients (will they comeback to the same provider or not). Table 4 shows the frequency distribution, as well as the results of Phi test to examine the association between satisfaction and future behavior

Table 1 - Frequency distribution of socio-demographic variables of the respondents.

	N	Mean	SD
Age	363	31.55	12.77
Children No.	358	2.64	0.95
Monthly salary	315	3889.77	3836.87
Education	398	2.74	1.08
1=Illiterate	57		
2=Intermediate	115		
3=High school	109		
4=Postgraduate	9		
Sex	399	0.30	0.27
0=Female	279		
1=Male	119		
Nationality	405	0.80	0.39
0=Female	80		
1=Male	325		
Health status	392	1.89	0.86
1=Normal	155		
2=Moderate	142		
3=Severe	81		
4=Very severe	14		
Occupation	384	0.4245	0.49
0=Unemployed	221		
1=Employed	163		
Other in com	343	543.30	244.0
0=No	312		
1=Yes	31		
Source of payment	400	0.29	0.45
0=Others	285		
1=Self	115		
Social status	404	0.80	0.40
0=Single	82		
1=Married	322		
SD = Standard Deviation N = number			

Table 2 - Paired t-test for the difference between the MOH patients' responses to the expectations and satisfactions scale questionnaire.

Variable	Subject	Number	Mean	SD	T-Test	P
Closeness of hospital to my home	Satisfaction Expectation	211 211	3.30 3.20	0.711 0.731	1.686	0.093
Easy to reach hospital	Satisfaction Expectation	204 204	3.27 3.33	0.613 0.648	-1.224	0.222
Reasonable waiting time	Satisfaction Expectation	199 199	3.07 3.29	0.805 0.630	-3.383	0.001**
Similar-gender physician	Satisfaction Expectation	203 203	3.17 3.13	0.765 0.869	0.505	0.573
Availability of advanced medical technology	Satisfaction Expectation	203 203	3.29 3.44	0.680 0.668	-2.501	0.013*
Competent quality physicians	Satisfaction Expectation	203 203	3.32 3.44	0.668 0.622	-2.501	0.035*
Competent quality nurses	Satisfaction Expectation	203 203	3.20 3.43	0.718 0.604	-3.905	0.000**
Competent quality auxiliary staff	Satisfaction Expectation	194 194	3.22 3.25	0.666 0.678	-0.551	0.582
Availability of medicine (pharmacy)	Satisfaction Expectation	206 206	3.34 3.55	0.650 0.629	-3.627	0.000**
Clearly planned and designed hospital	Satisfaction Expectation	206 206	3.06 2.98	0.700 0.732	1.467	0.144
Easy admission procedures	Satisfaction Expectation	210 210	3.13 3.35	0.752 0.670	-3.440	0.001**
Convenient appointments	Satisfaction Expectation	196 196	3.14 3.44	0.737 0.658	-4.850	0.000**
Friendly staff	Satisfaction Expectation	206 206	3.21 3.42	0.677 0.648	-3.550	0.000**
Good nutrition services	Satisfaction Expectation	208 208	3.15 3.41	0.794 0.683	-3.976	0.000**
Cleanliness of the hospital	Satisfaction Expectation	212 212	3.16 3.47	0.865 0.698	-4.263	0.000**
Good external design	Satisfaction Expectation	202 202	3.06 2.70	0.692 0.847	5.511	0.000**
Quiet location	Satisfaction Expectation	202 202	3.14 3.19	0.811 0.821	-0.799	0.425
Availability of recreation facilities	Satisfaction Expectation	197 197	2.52 2.75	0.967 0.911	-2.736	0.007**
Convenient visiting hours	Satisfaction Expectation	206 206	3.33 3.35	0.623 0.702	-.396	0.693
Good hotel services	Satisfaction Expectation	180 180	2.52 2.84	0.981 0.981	-3.560	0.000**
General	**Satisfaction** **Expectation**	**229** **229**	**3.15** **3.24**	**0.418** **0.406**	**2.624**	0.009**

*Significantly related at 0.05   **Significantly related at 0.01

Table 3 - T-test for the difference between the private hospital patients' responses to the expectations and satisfactions scale questionnaire.

Variable	Subject	Number	Mean	SD	T-Test	P
Closeness of hospital to my home	Satisfaction	124	2.75	0.889	2.713	0.008**
	Expectation	124	2.52	1.008		
Easy to reach hospital	Satisfaction	119	2.97	0.736	0.842	0.401
	Expectation	119	2.90	0.896		
Reasonable waiting time	Satisfaction	119	3.14	0.692	-3.620	0.000**
	Expectation	119	3.44	0.633		
Reasonable treatment costs	Satisfaction	121	2.93	2.902	-0.569	0.570
	Expectation	121	3.08	0.843		
Similar-gender physician	Satisfaction	123	3.25	0.816	0.090	0.929
	Expectation	123	3.24	0.899		
Availability of advanced medical equipment	Satisfaction	124	3.43	0.640	-4.534	0.000**
	Expectation	124	3.71	0.581		
Competent quality physicians	Satisfaction	126	3.33	0.716	-4.564	0.000**
	Expectation	126	3.67	0.579		
Competent quality nurses	Satisfaction	124	3.19	0.737	-3.992	0.000**
	Expectation	124	3.52	0.692		
Competent quality auxiliary staff	Satisfaction	120	3.17	0.539	-2.551	0.012*
	Expectation	120	3.36	0.754		
Availability of medicine (pharmacy)	Satisfaction	127	3.39	0.657	-3.813	0.000**
	Expectation	127	3.66	0.594		
Clearly planned and designed hospital	Satisfaction	127	3.32	0.653	0.653	0.515
	Expectation	127	3.28	0.773		
Easy admission procedures	Satisfaction	128	3.30	0.748	-0.904	0.368
	Expectation	128	3.38	0.687		
Convenient appointments	Satisfaction	125	3.12	0.858	-3.909	0.000**
	Expectation	125	3.50	0.703		
Friendly staff	Satisfaction	125	3.33	0.657	-3.398	0.001**
	Expectation	125	3.56	0.627		
Good nutrition services	Satisfaction	127	3.18	0.771	-2.262	0.025*
	Expectation	127	3.35	0.739		
Cleanliness of the hospital	Satisfaction	127	3.50	0.589	-2.401	0.018*
	Expectation	127	3.66	0.552		
Good external design	Satisfaction	125	3.37	0.547	6.796	0.000**
	Expectation	125	2.86	0.836		
Quiet location	Satisfaction	115	3.29	0.660	2.014	0.046*
	Expectation	115	3.13	0.854		
Availability of recreation facilities	Satisfaction	113	2.63	0.937	-2.863	0.005**
	Expectation	113	2.93	0.832		
Convenient visiting hours	Satisfaction	116	3.38	0.599	1.366	0.175
	Expectation	116	3.29	0.686		
Good hotel services	Satisfaction	125	3.29	0.771	-0.342	0.733
	Expectation	125	3.32	0.768		
General	**Satisfaction**	**143**	**3.29**	**0.454**	**2.468**	**0.015***
	Expectation	**143**	**3.18**	**0.428**		

*Significantly related at 0.05   **Significantly related at 0.01

Table 4 - Frequency distribution and association between study items and MOH patients' satisfaction with hospital services.

Item	Dissatisfied		Satisfied		Chi-sq	Phi	P-value
	Come back=1 n (%)	Change=0 n (%)	Come back=1 n (%)	Change=0 n (%)			
Reasonable waiting time	28 (13.5)	17 (8)	137 (66)	26 (12.5)	18.46	0.298	0.000**
Availability of advanced medical equipment	9 (4)	8 (4)	150 (73)	39 (19)	8.510	0.203	0.037*
Competent quality physicians	8 (4)	8 (4)	155 (75)	36 (17)	9.419	0.213	0.024*
Competent quality nurses	14 (7)	10 (5)	149 (72)	34 (16)	12.038	0.241	0.007**
Availability of medicine (pharmacy)	9 (4)	5 (3)	153 (74)	40 (19)	1.993	0.098	0.574
Easy admission procedures	25 (11.6)	10 (4.7)	141 (65.6)	39 (18.1)	4.201	0.140	0.241
Convenient appointments	22 (11)	8 (4)	138 (68)	36 (18)	0.861	0.065	0.835
Friendly staff	11 (5)	17 (8)	157 (73)	30 (14)	28.606	0.365	0.000**
Good nutrition services	21 (10)	8 (4)	135 (66)	40 (20)	2.855	0.116	0.415
Cleanliness of the hospital	26 (10)	19 (8)	176 (70)	29 (12)	13.853	0.251	0.003**
Availability of recreation facilities	78 (38)	28 (14)	81 (40)	16 (8)	3.608	0.133	0.307
Good hotel services	58 (30)	24 (12)	91 (47)	21 (11)	4.561	0.153	0.207
*Significantly related at 0.05 **Significantly related at 0.01							

Table 5 - Frequency distribution and association between study items and private sector patients' satisfaction with hospital services.

Item	Dissatisfied		Satisfied		Chi-sq	Phi	P-value
	Come back=1 n (%)	Change=0 n (%)	Come back=1 n (%)	Change=0 n (%)			
Reasonable waiting time	12 (10)	9 (7)	87 (66)	24 (18)	4.544	0.186	0.208
Availability of advanced medical equipment	2 (1.5)	5 (4)	96 (73)	28 (21)	9.075	0.263	0.028*
Competent quality physicians	5 (4)	5 (4)	97 (73)	25 (19)	4.896	0.193	0.180
Competent quality nurses	9 (7)	7 (5)	93 (69)	25 (19)	5.735	0.207	0.125
Availability of medicine (pharmacy)	6 (5)	1 (1)	93 (71.5)	30 (23)	0.549	0.065	0.908
Easy admission procedures	3 (2)	6 (4)	99 (73)	27 (20)	10.478	0.279	0.015*
Convenient appointments	14 (10.5)	5 (4)	86 (65)	28 (21)	0.594	0.067	0.898
Friendly staff	4 (3)	6 (5)	93 (71.5)	27 (21)	7.840	0.246	0.049*
Good nutrition services	13 (9)	5 (3)	99 (69)	27 (19)	2.870	0.146	0.412
Cleanliness of the hospital	4 (3)	0 (0)	99 (73)	33 (24)	1.320	0.099	0.724
Availability of recreation facilities	36 (30)	13 (11)	55 (45)	17 (14)	2.790	0.152	0.425
*Significantly related at 0.05 **Significantly related at 0.01							

Table 6 - T-test for the difference between the mean scores of all respondents, MOH respondents only, and private sector respondents only of future behavior on the satisfaction scale questionnaire.

All respondents					
Future behavior	No.	Mean	SD	T-test	P-value
Come back	288	3.212	0.391	-3.334	0.001
Change	85	3.041	0.490		
MOH respondents only					
Come back	177	3.201	0.376	-3.449	0.001
Change	50	2.983	0.454		
Private sector respondents only					
Come back	111	3.231	0.415	-1.225	0.223
Change	35	3.125	0.533		

of the MOH patients. Among the twelve items showed significant differences 6 items were associated significantly with the future behavior of the MOH patients. They were: staff kindness (Phi = 0.365 and p<0.001), waiting time (Phi = 0.298 and p<0.001), cleanliness of the hospital (Phi = 0.251 and p<0.01), perceived nurses' quality (Phi = 0.241 and p<0.01), perceived physicians' quality (Phi = 0.213 and p<0.05), and availability of advanced medical equipment (Phi = 0.203 and p<0.05).

Table 5 shows the frequency distribution as well as the results of Phi test to examine the association between satisfaction and future behavior of the private hospitals patients. The table asserts that just three items were associated significantly with the future behavior of the private-hospitals patients. They were (according to the size of association): availability of medicine or pharmacy (Phi = 0.279 and p<0.05), availability of advanced medical equipment (Phi = 0.263 and p<0.05), and staff kindness (Phi = 0.246 and p<0.05).

The differences between patients who intend to come back and those who do not in regard to the mean scores of satisfaction were tested using the independent-samples t-test for all patients (both MOH and private), for MOH patients only, and for private sector patients only. The results are presented in Table 6.

As indicated in Table 6, for all patients (MOH and private) there is a significant difference in the level of satisfaction between the patients who intend to comeback to the same provider and those who do not (t-test = -3.334 and p=0.001). This means that leavers patients are in general less satisfied than those who intend to come back are (mean score of satisfaction for leavers = 3.041 and for coming back patients = 3.212). Similar results shown for the MOH patients.

A significant difference in the level of satisfaction between the patients who intend to come back to the same provider and those who do not (t-test = -3.449 and p=0.001). Again, MOH patients who decided to change their current providers are, in general, less satisfied than those who intend to come back are (mean score of satisfaction for leavers = 2.983 and for coming back patients = 3.201). This result goes along with the findings mentioned by Woodside et al in 1989[15] and John in 1992.[16] In regard to the private sector patients, results in Table 6 show that there is no significant difference in the mean scores of satisfaction between the patients who intend to come back to the same provider and those who do not (t-test = -1.225 and p=0.223). The mean score of satisfaction for leavers = 3.125 and for coming back patients = 3.231. This result does not go along with the findings of Woodside et al.[15]

The relationships between patients' future behavior and their socio-demographic variables are presented in Table 7 (for the MOH patients) and Table 8 (for the private sector patients). In these two tables, Phi and Cramers'V tests were used. Only one variable showed significant association with the MOH patients' future behavior. However, two variables were significantly associated with the private sector patients' future behavior.

Table 7 shows that only patient's nationality has an association with the MOH patient's future behavior (Phi =-0.148 and p<0.045). This means that Saudi patients are more likely to change their current health providers than non-Saudi patients are. Table 8 illustrates that two variables were found to be associated with the patient's future behavior. These were the number of children (Phi = 0.200 and p <0.05) and the source of payment (Phi = -0.187 and p<0.05). This means that patients with more than three children and patients who has a third party to pay for their bills were more likely to comeback to the same health care provider. Singh in 1990 found that among the demographic characteristics only sex and race were significantly associated with the patient intention to change the current provider. Males and white people tend to change provider more than females and non-white people. The other demographic features were not significantly associated with future behavior.[17]

Discussion. Patient satisfaction is not necessarily the major criterion by which hospital services should be evaluated. However, the attitude of consumers of hospital services is very essential issue that must be taken into consideration when evaluating health services.[12] We also need to differentiate between patient dissatisfaction and satisfaction. Patient dissatisfaction occurs when the patients' experience of the service falls short of expectations, while patient satisfaction occurs when

Table 7 - Relationships between patients' future behavior and MOH patients' socio-demographic variables.

Variable	Future behavior		Chi-sq	Phi	Cramers'V	P-value
	Come back (1)	Change (0)				
Age						
Less than 30 years	84	32	3.064	0.116	N/A	0.080
More than 30 years	92	20				
Children Number						
Less than 3 children	62	18	0.329	0.041	N/A	0.567
More than 3 children	93	22				
Monthly salary						
Less than 3500 sr	40	11	0.034	-0.017	N/A	0.853
More than 3500 sr	57	17				
Sex						
Female	142	41	0.291	0.035	N/A	0.865
Male	39	11				
Nationality						
Non Saudi	34	4	3.860	-0.148	N/A	0.045*
Saudi	147	49				
Occupation						
Unemployed	115	32	0.184	-0.029	N/A	0.668
Employed	56	18				
Other income						
No	153	46	0.416	0.044	N/A	0.519
Yes	11	2				
Source of payment						
Others	169	46	1.750	-0.087	N/A	0.186
Self	11	6				
Social status						
Single	31	8	0.111	-0.022	N/A	0.738
Married	151	45				
Education						
Illiterate	37	6	6.027	N/A	0.161	0.197
Intermediate	69	16				
High School	49	19				
Postgraduate	25	12				
Health status						
Normal	72	18	1.741	N/A	0.087	0.628
Moderate	61	19				
Severe	35	12				
Very severe	7	4				

*Significantly related at 0.05   **Significantly related at 0.01

Table 8 - Relationships between patients' future behavior and private patients' socio-demographic variables.

Variable	Future behavior		Chi-sq	Phi	Cramers'V	P-value
	Come back (1)	Change (0)				
Age						
Less than 30 years	65	20	0.582	0.065	N/A	0.445
More than 30 years	41	10				
Children Number						
Less than 3 children	50	21	4.761	0.200	N/A	0.029*
More than 3 children	42	6				
Monthly salary						
Less than 3500 sr	18	8	0.707	0.087	N/A	0.400
More than 3500 sr	52	15				
Sex					0.059	N/A	0.468
Female	67	22	0.526			
Male	49	12				
Nationality				-0.108	N/A	0.179
Non Saudi	31	6	1.809			
Saudi	86	32				
Occupation						
Unemployed	54	14	1.410	-0.098	N/A	0.235
Employed	56	23				
Other income						
No	84	18	0.493	-0.065	N/A	0.383
Yes	12	4				
Source of payment						
Others	57	10	5.381	-0.187	N/A	0.020*
Self	60	27				
Social status						
Single	30	10	0.003	0.004	N/A	0.956
Married	86	28				
Education						
Illiterate	9	1	2.301	N/A	0.240	0.683
Intermediate	22	5				
High School	27	11				
Postgraduate	54	20				
Health status						
Normal	49	12	2.057	N/A	0.117	0.561
Moderate	39	16				
Severe	24	8				
Very severe	2	0				
*Significantly related at 0.05 **Significantly related at 0.01						

the patients' experience of the service exceeds their expectation.[13] The importance of the differentiation is needed because though satisfaction is essential for keeping high loyalty of the patient, dissatisfaction is crucial because it may lead to unwanted patient future behavior. Therefore, a well designed, implemented, and used patient satisfaction evaluation system is expected to help hospital managers improve both clinical and managerial activities.[14] Establishing such system will improve many aspects of the hospital such as improving risk management processes, improving the quality of care, help in establishing performance standards, and improving the hospital's reputation.[14]

This study showed that, in general, patients who intend to comeback to their current MOH hospital were generally more satisfied (mean score = 3.212) than those who intend to change their current MOH hospital were (mean score = 3.041). The same results occurred in private hospitals. These results were similar to the findings of Tengilimoglu et al.[8] Though eleven items showed some dissatisfaction among private patients only three aspects might influence the private patient's to change the current provider. These were availability of medicine or pharmacy, availability of advanced medical technology, and kindness of staff. Therefore, the private hospital managers must take these three aspects into consideration for quality improvement process. Updating the medical technology is very important for private hospital to survive within a very dynamic environment. To keep cost down, this could be achieved by collaboration between two or more hospitals. For a good private hospital the availability of pharmacy is a must; but the most important issue here is to make sure that medicine is available. A Stock control computer package is essential to monitor the stock of each medicine and to remind the pharmacist when to set an order for a medicine is recommended. Staff need to be given the chance to attend public relations training courses to show them how important to be friendly with patients. For the MOH patients, 6 out of 12 aspects were expected to influence their decision to change their health care provider. These were kindness of staff, waiting time, cleanliness of the hospital, perceived nurses' quality, perceived physicians' quality, and availability of advanced medical technology. What was mentioned about staff kindness and availability of advanced medical equipment is also applicable for the MOH hospitals. Physicians and nurses at the MOH need to update their knowledge through what is called continuous education programs. Such training programs will enhance their ability and hence their self-confidence. Using quantitative analysis or operations research techniques could reduce waiting times. These techniques are available in computer package format in all computer markets. In general all customers (internal and external) in the hospital

need some type of educational materials to show them the importance of cleanliness on the general health. The above suggestions are very critical because improving patients' quality perceptions can help hospitals attract new customers through good word of mouth. In addition, increases in patient retention rates will have positive consequences on reputation and profit (for private hospitals). The above affirms what Oswald et al mentioned in 1998. They stated that health care patients link excellence with their perceptions of human issues and behavioral attributes.[18]

The fact that patients with more than three children were more likely not to change the private hospital is understandable because the more the number of children, the more stability to be wanted by the household. In addition, opening new files at the new hospital is not free of charge in most private hospitals. Non-Saudis who are treated at the MOH hospitals tend not to change the current MOH hospital because they cannot guarantee that the new MOH hospital will give them the chance to open files simply because they are not eligible. The other option for them is to go to a private hospital which will cost them money. This brings to mind that the admission process at the MOH hospitals regarding eligible patients is not properly applied. However, the new policy of health insurance is expected to solve such problem.

Finally, the results of this study may not be generalized to other areas, particularly outside Riyadh city, but with the scarcity of studies in this subject the results of this study offer a basis for comparison with other similar studies outside Riyadh city. Similar research studies are recommended to reduce the gap in this area.

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