Original Article

Determinants of Inpatients Satisfaction and Intent to Revisit Oriental Medical Hospitals

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Objectives: This study aimed to investigate the determinants of inpatients satisfaction and intent to revisit oriental medical hospitals.

Methods: The independent variables of the study contain the level of satisfaction with doctors, nurses, staffs, medical fee, environment, facilities and hospital life. Each variable was measured by three to eight items about the level of satisfaction with various aspects of hospital ward life. The level of overall patient satisfaction was used as an intervening variable and the level of intent to revisit was used as a dependent variable. The sample used in this study consisted of 268 inpatients from 3 oriental medical hospitals located in Chungnam Province. Data were collected with a structured and self-administrated questionnaire and analysed using path analysis.

Results: The major findings of the study were as follows : First, it was found that the 3 variables of hospital life satisfaction, ancillary staffs satisfaction, and metropolitan residents has significant positive effect on the level of overall patient satisfaction. Second, the overall satisfaction and the satisfactory level of facilities, medical fee, and quality of ward life were found to have significant effects on the level of intent to revisit of respondents.

Conclusions: The results of the study indicate that oriental medical hospitals should make an effort to improve the overall satisfaction of inpatients, especially focusing on the facilities convenience, medical price, and hospital ward life which will lead to high level of intent to revisit of inpatients.

Key Words : Inpatients Satisfaction, Intent to Revisit, Oriental Medical Hospitals

Introduction

Since oriental medical insurance was enforced all over the country, the demand for oriental medical fields has greatly increased. However, oriental medical institutions have poor marketing strategies to induce patients to reuse oriental medical service by actively attracting and satisfying them while properly coping with such a consumers' demand[1,2]. All the endeavors of hospitals for improving patients' satisfaction have a multi-dimensional concept, and its main purpose is to increase patients' loyalty by giving them a good impression about hospitals and improving their quality of life through high-quality medical services. Besides, all the endeavors are based on a positive-function cycle, such as sustaining hospitals by securing profitability through satisfying patients' needs and by motivating hospital staff through better compensation for providing patients with better medical services[3].

Various researches have been conducted on the relationship between patients' satisfaction and revisit intention in Korea and oversea[3]. Fisk et al.,[4] argued that the more satisfied patients are with medical

services provided, the higher intention they have to revisit the same medical institution, and Binter[5], Bolton and Drew[6,5] clarified that there was a significant correlation between patients' satisfaction with medical services and their revisit intention. Swan[7] proposed a model explaining that the quality of medical services has an effect on patients' satisfaction, which leads to their revisit intention. Steiber[8] and Woodside et al.,[9] also reported that there is a high correlation between the quality of medical services and patients' revisit intention and between their satisfaction and revisit intention. Many researches conducted in Korea clarified that medical services in various fields have effect on consumers' satisfaction, which also has significant effect on their intention to revisit the same medical institution[10-17]. Seo et al.,[2] reported that medical expenses, the level of satisfaction with kindness of oriental doctors and medical staff, oriental doctors' professionalism, credibility, medical facilities and equipment, and the reputation of a hospital or a doctor have significant effects on patients' intention to revisit oriental medical institutions and their satisfaction through systematically analyzing 33 articles in Korea.

However, most of the previous studies on patient satisfaction and revisit intention in oriental medical services were conducted with small-size sample from one or two institutions, and the number of the variables included in the study were very limited, especially focused on clinical skills. Thus, this study aims to investigate inpatients' satisfaction with and their intention to revisit through estimating the wholistic model of the patients' revisit intention to oriental medicine hospitals. The specific objectives of this study are as below.

Firstly, this study aims to compare the level of inpatients' general satisfaction and intention to revisit oriental medicine hospitals in terms of socio-demographic characteristics of the respondents.

Secondly, this study will find out the factors affecting inpatients' general satisfaction with oriental medical services.

Thirdly, this study aims to find out factors affecting inpatients' intention to revisit oriental medicine hospitals.

Research Methods

1. Data Collection

Data of the study were collected from inpatients of 2 oriental medicine hospitals in D City and 1 university-affiliated oriental medicine hospital in C City located in Choongnam Province, Korea. Self-administered questionnaires were distributed to a total of 100 inpatients randomly selected from each hospital considering the proportion of the patient population in terms of their socio-demographic characteristics. A total of 268 out of 300 questionnaires were returned from October to December 2012.

2. Measurement

This study established a single path model that patients' satisfaction with 7 independent factors has direct and indirect effect on their overall satisfaction with hospital services and revisit intention. Seven independent factors used in the study were human factors, such as patients' satisfaction with doctors, satisfaction with nurses, and satisfaction with staff, and material factors, such as satisfaction with medical fee, satisfaction with amenities, satisfaction with hospital facilities, and satisfaction with their ward lives. All the variables used for this study were measured by Likert 5-point scale ranging from 1-point for 'very unsatisfactory' to 5-point for 'very satisfactory'. Seven factors were composed of 3 to 8 questions about detailed characteristics of each factor, except medical expenses. Socio-demographic variables of the study included their gender, age, marital status, educational background, religion, monthly income, dwelling area, route to oriental

Table 1. Descriptive Statistics and Reliability of Study Variables

Variables		Mean±S.D.	Min.~Max.	Cronbach's α
Dependent	Revisit Intention	3.87 ± 1.44	1 ~ 5	
Intervening	Overall Satisfaction	3.74 ± 0.72	1 ~ 5	
Independent	Satisfaction with Doctors	4.31 ± 0.66	1 ~ 5	0.881
	Satisfaction with Nurses	4.21 ± 0.74	1 ~ 5	0.899
	Satisfaction with Staffs	4.11 ± 0.72	1 ~ 5	0.701
	Satisfaction with Medical Fee	3.10 ± 0.93	1 ~ 5	
	Satisfaction with Environment	3.82 ± 0.89	1 ~ 5	0.853
	Satisfaction with Facilities	3.74 ± 0.87	1 ~ 5	0.897
	Satisfaction with Ward Life	3.91 ± 0.73	2 ~ 5	0.840

medical services, medical department, length of admission, health status when being hospitalized, and treatment results.

3. Statistical Analysis

Collected data were analyzed with PASW 18.0. The reliability of responses to each factor was verified using the value of Cronbach's α and all of the value showed over 0.70 which was regarded as an acceptable level(Table 1). The difference of patients' overall satisfaction and revisit intention were compared in terms of socio-demographic characteristics of respondents through t-test, ANOVA and Scheffe test. To investigate patients' satisfaction with each factor that has effect on their overall satisfaction, multiple regression analysis and a path analysis were conducted with AMOS 18.0.

Results

1. General Characteristics of the Respondents

Table 2 shows the socio-demographic characteristics of respondents. The respondents were composed of 102 males (38.1%) and 166 females (61.9%), and their mean age was 46. One hundred ninety two persons(71.6%) were married and 114 persons (42.5%) were college graduates. A total of 152

persons (56.7%) responded that they have a religion, and 139 persons (51,9%) had a monthly income below 2 million won. One hundred twenty four persons (46.3%) lived in large cities, and 144 (53.7%) in small-sized city and rural areas. In the route of using oriental medical services, 101 persons (37.7%) used the western and oriental medicine together, 98 (36.6%) persons chose the oriental medicine after the western medicine, and 69 persons (25.7%) chose the oriental medicine from the beginning. A total of 130 persons (48.5%) were hospitalized from 1 to 9 days, 89 (33.2%) for 10 to 19 days, 49 (18.3%) over 20 days. In treatment results, 175 persons (67.0%) partially recovered, 44 (16.9%) fully recovered, and 42 (16.1%) remained in no recovery state.

2. Inpatients' Overall Satisfaction and Their Intent to Revisit Oriental Medical Hospitals

This study verified if there would be differences between patients' overall satisfaction and revisit intention in terms of the socio-demographic characteristics of respondents. The result showed that there was a significant difference at the level of patient satisfaction in terms of the characteristics of marriage, dwelling areas and treatment results(table 3). As the patients were single, had a monthly

Table 2. Demographic Characteristics of Respondents

Characteristics	Category	N	%
Gender	Male	102	38.1
	Female	166	61.9
Age (years)	40>	89	33.2
	40~50	117	43.7
	60≤	62	23.1
Marriage	Single	76	28.4
	Married	192	71.6
Educational Background	Middle School≥	53	19.8
	High School	101	37.7
	College Gaduates≤	114	42.5
Religion	No Religion	116	43.3
	Religion has	152	56.7
Monthly Income (10,000won)	<200	139	51.9
	200~300	72	26.9
	>300	57	21.3
Resident Area	Metropolitan city	124	46.3
	Others	144	53.7
Selection Time of Oriental Medicine	From the Beginning	69	25.7
	After Western Medicine	98	36.6
	Both Medicine	101	37.7
Length of Stay (days)	1~9	130	48.5
	10~19	89	33.2
	20 ≤	49	18.3
Health Status at Admission	Well	48	17.9
	Bad	195	72.8
	Very Bad	25	9.3
Treatment Results	Not improved	42	16.1
	Moderately recovered	175	67.0
	Well recovered	44	16.9
Total		268	100.0

Non-respondent excluded

income over 3 million won, and better treatment results, they showed a higher level of overall satisfaction. Patients' revisit intention were also found to be different by their monthly income and treatment results, which means that as the patients had a monthly income over 3 million won and better treatment results, they showed a higher degree of revisit intention.

3. Factors Affecting Inpatients' Overall Satisfaction

Tale 4 shows the results of multiple regression analysis. The regression equation was statistically significant (F=12.689, p=.000), and there was no problem of multicollinearity since VIF of independent variables was 2.107 to the maximum. The variation of patients' overall satisfaction explained by independent variables was 33.7%. The results showed that as patients were more satisfied with ward life (.327), resided in larger cities (.113), and had better treatment results (.110), they were more likely to have a high level of overall satisfaction with the oriental medical services.

Table 3. Inpatients Satisfaction and Intent to Revisit Oriental Medical Hospitals

Characteristics	Category	Overall Satisfaction		Intent to Revisit	
		Mean±S.D.	t/F	Mean±S.D.	t/F
Gender	Male	3.74 ± 0.84	0.058	3.65 ± 1.67	1.831
	Female	3.74 ± 0.64		4.00 ± 1.28	
Age (years)	40>	3.83 ± 0.79	1.301	3.99 ± 1.39	1.057
	40~50	3.72 ± 0.65		3.89 ± 1.38	
	60≤	3.65 ± 0.75		3.65 ± 1.65	
Marriage	Single	3.93 ± 0.77	2.818**	4.05 ± 1.28	1.426
	Married	3.66 ± 0.69		3.79 ± 1.50	
Educational Background	Middle School≥	3.75 ± 0.73	0.421	3.64 ± 1.70	1.334
	High School	3.78 ± 0.72		4.03 ± 1.40	
	College Graduates≤	3.69 ± 0.73		3.82 ± 1.35	
Religion	No Religion	3.73 ± 0.76	0.119	3.95 ± 1.30	0.835
	Religion has	3.74 ± 0.70		3.80 ± 1.55	
Monthly Income (10,000won)	<200	3.76 ± 0.75	2.486	3.78 ± 1.49a	4.712**
	200~300	3.60 ± 0.73		3.64 ± 1.49a	
	>300	3.88 ± 0.63		4.37 ± 1.14b	
Living Area	Metropolitan City	3.88 ± 0.69	2.999**	4.02 ± 1.24	1.164
	Others	3.62 ± 0.73		3.74 ± 1.60	
Selection Time of Oriental Medicine	From the Beginning	3.80 ± 0.76	0.307	3.84 ± 1.47	0.913
	After Western Medicine	3.72 ± 0.74		3.73 ± 1.53	
	Both Medicine	3.71 ± 0.68		4.01 ± 1.35	
Medical Department	Internal Medicine	3.79 ± 0.73	0.452	3.76 ± 1.44	1.418
	Gynecology	3.67 ± 0.50		4.33 ± 1.00	
	Pediatric	4.00 ± 0.50		5.00 ± 1.00	
	Ophthalmology·ENT	3.67 ± 0.89		4.33 ± 0.98	
	Neurology	3.68 ± 0.68		3.44 ± 1.77	
	Acupuncture	3.75 ± 0.80		4.06 ± 1.41	
	Rehabilitation	3.73 ± 0.70		3.94 ± 1.32	
	Emergency	4.50 ± 0.71		5.00 ± 0.00	
Length of Stay (days)	1~9	3.78 ± 0.69	1.011	4.08 ± 1.25	2.739
	10~19	3.74 ± 0.75		3.65 ± 1.59	
	20 ≤	3.61 ± 0.76		3.69 ± 1.61	
Health Status at Admission	Well	3.96 ± 0.62	2.958	3.92 ± 1.60	0.157
	Bad	3.70 ± 0.73		3.87 ± 1.39	
	Very Bad	3.60 ± 0.82		3.72 ± 1.62	
Treatment Results	Not Improved	3.57 ± 0.80b	11.957***	3.14 ± 1.68c	11.039***
	Improved	3.66 ± 0.71b		3.87 ± 1.41b	
	Recovered	4.20 ± 0.55a		4.55 ± 0.85a	
Total		3.74 ± 0.72		3.87 ± 1.44	

Non-respondent excluded / Post-hoc Scheffe test / * p<.05 ** p<.01 *** p<.001

4. Factors Affecting Inpatients' Intent to Revisit Oriental Medical Hospitals

Table 5 shows the results of a path analysis including the overall patients' satisfaction as an intervening variable. Variables with coefficient estimate 0.1 and over in the value of total effect were hospital facilities (.180), medial fees (.111) and ward life (.108).

Discussion

As a result of the study, several significant variables were found to have significant effects on patients' overall satisfaction and revisit intention on

Table 4. Factors that Influence the Overall Satisfaction of Respondents

Factors of Satisfaction	B	SE	Beta	t	p	VIF
Doctors	.09	.064	.086	1.433	.15	1.342
Nurses	.02	.066	.020	0.313	.75	1.564
Staffs	.24	.061	.242	3.978	.00	1.391
Medical Fee	.03	.048	.039	0.649	.52	1.382
Environment	-.01	.062	-.008	-0.102	.92	2.107
Facilities	-.03	.060	-.035	-0.488	.63	1.925
Ward Life	.32	.063	.327	5.147	.00	1.517
Marriage (1:married, 0:single)	-.10	.089	-.061	-1.099	.27	1.164
Living Area(1:Metropolitan, 0: others)	.16	.081	.113	2.033	.04	1.160
Treatment Results	.14	.073	.110	1.913	.05	1.234

R^2=0.337 Adj-R^2=0.310 F=12.689(p=.000)

Table 5. Factors that Influence the Intent to Revisit of Respondents (Path Analysis)

Variables		Direct Effect	Indirect Effect	Total Effect
Intermediate	Overall Satisfaction	.207		.207
	Satisfaction with Doctors	-.020	.017	.003
	Satisfaction with Nurses	.084	.003	.088
	Satisfaction with Staffs	-.017	.051	.034
	Satisfaction with Medical Fee	.100	.010	.111
Independent	Satisfaction with Environment	.097	-.002	.095
	Satisfaction with Facilities	.186	-.006	.180
	Satisfaction with Ward Life	.041	.068	.108
	Monthly Income	.067	-.001	.067
	Treatment Results	.063	.031	.094

oriental medical services. The implication of the results can be discussed from the perspectives of the theory and hospital administration. First, the differences in patients' overall satisfaction by their marital status and dwelling areas imply that patients might have different kinds of diseases in each socio-demographic group and have different preferences for various treatment types. In other words, since there are some differences in the kind of disease and preferred treatment type and accessibility between married people and singles and between residents in cities and residents in small-sized cities and rural area, it is essential to find out the preferences of each demographic groups and to provide the customized services for them.

As a result of examining variables affecting patients' overall satisfaction through multiple regression analysis, the following variables of the quality of ward life, patients' satisfaction with staff, residents from large cities and treatment results were found to have positive effects on patients' overall satisfaction. In a report about inpatients' satisfaction in national university hospitals[3], it was found that the treatment results and the quality of ward life had significant effects on their overall satisfaction, which support the reasonability of the study results. Since detailed factors affecting the quality of ward life are quality of meals, privacy in a ward and meal time and so on, it seems necessary to provide customized services for meeting patients' demands in

such an aspect.

As a result of the path analysis of factors affecting patients' revisit intention, it was found that patients' overall satisfaction as an intervening variable, hospital facilities, medical expenses and hospital life had a significant total effect on patients' revisit intention in order. Ultimately, patients' overall satisfaction has the biggest effect on their revisit intention, which corresponds to the results of previous studies[20,21]. This finding imply that such variables as the quality of hospital life, patients' satisfaction with staff, residents in large cities and treatment results, which were found to have a significant effect on patients' overall satisfaction, are also important to patients' revisit intention. Besides, the finding that such variables as hospital facilities and medical expenses were found to have a significant effect on patients' revisit intention implies that environmental and economic factors such as hospital facilities and medical expenses may have an meaningful impact on patients' revisit intention. According to Seo et al.,[23], factors of the ability of oriental medical doctors and staff's kindness make the patients satisfactory, while factors of bad treatment results and high medical expenses make the patients unsatisfactory. Compared to our study results, it implies that oriental medical institutions should establish a reasonable medical price table, and explain the details of the medical bills to patients. Since many medical procedures and prescriptions of oriental medical services are still uncovered by the national health insurance, patients are more likely to feel that oriental medical expenses are more expensive than western medical services. Accordingly, the continuous efforts for expanding the benefits of national health insurance for the essential services of oriental medicine should be made. Moreover, it is needed for hospitals to provide convenient facilities and amenities for patients, such as bathroom, shower and wheelchairs from a patient's point of view.

Unlike the other previous studies,[3,23] factors related with the ability and kindness of doctor and nurses were found to have no significant effect on the patients' satisfaction and revisit intention to oriental medical institutions. This results might be due to the statistically small variation among the ability and kindness of the doctors and nurses of the study hospitals. Therefore, further researches are needed for verifying the findings of the study.

The fact that the explanatory power of the model was only 31.0% indicate that there may be additional variables likely to affect patients' overall satisfaction besides the independent variables of the model. For instance, such variables of the severity and duration of illness of each patient, and accessibility to oriental medicine hospitals, were put into the model, the explanatory power of the model would be much stronger.

Since this study is based on a cross-sectional survey for inpatients at oriental medicine hospitals conveniently selected, there is a limit to clearly verifying causal relationship between independent and dependent variables, and to generalizing the results of this study. If more representative sample were selected systematically and investigated in the future study, better results for explaining the causal relationship among study variables about the patients' satisfaction and revisit intention could be obtained.

In conclusion, to increase the inpatients' satisfaction and revisit intention of oriental medical institutions, this study implies that oriental medicine hospitals should improve the quality of both human factors, such as staffs' kind service, and physical factors, such as convenient facilities and reasonable medical price, as shown in the previous studies. Moreover, this study will be able contribute to developing a systematic and integrated model to explain the patients' choice, satisfaction and revisit intention for oriental medical institutions.

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