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Research Article

The Effects of Korean Medical Service Quality and Satisfaction on Revisit Intention of the United Arab Emirates Government Sponsored Patients



Seoyoung Lee, RN, MSN,¹ Eun-Kyung Kim, RN, PhD^{2,*}

¹ Korea Health Industry Development Institute, Cheongju, South Korea

² Department of Nursing, Chungbuk National University, Cheongju, South Korea

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SUMMARY

Purpose: The purpose of this study was to investigate medical service quality, satisfaction and to examine factors influencing hospital revisit intention of the United Arab Emirates government sponsored patients in Korea.

Methods: A total of 152 UAE government sponsored patients who visited Korean hospitals participated in the questionnaire survey from August to November 2016. Stepwise multiple regression was used to identify the factors that affected the revisit intention of the participants.

Results: The mean scores of medical service quality, satisfaction, and revisit intention were 5.72 out of 7, 88.88 out of 100, 4.59 out of 5, respectively. Medical service quality and satisfaction, Medical service quality and revisit intention, satisfaction and revisit intention were positively correlated. Medical service of physician, visiting routes and responsiveness of medical service quality explained about 23.8% of revisit intention.

Conclusions: There are needs for physicians to communicate with patients while ensuring sufficient consultation time based on excellent medical skills and nurses to respond immediately for the patients' needs through an empathic encounter in order to improve medical service quality and patient satisfaction so that to increase the revisit intention of the United Arab Emirates government sponsored patients. Further, it is necessary for the hospitals to have support plans for providing country specialized services in consideration of the UAE culture to ensure that physicians' and nurses' competencies are not undervalued by non-medical service elements such as interpreters and meals.

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Introduction

With the growth of the Korean economy and the decline in employment rate in the 2000s, the domestic service industry, which accounts for 59.4% of total GDP and 69.2% of the total number employed as of the end of 2014, is being proposed as a solution to the employment rate problem [1]. In particular, the importance of the medical service industry is increasing as it contributes to the national economy as a high-value-added industry that creates various economic effects, including shared growth through merging with other industries such as medical devices and

pharmaceuticals, and job creation, with hopes of market size expansion in the future [2].

The total number of foreign patients who visited Korea in 2014 was 266,501, an increase of 26.2% compared to the previous year [3]. Among them, the countries with the highest annual increase rate of foreign patients in Korea out of 191 countries were from the Middle East, with an annual average increase rate of 174.2% [3]. In particular, the number of patients from the United Arab Emirates (UAE) had an increase rate of 128.8% in 2014, compared to the previous year, which is the second highest following Kazakhstan, which had an increase rate of 177.8% [3].

UAE patients' total medical expenses increased to 40.4 billion Korean won, by 98.0% year over year, and the cost per patient was estimated at 15.37 million Korean won [4]. This is about 7 times higher than the average medical cost per foreign patient of 208 million won, and the highest level among the 191 countries that the

* Correspondence to: Eun-Kyung Kim, PhD, RN, Department of Nursing, Chungbuk National University, 1 chungdae-ro, Seowon-gu, Cheongju, Chungbuk 28644, South Korea. Tel.: +82 43 249 1730; fax: +82 43 266 1710.

E-mail address: kyung11@cbnu.ac.kr

foreign patients come from. Among the total 2633 UAE patients who visited Korea, 806 were patients sent by the government, accounting for 30.6%, generating medical revenues around 35 billion won [4]. Recently, the UAE government sponsored patients are growing rapidly through the cooperation between the two governments and it is a market with high hopes that is expected to generate high profits in the future. Therefore, efforts should be made to vitalize the visit of UAE patients and increase the rate of return visits.

With the increase in income, patients' expectations and knowledge levels of medical services are increasing. In addition, medical services are changing from medical personnel centered services in the past, to patient-centered systems that reflect the patients' needs, and in which patients can participate in the medical planning process. Therefore, hospitals need to make voluntary efforts to improve the quality of care and satisfaction in order to cope with such changes. According to Zifko-Baliga and Krampf [5], even though healthcare providers may have provided the best medical services to the patient, if the patient does not agree, then one cannot say that high quality health care service has been provided. As the importance of the quality of the medical services recognized by the patient is being emphasized, studies are being actively carried out to identify the influencing factors of the revisit intention for the medical services including the relationship between the quality and satisfaction of medical service [6–10].

Satisfaction being the mediating factor between customer perceived quality levels and customer loyalty, if the service quality levels are satisfied, customers are satisfied, and such satisfaction levels affect customer loyalty [6]. In other words, when service quality offered to the customer is higher than expected service quality levels, customers perceive the service quality level as high; this in turn affect satisfaction and repurchase intentions [11]. Therefore, in order to enhance the satisfaction of patients' medical services through the provision of high-quality medical services, and to increase intent to revisit through recommendations of others, it is necessary to provide customized services according to the individual characteristics of the patients.

Therefore, it is necessary to establish a basis for raising the quality of medical service provided to UAE patients who are rapidly increasing in the Korean medical service market with a high economic ripple effect, and to improve the satisfaction of patients to increase the intent to revisit domestic hospitals. The purpose of this study is to present the basic data that can contribute to the vitalization of UAE patients by analyzing the effect of domestic medical service quality and medical service satisfaction levels of UAE government sponsored patients, which influence the intent to revisit hospitals.

Methods

Study design

The purpose of this descriptive, survey research study was to investigate medical service quality, satisfaction and to examine factors influencing hospital revisit intention of the UAE government sponsored patients who experienced Korean medical service for treatment.

Sample and setting

The target population for this study was the UAE government sponsored patients who were treated at one of the 12 Korean hospitals which signed the hospital service agreement between Korea and UAE. The participants of the study were the patients or caregivers who visited the UAE Military Attaché's Office or the Embassy of the United Arab Emirates in Korea and understand the

purpose of the study and agree to answer the questionnaire. The questionnaire was carried out by staff members who were in charge of the administrative tasks of each organization and has received pre-training on the purpose and method of the survey. They were able to speak Korean and Arabic. A soldier or his family visits Korea through GHQ Armed Forces of the UAE, and the other general public visits through the IPC of Health Authority of Abu Dhabi. The necessary sample size was computed using G*Power 3.1.9.2 for the stepwise multiple regression analysis with a significant level of 0.05, a power of 0.8. The median effect size is expected to be 0.15 and expected 18 predictor variables, so minimum of 150 participants were needed for this study. A total of 200 survey copies were distributed, approximately 180 copies were collected (recovery rate of 90.0%), but only 152 copies were analyzed. Twenty-eight copies (15.6% dropout rate) which had many missing data were omitted. Therefore, the minimum number of subjects required for statistical testing was met.

The participants' selection criteria of this study were as follows. First, the UAE government sponsored patients over 18 years old who were admitted to a hospital in Korea based on the hospital service agreement between Korea and the UAE for the purpose of treatment or their caregivers. Second, the participants who understood the purpose of this study and voluntarily agree to participate in this survey. Third, the participants who could fill out the questionnaire and had no problem in collecting accurate information.

Ethical considerations

The study was approved by the Institutional Chungbuk National University (IRB-CBNU-201608-BMSB333-01). The data collector introduced the purpose of the study to the participants and explained that when they fill out the survey it would be regarded as the consent of the survey participation. The explanatory text of the study included the data collection process, participation agreement, withdrawal decision, and confidentiality of participation in the study. In other words, it was explained that anonymity was guaranteed and the participants could be withdrawn at any time, the survey contents were used only for research purpose, and the survey and all the collected information would be dismantled after the research had completed. The survey was conducted through self-filling questionnaires. The collected data were coded after the collection and entered into the computer.

Measurements

Twenty-two questions of SERVPERF (Service Performance) by Cronin and Taylor [12], a modified version of SERVQUAL (Service Quality) developed by Parasuraman and colleagues [11], was used as a medical service quality measurement instrument. English version of SERVPERF was translated into Arabic. SERVPERF, a 22-question on a 7-point Likert scale model, includes 5 dimensions which were entitled tangibles (4) as 'the appearance of physical facilities, equipment, personnel, and communication materials', reliability (5) as 'the ability to perform the promised service dependably and accurately', responsiveness (4) as 'the willingness to help customers and provide prompt service assurance (4) as 'the knowledge and courtesy of employees and their ability to convey trust and confidence and empathy (5) as 'the caring, individualized attention the firm provides its customers'. This study has total of 22 questions on a 7-point Likert scales ranges from 1 as 'strongly disagree' to 7 as 'strongly agree' and the higher the score, the better the medical service quality. The overall Cronbach's alpha coefficients of the instrument was 0.97, and for each dimensions Cronbach's alpha coefficients were 0.90 for tangible (4), 0.92 for reliability, 0.92 for responsiveness, 0.93 for assurance, and 0.91 for empathy.

Medical services satisfaction was assessed using the Arabic version of International Patient Satisfaction Survey of Korea Health Industry Development Institute [13]. The survey consisted of 36 questions on 7 dimensions about physician service, information and education, hospital life and medical expenses, hospital amenities, employee service, communication and patient respect, and accessibility. It was measured from 0 as “not satisfied at all” to 100 as ‘very satisfied’. It was evaluated in a unit of 10 points and the higher the score, the higher the medical service satisfaction. The overall Cronbach's alpha coefficient of the instrument at the time of development was 0.92, and was 0.97 in this study. For each dimensions Cronbach's alpha coefficients were 0.85 for physician service, 0.94 for information and education, 0.94 for hospital life and medical expenses, 0.73 for hospital amenities, 0.87 for employee service, 0.88 for communication and patient respect, and 0.88 for accessibility.

Revisit intention was measured using the revisit intention questions of the International Patient Satisfaction Survey of Korea Health Industry Development Institute [13]. It consisted of 2 questions which are ‘Do you intend to visit a Korean hospital again?’ and ‘Do you intend to recommend Korean medical service to your friends/family?’ on a 5-point Likert scales ranges from 0 as ‘strongly disagree’ to 5 as ‘strongly agree’ and the higher the score, the higher the revisit intention. In this study, the Cronbach's alpha coefficient was 0.85.

SERVPERF translation

SERVPERF was used after receiving approval of translation and usage through e-mail communication with Cronin. In order to secure the validity of the instrument, the translation was done through four stages, translation, back translation, discussion, and editing by the native speakers. First, a translator who is fluent in English and Arabic and living in Saudi Arabia translated the original English instrument into Arabic. Second, the Arabic translated instrument was then back translated into English without looking at the original instrument in English by a Saudi Arabian translator. Third, the mutual independence between two translators was

maintained, and to improve the meaning of the original contents more accurately the translated contents were revised through discussions between the translators. Through discussion, ‘revisit’ was translated it as ‘visit again’ focusing on the meaning of visitation in the draft but was modified it as ‘hope to visit again’ in order to include the meaning of the implication of revisiting the Korean hospitals for further treatment. There was an opinion of the back translator that it was difficult to grasp the intent of the sentence in draft translation of ‘Hospital building is visually appealing’ among medical service question. Therefore, it was modified as ‘The facilities of the hospital are clean, beautiful and attractive’. In addition, the translation of ‘personal interests’ was modified from ‘interests tailored to individual needs’ to ‘psychological interests tailored to individual needs’ to emphasize the psychological perspectives. Lastly, an authorized Saudi Arabian translator performed a final edition of the Arabic instrument. Arabic version of International Patient Satisfaction Survey of Korea Health Industry Development Institute [13] was used after the approval of the institution for the medical service satisfaction and revisit intention instruments.

Data collection

The survey was conducted after the approval and with the assistance of the United Arab Emirates Military Attaché's Office and the Embassy of the United Arab Emirates in Korea from August to November 2016. All questionnaires were written in Arabic. Preliminary training on the purpose of this study and questionnaire method was conducted to the support staffs of the United Arab Emirates Military Attaché's Office and the Embassy of the United Arab Emirates in Korea. The support staffs of both organizations were fluent in Korean and Arabic.

Data analysis

The statistical analyses were conducted using SPSS version 23.0 (SPSS Inc., Chicago, IL, USA). The general characteristics of the

Table 1 Korean Medical Service Quality of UAE Government Sponsored Patients (N = 152).

Dimensions	Measurement variables	Range	Min	Max	Rank	Mean ± SD
Tangible	Have up-to-date equipment	1–7	4	7	4	5.78 ± 0.89
	Visual appeal of physical facilities	1–7	4	7	18	5.65 ± 0.92
	Neat appearance of staffs	1–7	3	7	15	5.68 ± 0.94
	Visual appealing materials association with the service	1–7	3	7	16	5.68 ± 0.92
	Subtotal					5.70 ± 0.81
Reliability	Service provided as promised	1–7	4	7	11	5.71 ± 0.90
	Showing sincere interest in solving patients' problems	1–7	4	7	13	5.71 ± 0.87
	Performs the service right the first time	1–7	4	7	19	5.64 ± 0.97
	Provide services at the time promised	1–7	4	7	10	5.71 ± 0.95
	Maintains error-free records	1–7	4	7	12	5.71 ± 0.90
Subtotal					5.70 ± 0.79	
Responsiveness	Inform patients when services will be performed	1–7	3	7	2	5.80 ± 0.92
	Staffs give prompt service to patients	1–7	4	7	7	5.74 ± 0.90
	Willingness to help patients	1–7	4	7	5	5.77 ± 0.85
	Readily respond to patients' request	1–7	4	7	6	5.76 ± 0.89
	Subtotal					5.77 ± 0.80
Assurance	Trustworthy of staffs	1–7	3	7	9	5.72 ± 0.93
	Customers feel safe in their transaction	1–7	4	7	3	5.79 ± 0.91
	Staffs' courtesy at all times	1–7	4	7	1	5.85 ± 0.88
	Hospital support to staffs	1–7	3	7	8	5.73 ± 0.93
	Subtotal					5.77 ± 0.83
Empathy	Given individual attention	1–7	3	7	20	5.64 ± 0.95
	Given personal attention	1–7	3	7	17	5.66 ± 0.96
	Recognition of specific needs of patients	1–7	3	7	22	5.63 ± 0.90
	Given first priority to patients	1–7	1	7	21	5.63 ± 1.05
	Convenient operating hours	1–7	3	7	14	5.70 ± 0.91
Subtotal					5.66 ± 0.82	
Total						5.72 ± 0.73

participants were analyzed using descriptive statistics. Cronbach's alpha coefficients were measured to ensure the reliability of the survey instruments. Individual differences of the participants in medical service quality, medical service satisfaction and revisit intention were analyzed by independent *t*-test, one-way ANOVA, and Duncan was used to perform post-hoc tests. Pearson's correlation coefficient was calculated to examine the relationship among medical service quality, medical service satisfaction and revisit intention. Stepwise multiple regression was used to identify the factors that affected the revisit intention of the participants.

Results

General characteristics of study participants

The basic characteristics of the participants were as follows. The participants consisted of 57.9% men and 42.1% women with a mean age of 37 years. Of these, 66.4% was unmarried and 44.1% had school education. Among the participants 83.6% went through the GHQ Armed Forces of the UAE to visit a Korean hospital and 16.4% through Health Authority of Abu Dhabi. Of the 152 participants, 92.8% used tertiary hospitals, 34.2% underwent surgery, and more internal medicine (43.4%) than surgery (18.4%). A majority of the participants, 63.2%, had no previous Korean hospital experiences

while 36.8% had the previous experiences, and the participants with one companion had the highest rate of 57.2%.

The perception of the participants about Korean medical service quality

The mean of Korean medical service quality of the UAE government sponsored patients was 5.72 (Table 1). The means of each dimension were in the order of tangibles of 5.70, reliability of 5.70, responsiveness of 5.77, assurance of 5.77 points and empathy of 5.66. Specially, the means of the empathy dimension questions were below the average, and 'staffs' recognition of the patient needs' had the lowest value of all questions.

The perception of satisfaction of participants about Korean medical service

The mean of Korean medical service satisfaction of the UAE government sponsored patients was 86.28 (Table 2). The means of each dimension were physician service 86.79, information and education 85.64, hospital life and medical expenses 85.32, hospital amenities 86.07, employee service 86.58, communication and patient respect 86.99, and accessibility 86.76. Especially, 'meals and taste of food' showed the lowest satisfaction score, and 'providing

Table 2 Korean Medical Service Satisfaction of UAE Government Sponsored Patients (N = 152).

Dimensions	Measurement variables	Range	Min	Max	Rank	Mean ± SD
Physician service	Doctor's sufficient consultation time	0–100	0	100	29	84.90 ± 16.30
	Explanation for the patient's disease and condition	0–100	20	100	6	87.20 ± 12.05
	Treatment result	0–100	60	100	2	87.72 ± 9.60
	Doctor's medical knowledge and quality of medical skills or services	0–100	50	100	5	87.22 ± 10.14
	Subtotal					86.79 ± 10.19
Information and education	Waiting times	0–100	20	100	30	84.87 ± 13.70
	Providing information on the patient's safety	0–100	50	100	18	86.40 ± 10.95
	Providing adequate information on medication	0–100	60	100	19	86.23 ± 10.05
	Explanation for medical treatment plan	0–100	60	100	21	85.96 ± 9.53
	Providing translated leaflet for hospital services	0–100	50	100	32	84.77 ± 12.05
	Providing information on hospital admission	0–100	50	100	31	84.87 ± 11.57
	Providing follow-up instructions after discharge	0–100	40	100	27	85.07 ± 12.64
Subtotal					85.64 ± 9.77	
Hospital life and medical expenses	Hospital signs	0–100	30	100	26	85.20 ± 12.46
	Creating an environment for privacy	0–100	30	100	23	85.41 ± 11.57
	Explaining of medical bills	0–100	30	100	34	84.62 ± 12.36
	Providing detailed medical bills	0–100	0	100	35	84.21 ± 14.89
	Reasonable medical costs	0–100	30	100	25	85.31 ± 12.29
	Protection of personal information	0–100	30	100	24	85.40 ± 11.62
	Considerations of cultural or religious differences	0–100	30	100	28	85.05 ± 10.93
	Handing of complaints	0–100	30	100	20	86.07 ± 11.29
Subtotal					85.32 ± 10.29	
Hospital amenities	Wards and room etc. hospital environments	0–100	40	100	22	85.50 ± 10.50
	Convenience of admission and discharge	0–100	40	100	1	88.60 ± 9.56
	Variety of menus for meals and taste	0–100	20	100	36	83.44 ± 16.62
	Cleaning/linen services	0–100	20	100	10	87.00 ± 11.69
	Wheel chair and ambulance services	0–100	50	100	12	86.93 ± 10.03
Subtotal					86.07 ± 8.25	
Employee service	Nursing services	0–100	60	100	9	87.09 ± 8.76
	Coordinator's services	0–100	30	100	11	86.97 ± 11.34
	Registration and payment services	0–100	50	100	3	87.45 ± 9.74
	Interpretation services	0–100	10	100	33	84.64 ± 14.60
Subtotal					86.58 ± 9.56	
Communication and patient respect	Communication with medical personnel	0–100	40	100	7	87.17 ± 10.76
	Courteous and respectful provision of services by medical personnel	0–100	30	100	4	87.43 ± 10.77
	Communication with non-medical personnel	0–100	40	100	15	86.60 ± 10.27
	Courteous and respectful provision of services by non-medical personnel	0–100	30	100	13	86.78 ± 10.96
Subtotal					86.99 ± 9.16	
Accessibility	Making an appointment, treatment schedule	0–100	50	100	8	87.17 ± 9.38
	Easy to find the hospital	0–100	50	100	16	86.58 ± 10.11
	Easy access to hospital information	0–100	30	100	14	86.60 ± 10.98
	Hospital phone call services	0–100	50	100	17	86.58 ± 9.57
Subtotal					86.76 ± 8.49	
Total						86.28 ± 7.89

detailed medical bills', 'explaining of medical bills, and 'interpretation service' were low in order.

Differences in medical service quality, medical service satisfaction, and revisit intention by the general characteristics

It was found to have statistically significant differences in the quality of medical service by the general characteristics on educational level ($F = 3.12, p = .028$) and department ($F = 3.36, p = .020$) (Table 3). Post-hoc analysis revealed that the perception level of medical service quality was significantly higher with the university graduates (Mean = 6.17) than middle school (Mean = 5.58) or high school (Mean = 5.68) graduates. For department, the perception level of medical service quality was significantly higher with the participants who were treated at other departments (Mean = 6.08) than internal medicine (Mean = 5.59) or pediatrics (Mean = 5.63).

There were significant differences in the level of medical service satisfaction by general characteristics of the UAE government sponsored patients on size of hospitals ($t = 1.21, p < .001$) and number of companions ($F = 4.01, p = .020$). For the size of hospitals, the level of satisfaction was statistically significantly higher for the participants who used tertiary hospitals (Mean = 86.50) than general hospitals (Mean = 83.52). The perception level of medical service quality was significantly higher when the participants visited with no companions (Mean = 95.13) than one (Mean = 85.03) or two (Mean = 87.61) companions, respectively.

There were significant differences in revisit intention by general characteristics of the UAE government sponsored patients on visiting routes ($t = 1.47, p < .001$), and it was significantly higher when the participants visited through the GHQ Armed Forces of the UAE (Mean = 4.63) than through Health Authority of Abu Dhabi (Mean = 4.42).

Correlation among medical service quality, satisfaction, and revisit intention

As a result of the correlation analysis among medical service quality, satisfaction, and revisit intention of the UAE government sponsored patients, there were significant positive correlations between medical service quality and satisfaction ($r = .51, p < .001$), medical service quality and revisit intention ($r = .23, p = .005$), and medical service satisfaction and revisit intention ($r = .35, p < .001$) (Table 4).

Table 4 Correlation among Medical Service Quality, Satisfaction, and Revisit Intention of UAE Government Sponsored Patients (N = 152).

Variables	Medical service quality	Medical service satisfaction	Revisit intention
Medical service quality	1		
Medical service satisfaction	.51 (<.001)	1	
Revisit intention	.23 (.005)	.35 (<.001)	1

Table 5 Factors Influencing the Revisit Intention to Korean Hospitals of UAE Government Sponsored Patients.

Variables	B	SE	β	t	p
(Constant)	1.54	0.51		3.01	.003
Medical service satisfaction: medical service of physicians	0.03	0.01	0.40	5.09	<.001
Medical service quality: responsiveness	0.16	0.07	0.20	2.48	.014
Visiting route ^a	0.71	0.15	0.38	4.70	<.001

$R^2 = 0.24, \text{Adj. } R^2 = 0.22, F = 14.89, p < .001.$

^a Reference group = HAAD.

Table 3 Differences in Medical Service Quality, Medical Service Satisfaction, and Revisit Intention According to General Characteristics (N = 152).

Characteristics	Categories	Frequency (%)	Medical service quality		Medical service satisfaction		Revisit intention	
			Mean \pm SD	t/F(p)	Mean \pm SD	t/F(p)	Mean \pm SD	t/F(p)
Gender	Male	88 (57.9)	5.77 \pm 0.74	1.03 (.854)	86.82 \pm 8.17	0.99 (.770)	4.57 \pm 0.74	-0.54 (.352)
	Female	64 (42.1)	5.65 \pm 0.71		85.54 \pm 7.49		4.63 \pm 0.50	
Age (yr) ^f	0–18	21 (14.3)	5.51 \pm 0.68	1.46 (.227)	84.34 \pm 7.53	1.24 (.298)	4.38 \pm 0.79	1.26 (.289)
	19–39	70 (47.6)	5.66 \pm 0.69		85.39 \pm 9.98		4.59 \pm 0.58	
	40–59	38 (25.9)	5.69 \pm 0.77		87.00 \pm 6.62		4.71 \pm 0.46	
	≥ 60	18 (12.2)	5.98 \pm 0.69		88.40 \pm 4.69		4.50 \pm 0.99	
Marital status	Single	101 (66.4)	5.80 \pm 0.69	0.75 (.476)	86.02 \pm 8.36	0.16 (.850)	4.63 \pm 0.64	1.08 (.343)
	Married	48 (31.6)	5.62 \pm 0.80		86.80 \pm 7.10		4.53 \pm 0.65	
	others	3 (2.0)	5.59 \pm 0.51		86.75 \pm 3.38		4.17 \pm 0.76	
Educational level	Elementary ^a	18 (11.8)	5.90 \pm 0.79	3.12 (.028)	89.22 \pm 9.08	2.62 (.053)	4.69 \pm 0.75	1.31 (.274)
	Middle school ^b	52 (43.2)	5.58 \pm 0.69	b, c < d	85.45 \pm 5.29		4.54 \pm 0.60	
	High school ^c	67 (44.1)	5.68 \pm 0.74		85.29 \pm 9.18		4.54 \pm 0.69	
	University ^d	15 (9.9)	6.17 \pm 0.54		90.09 \pm 6.18		4.87 \pm 0.30	
Visiting route	UAE Army	127 (83.6)	5.60 \pm 0.67	-4.98 (.634)	85.05 \pm 7.61	-4.62 (.891)	4.63 \pm 0.53	1.47 (<.001)
	HAAD	25 (16.4)	6.33 \pm 0.73		92.54 \pm 6.25		4.42 \pm 1.05	
Hospital type	Advanced general hospital	141 (92.8)	5.69 \pm 0.71	-2.00 (.183)	86.50 \pm 7.21	1.21 (<.001)	4.59 \pm 0.65	-0.48 (.883)
	General hospital	11 (7.2)	6.14 \pm 0.81		83.52 \pm 14.25		4.68 \pm 0.56	
Surgery	Yes	52 (34.2)	5.86 \pm 0.74	1.71 (.510)	87.81 \pm 6.65	1.73 (.929)	4.59 \pm 0.72	-0.08 (.387)
	No	100 (65.8)	5.65 \pm 0.71		85.49 \pm 8.39		4.60 \pm 0.61	
Department	Internal Medicine	66 (43.4)	5.59 \pm 0.73	3.36 (.020)	86.68 \pm 5.77	2.01 (.115)	4.66 \pm 0.46	1.65 (.180)
	Surgery	28 (18.4)	5.74 \pm 0.86	a, c < d	85.22 \pm 10.09		4.36 \pm 0.74	
	Pediatrics	29 (19.1)	5.63 \pm 0.59		83.97 \pm 10.00		4.59 \pm 0.72	
	Others	29 (19.1)	6.08 \pm 0.61		89.71 \pm 6.88		4.67 \pm 0.79	
Previous Korean Hospital Experience	Yes	56 (36.8)	5.60 \pm 0.73	-1.55 (.582)	85.88 \pm 6.42	-0.47 (.053)	4.63 \pm 0.53	0.61 (.404)
	No	96 (63.2)	5.79 \pm 0.72		86.51 \pm 8.66		4.57 \pm 0.71	
Number of companions	None ^a	3 (2.0)	6.65 \pm 0.61	2.94 (.056)	95.13 \pm 8.18	4.01 (.020)	5.00 \pm 0.00	0.66 (.519)
	1 Person ^b	87 (57.2)	5.66 \pm 0.73		85.03 \pm 8.15	a > b, c	4.60 \pm 0.58	
	More than 2 ^c	62 (40.8)	5.76 \pm 0.70		87.61 \pm 7.10		4.56 \pm 0.74	

Note. ^fMissing data excluded.

UAE army = The United Arab Emirates; HAAD = Health Authority of Abu Dhabi.

Factors influencing the revisit intention to Korean hospitals

The stepwise multiple regression analysis to identify the influencing factors on the participants' Korean hospitals revisit intention showed that the general characteristics, medical service quality, and medical service satisfaction of the participant would have a significant effect on the revisit intention ($F = 14.89, p < .001$) (Table 5). In order to identify the factors influencing the revisit intention, a multiple regression analysis was conducted including the sub-components of quality, satisfaction, and revisit intention of the medical service, which showed significant differences among the general characteristics of the participants. The visiting route was treated as a dummy variable. In addition, all conditions for regression analysis were satisfied. The influencing factors of revisit intention of the UAE government sponsored patients were medical service of physicians ($\beta = 0.40, p < .001$), visiting routes ($\beta = 0.38, p < .001$), responsiveness of medical service quality, and these variables explained 23.8% of the revisit intention.

Discussion

The perception level toward the overall quality of medical service by the UAE government sponsored patients measured by the SERVPERF tool was 5.72 in this study. This is higher compared to Kim's study [14] on foreign patients using four hospitals in Seoul area, which measured 5.53, and the result of a study [15] on the quality of medical service for Chinese patients who visited domestic plastic surgery clinics, which were 5.32. The studies all used the same instruments. However, there was a difference that the visiting routes of the Korean hospitals were informal channels [14,15], such as recommendations of friends or acquaintances for the two previous studies, whereas the UAE government sponsored patients was from the route with public confidence such as Health Authority of Abu Dhabi and GHQ Armed Forces of the UAE. Since Health Authority of Abu Dhabi and GHQ Armed Forces of the UAE inspected domestic hospitals and verified the quality of medical service before signing contracts for hospital services for foreign patients, they were expected to have higher perception on the quality of medical services. This suggests that it is necessary to establish a pre-verification system of hospitals that can enhance the quality of domestic hospitals in order to attract more foreign patients in Korea.

Also, in the studies carried out by Rad and colleagues [16], the medical service quality of foreign patients visiting Malaysia using SERVPERF tool was measured at 4.95. Compared to this study, it was found that the perception levels of the UAE government sponsored patients' on the quality of Korean medical services were high. Presumably, it may be because most of the Korean hospitals visited by the UAE government sponsored officers have been verified for the excellence of the quality of the medical service through medical institution evaluations, professional hospital authentications or the Joint Commission International (JCI). Guiry and Vequist [17] conducted a study of Korean health care services on Americans. Americans who were willing to use Korean medical services had a positive image on the quality of Korean medical services. Because Korea provided medical services with reasonable costs and had shorter waiting periods compared to the U.S. Therefore, efforts must be made to increase international recognition and to advertise the excellence of domestic medical service quality, including reasonable medical expenses and short waiting times in Korea.

In this study, 'sympathy' was the lowest among the dimensions of medical service quality. Sympathy was also found to have a significant effect on customer satisfaction in the study of Han and colleagues [18], which measured the quality of medical services for University hospital patients using SERVPERF. Sympathy in this

context is identifying patients' needs, thinking about the patient first, and providing individual care for the patients. Patients prefer professional and trustworthy nurses who can sincerely understand and sympathize the patient [19]. Thus, the ability to accurately understand the patients' feelings and to sympathize are important competences that nurses should have. In order to communicate with foreign patients and to sympathize, in addition to providing interpretation services to lower language barriers, it is also possible to use non-verbal communication methods such as nurses' gestures, spatial distance with patients, physical contact and being extrovert. As non-verbal communication can exert greater influence than verbal communication, nurses should make efforts to sympathize through holding hands, arranging patients' rooms near nurses' offices, assigning the same room to patients from the same culture and explaining repeatedly [20]. The overall satisfaction rate of the domestic medical service of the UAE government sponsored patients was 86.28 out of 100. According to the measurement made using the same tool by the Korean Health Industry Development Institute [13], the overall satisfaction rate of foreign patients in Korea was 88.3, with 91.6 for Russia, 90.5 for the Middle East, 89.1 for the US, 88.2 for Southeast Asia, 88.0 for Mongolia, 85.3 for China and 80.4 for Japan. In the study by Kim and colleagues [21] which surveyed the satisfaction of American, Chinese and Russian patients living in Korea, Russia was 78.0, USA was 79.3 and China was 74.8. Compared to previous research results, the UAE government sponsored patients' satisfaction with Korean medical services was high, but in order to increase the attractiveness of Korean hospitals, continuous efforts are still needed to increase the satisfaction rate of medical services.

Especially, among the dimensions of satisfaction on medical service, 'the menu and the taste of food' was the lowest with 83.44, and this is in consistent with the research results by the Korea Health Industry Development Institute [13]. The result of the study on the preparation in preparing meals for foreign patients in medical institutions in Seoul that attract foreign patients by Lee and Jung [22] pointed out the 'lack of information on menu' and 'lack of experience in the Arabic diet' as the difficulties in developing a Middle Eastern menu. Since nutritionally appropriate diets affect the healing process and recovery of illness, dietary and nutritional management along with treatment are very important for patients [23]. Therefore, hospitals, which plan to attract UAE patients, should try to develop a diet that is closer to local tastes, in accordance to the taste of Middle Eastern patients in order to increase the low satisfaction levels of menus by the UAE government sponsored patients.

Next, 'the provision of medical expense bills' was rated 84.21 and 'the provision of explanation for medical expenses' was rated 84.62, which were related to medical expenses with low satisfaction rates. Even though the treatments for the UAE government sponsored patients are fully funded by government subsidies, it still implies that individual patients should be provided with a detailed explanation about their medical expenses. According to a previous study, foreign patients wanted to be provided with at least a detailed medical bill in English, even if it was not in their local language [24]. Also, in case of providing services that are not included in the government support items, sufficient explanation should be provided in advance through interpreters, and efforts should be made to enhance transparency in the charges of medical expenses.

Moreover, 'interpreter service' was 84.64, a low satisfaction rate for a medical service. 20.4% of the respondents pointed out that Arabic interpreters were not fluent and the number was insufficient. Most of the domestic hospitals contracted to receive UAE government sponsored patients adopted one or two Arabic interpreters though outsourcing and used them in the form of reservations whenever needed. Therefore, patients could not use the

service of Arabic interpreters at nighttime or on weekends, and it is thought that communication would not have been smooth as the UAE government sponsored patients use mostly Arabic than English. Communication with patients is an essential factor in establishing a therapeutic relationship with medical staff. Therefore, not being able to communicate in the patient's language is a major barrier [25] in nursing foreign patients, and thus, more efforts should be made since frequent communication difficulties may occur when taking care of patients from non-English speaking countries [26]. The satisfaction rate of 'the provision of nursing service' was high with 87.09. Therefore, if a systematic collaboration system between nurses and interpreters is established, nurses will be able to form more than therapeutic relationships with patients. Nurses should actively use interpreters for accurate communication, which would require close collaboration. In addition, hospitals should run foreign language programs for nurses at an organizational level train nurses specialized for foreign patients. In addition, a system to verify in advance the interpreters' abilities to use medical terminology should be established.

As a result of this study, the rate of revisit intention by UAE government sponsored patients was 4.59 out of 5. This is higher than the study result of Rho and Oh [7], which rated 4.19 on the intent to revisit the ophthalmology and the result of Yom and colleagues [8], which rated 4.01 for hospitals at the specialist level. This is where high evaluation on domestic medical services satisfaction has led to intents to revisit and can be regarded as positive evaluation for UAE government sent patient management at the present stage.

As a result of analyzing the correlation between domestic medical service quality, satisfaction and the revisit intention by the UAE government sponsored patients, the medical service quality and satisfaction, medical service quality and revisit intention, medical service satisfaction and revisit intention showed statistically significant positive correlation. This is consistent with the result of a number of previous studies suggesting that higher quality of care and satisfaction are likely to contribute to revisit intention [6,9,10].

As a result of analyzing the factors affecting the revisit intention of domestic hospitals in UAE government sponsored patient in this study, 'physician' of medical service satisfaction, 'visiting routes', 'responsiveness' of medical service quality were significant factors affecting revisit intention, with these factors explaining 23.8% of the revisit intention.

In this study, the participants visited Korean hospitals through two routes, Health Authority of Abu Dhabi the citizens of the UAE and GHQ Armed Forces of the UAE only for the Army related citizens of the UAE. There is a difference of HAAD having its patient delivering dedicated agency in UAE, but the GHQ Armed Forces of the UAE having its agency is located in Korea. Therefore, if there is a change in the patients' treatment schedule or unforeseen situations occur, although patients through the GHQ Armed Forces of the UAE can easily contact a dedicated agency located in Korea, patients visiting through HAAD have to contact IPC located in the UAE and thus there can be a difference in the efficiency of the process. In the future, there needs to be ways to integrate and manage the UAE government sponsored patients through the UAE Military Attaché Office, or the HAAD needs to have an agency in Korea that only deals with patient delivery work like the UAE Military Attaché Office. In addition, based on the Korean medical services experience of the UAE patients, it is necessary to increase the convenience of other countries' patients visiting Korean hospitals by establishing an official office in Korea specialized in managing the administration and other procedures for patients.

Another influential factor of revisit intention was shown to be the satisfaction on the medical service of physicians. In this study,

the UAE government sponsored patients showed high satisfaction, in order, 87.72 for treatment results, 87.20 for doctor's recommendation for treatment, and 87.22 for medical knowledge, but showed relatively low results for the provision of sufficient time for treatment with 84.90. According to a study by Hwang [27] on treatment time with outpatients as subjects, in a University hospital located in Seoul, the average time for medical consultation with domestic physicians was 3.7 minutes, and patients have long complained because of such short time of care. Park and colleagues [28] stated that foreign patients do not understand the short time of medical consultation with domestic physicians, and sometimes express complaints to nurses on the matter. Therefore, physicians need to provide sufficient consultation time for the UAE government sponsored patients who are not been accustomed to the domestic medical environment and have been on a plane for 10 hours for the medical treatments.

Lastly, the 'responsiveness' of medical services quality was analyzed to be the influential factor of revisit intention. The responsiveness refers to the degree of medical services provided for a patient's request. Patients who are unfamiliar with the hospital environment take measures such as using a call bell or visiting nurse station for help, and if nurses cannot respond immediately, then patient satisfaction would be lowered [29]. Therefore, the responsiveness is closely related to the nursing area where nurses care for patients as a priority. In order to increase the responsiveness, it is necessary to reduce the ratio between nurses and patients through nursing staff reinforcement and work adjustment, and immediately respond to patients' needs by strengthening customer service education. In addition, promptly solving the problem of communication is also vital.

According to the result of this study, physicians' medical services and nurses' responses were important factors affecting the revisit intention of the UAE government sponsored patients. In other words, the result shows that physicians' medical services and nurses' responsiveness or medical personnel are the influential factors on the revisit intention. This result is the same as the satisfaction of 'employee service' among the medical service dimension of Korea's Health Industry Development Institution [13], which is also the most important factor ($r = .54$) for the overall medical service experiences of patients from the Middle East. Moreover, in the studies carried out by Jung and colleagues [30] also verified that nurses' satisfaction and physicians' satisfaction were the conclusive factors for the patients' satisfaction with medical services and the intent to revisit, which is the same result with other studies.

This study result shows that in order to increase the revisit intention to Korean hospitals by foreign patients including UAE government sponsored patients and to enhance positive publicity effect, it is necessary to improve the quality of medical services provided by physicians and nurses and to strengthen cultural capacity for the provision of specialized medical services appropriate for each country. In addition, the need to support hospitals to solve communication problems is also suggested.

Conclusion

Physicians need to have enough time for treatments and communication with patients based on excellent medical technologies, and nurses should respond immediately to patients' needs with sympathy, improving the quality of medical services and patient satisfaction as attempts to increase the intent to revisit domestic hospitals by UAE government sponsored patients. Moreover, to ensure that the capacities of physicians and nurses are not undervalued by non-medical service elements such as interpretations and meals, it is also necessary to establish support

plans for providing regional and specialized services that reflect the UAE culture at the medical institution level.

Recommendation for future research

First, since the participants in this study were limited to the UAE government sponsored patients, the future research should expand it to all UAE patients including general patients of UAE. Second, expanded researches including studies on various influencing factors that may affect the domestic hospitals revisit intention are suggested. Third, this study was carried out for UAE government sponsored patients and medical caregivers using domestic medical services, therefore, the future research should conduct a study only on patients who are directly provided with medical services.

Conflicts of interest

The authors declared no conflict of interest.

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