2007. Vol. 28. No. 4. *95-103*
Korean Journal of Oriental Medicine

Original Article

The Changes of Health Care Utilization and Cause of Outpatients at an Oriental Medicine Hospital

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Objectives : The aim of this study was to investigate the changes of attitude toward the oriental medicine for 10 years.
Methods : A questionnaire was done about general characteristic of patient, the decision-maker of use and the reason of choice or alteration for oriental medicine hospital.
Results : The results of this survey are as follows: For 10 years, sex ratio of outpatients is similar, but age distribution is even at all ages. The choice for oriental medicine is more determined by oneself than by others. The recommenders are more variable increasingly. The most common cause of moving from western medicine is to get the more effective treatment. The more the concomitant users are increasing, the more the patients that did not give notice to the western doctor about the dual therapies is increasing, also. The most frequent reason without a notice is "being afraid of western doctor's bias".
Conclusions : The appropriate transfer system between oriental and western clinic must be constructed and the proper recognition about dual therapies will be needed among patients and especially dual doctors.

Key Words : oriental medicine, concomitant user, health behavior

Introduction

As the concept of primary health care, western medical hospitals and clinics, oriental medical hospitals and clinics, public health centers and drug stores are usually utilized by people in Korea. The choice of primary health care institutions is entirely up to patients who consume medical care. However, under the current situation of the medical system without the unification of medical care, the collaborative diagnosis or consultation system for western and oriental medical care has not been established yet except at very limited hospitals and clinics, and both kinds of medical care are separated[1,2]. Under these current circumstances, the appropriateness of patients in selecting medical institutions, overlapped diagnosis and the evaluations for unnecessary dual diagnosis have not been made. In addition, the western medical care system has always been indifferent to the oriental medical care. However, the oriental medical care system evidently exists as the one taking a certain size of the current medical care system.

By the year 1996, 6,253 oriental medical hospitals and clinics were located around the country, and the size was approximately 40 % of 15,744 western medical hospitals and clinics[3,4].

· received : 8 November 2007
· received in revised from : 10 November 2007
· accepted : 30 November 2007
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However the numbers of doctors in oriental medical care system were only 9,299, which took up approximately 16 % of 59,397 in western medical care system[3]. In the year 2005, the total oriental medical hospitals and clinics were counted to be 9,911, and the western medical hospitals and clinics were counted to be 26,673. The numbers of doctors in the oriental medical care system were 15,271 and the number of western medical doctor was counted to be 85,369[3]. Namely, the increase of hospitals and numbers of doctors for the last 10 years did show similar trends of change in both of oriental and western medical systems with the similar increment ratio of 1.5.

In reviewing the proportion of medical expenses, the medical expenses paid to general hospitals and clinics are approximately 120,330 hundred million won in 1997, but only the 10,089 hundred million won (9.0 %) was paid to oriental medical hospitals and clinics[5]. If it was calculated from the aspect of the primary medical care that is primarily accessed by the nation's people and if the proportion taken up by the hospitals more than the level of general hospitals in western medical hospitals (53,910 hundred million won) was subtracted, the size of oriental medical care from the aspect of primary health care takes up quite large proportion from overall perspectives.

Therefore, the definitive understanding for the patients' utilization status of oriental medical care is necessary from the side of the western medical care system which consistently showed indifference to the oriental medical care system[1,2]. Namely, under the current binary medical care circumstances, the understanding and attention of western medical care system regard toward the patients' motivations and backgrounds in selecting oriental medicine and the patients' concomitant utilization status of western and oriental medical cares are necessary.

Therefore we took this study for those patients who visited oriental medical hospitals. The causes of selecting oriental medical institutions and the concomitant utilization status of oriental and western medical cares have been investigated. The result was then compared and reviewed with the results collected from 10 years ago to analyze the trend of the change.

Materials and Methods

During two months from November 1998, a survey was conducted for 1,234 new outpatients who visited a University oriental medicine hospital located in SeongNam by requesting them to self fill in a questionnaire asking their chief complaints, general characteristic (such as age, sex, educational level), information of recommended person to visit the hospital and the utilization status of western medical facilities. If the patient could not answer by himself because of severe disability or young age, the helper filled in the answers instead of the patient. Any omitted categories were completed by investigators. The disease group for the patient was determined with the insurance code described by the physician. The same survey was conducted for 1,025 new outpatients who newly visited the same hospital during two months from October 2007, and the results were compared to the previous results. Some data were analyzed by χ^2-test.

Results

During the investigation periods, total 1,234 patients newly visited the hospital at the

Table 1. General Characteristics of Enrolled Patients

Age \ Sex	At 1998						At 2007					
	Male (%) (N=538) (43.6%)		Female (%) (N=696) (56.4%)		Total (%) (N=1234)		Male (%) (N=461) (45.0%)		Female (%) (N=564) (55.0%)		Total (%) (N=1025)	
<= 9	175	(32.5)	141	(20.3)	316	(25.6)	99	(21.5)	71	(12.6)	170	(16.6)
10-19	45	(8.4)	22	(3.2)	67	(5.4)	60	(13.0)	49	(8.7)	109	(10.6)
20-29	57	(10.6)	88	(12.6)	145	(11.8)	54	(11.7)	67	(11.9)	121	(11.8)
30-39	55	(10.2)	135	(19.4)	190	(15.4)	47	(10.2)	78	(13.8)	125	(12.2)
40-49	60	(11.2)	90	(12.9)	150	(12.2)	52	(11.3)	82	(14.5)	134	(13.1)
50-59	77	(14.3)	82	(11.8)	159	(12.9)	73	(15.8)	94	(16.7)	167	(16.3)
60 <=	69	(12.8)	138	(19.8)	207	(16.8)	76	(16.5)	123	(21.8)	199	(19.4)

χ^2-test > 0.05 by age, sex

investigation conducted in 1998, and 1,025 patients newly visited the hospital at the investigation in 2007. Female patients were larger in number than male patients in both investigations. The hospital utilization status was most frequent in the ages below 9 years old in the investigation conducted in 1998 and over 60 years old at the investigation conducted in 2007, but no statistically significant difference was found. The distribution of age is more even in the investigation conducted in 2007 than in 1998 (Table 1).

Contrary to the result that 411 patients (33.3 %) responded the visit was determined by himself in the investigation conducted in 1998, the population of self determined patients was increased to 531 patients (51.8 %) in the investigation conducted in 2007 (Table 2).

As it shows in Table 3, the recommendation of 'relatives' was the largest followed by the 'neighbors' and 'friends' for the newly visited patients. The visits by using internet information and information exchange were noticeably increased cases listed in the 'other'category of hospital visit recommended by others.

As it shows in Table 4, 'respiratory disease' was the most common symptom in the year 1998, but 'musculoskeletal disease' was the most common symptom in the year of 2007. Other than these, 'neurosensory disease', 'nonspecific symptom' and 'cardiovascular disease' were the next popular symptoms.

When the western and oriental medical care utilization status for the same symptom was reviewed, the patient populations who 'initially utilized oriental medical care' and who 'conco-

Table 2. The Determinant to Visit the Oriental Mecine Hospital for the Outpatient

Determined	At 1998		At 2007	
	Number	(%)	Number	(%)
By oneself	411	(33.3)	531	(51.8)
By another person	823	(66.7)	494	(48.2)

χ^2-test < 0.01

Table 3. General Characteristic of Recommender

Relationship	At 1998 (N=823) (%)		At 2007 (N=494) (%)	
Neighbors	115	(14.0)	65	(13.2)
Relatives	608	(73.9)	311	(63.0)
Friends	48	(5.8)	32	(6.5)
Others*	52	(6.3)	86	(17.4)

χ^2-test < 0.01
* : such as internet user

mitantly used oriental and western medical care' have increased in the investigation in 2007 than in the investigation in 1998.

If both patient populations were reviewed, the patient populations who 'initially utilized oriental medical care' were found to be more likely to have the diseases of 'nonspecific symptom', 'urogenital disease' and 'musculoskeletal disease'. However, the patient population who 'used oriental medical care after using western medical care, tended to have higher development rates of 'dermatologic disease' and 'respiratory disease'. Contrary to the finding, the patients who 'concomitantly used oriental and western medical cares' revealed to have higher development rate of 'endocrine disease' and 'cardiovascular disease'.

At both of the investigations conducted in 1998 and in 2007, the largest number of patients transferred to oriental medical care due to the 'absence of therapeutic effects' and the reason showed an increasing trend with time (Table 5).

As it shows in Table 6, among the total 86

Table 4. Distribution of Use of Oriental and/or Western Medicine of Outpatient by disease group

Classification	At 1998 Number (%)								At 2007 Number (%)							
	Initially Oriental		After Western		Concomitant		Total		Initially Oriental		After Western		Concomitant		Total	
Respiratory	82	(30.9)	176	(66.4)	7	(2.6)	265	(21.5)	54	(47.0)	51	(44.3)	10	(8.7)	115	(11.2)
Musculoskeletal	165	(66.0)	65	(26.0)	20	(8.0)	250	(20.2)	170	(58.2)	87	(29.8)	35	(12.0)	292	(28.5)
Neurosensory	123	(62.8)	64	(32.7)	9	(4.6)	196	(15.9)	134	(60.4)	66	(29.7)	22	(9.9)	222	(21.7)
Nonspecific	139	(76.4)	31	(17.0)	12	(6.6)	182	(14.7)	113	(69.8)	24	(14.8)	25	(15.4)	162	(15.8)
Cardiovascular	51	(46.8)	45	(41.3)	13	(11.9)	109	(8.8)	45	(70.3)	6	(9.4)	13	(20.3)	64	(6.2)
Urogenital	67	(72.8)	18	(19.6)	7	(7.6)	92	(7.5)	41	(71.9)	5	(8.8)	11	(19.3)	57	(5.6)
Gastrointestinal	48	(53.3)	30	(33.3)	12	(13.3)	90	(7.3)	48	(63.2)	23	(30.3)	5	(6.6)	76	(7.4)
Dermatological	3	(10.3)	23	(79.3)	3	(10.3)	29	(2.4)	7	(31.8)	14	(63.6)	1	(4.5)	22	(2.1)
Endocrine	0	(0.0)	9	(75.0)	3	(25.0)	12	(1.0)	0	(0.0)	10	(100)	0	(0.0)	10	(1.0)
Neoplasm	3	(33.3)	6	(66.7)	0	(0.0)	9	(0.7)	0	(0.0)	5	(100)	0	(0.0)	5	(0.5)
Total	681	(55.2)	467	(37.8)	86	(7.0)	1234	(100)	612	(59.7)	291	(28.4)	122	(11.9)	1025	(100)

Table 5. Causes of Moving to Oriental Medicine from Western Medicine

	At 1998 (N=467) (%)		At 2007 (N=291) (%)	
Difficulty in use	6	(1.3)	0	(0.0)
Absence of therapeutic effects	298	(63.8)	220	(75.6)
Don't agree with western medicine	44	(9.4)	23	(7.9)
Recommended by others	42	(9.0)	17	(5.8)
The others	77	(16.5)	31	(10.7)

χ^2-test < 0.01

patients, 54 patients (62.8 %) responded that the western doctors did not know of the patients use of the oriental medical care in 1998, and such cases were found in 98 patients (80.3 %) at the investigation conducted in 2007 showing significant increase. In case of reviewing the patients' diseases, the western doctors of the patients having 'respiratory disease', 'nonspecific symptom', 'urogenital disease', and 'dermatologic disease' did not know that their patients are seeing oriental doctors. However, the patients having 'musculoskeletal disease' and 'cardiovascular disease' resulted to show that their western doctors highly recognized that their patients are seeing oriental doctors.

In case when the western doctors recognize the use of oriental medical care institutions, many of them agreed upon the concomitant use of oriental and western medicines. However the proportion of 'no response' increased as indicated in Table 7.

Among the patients who responded that

Table 6. Notification to Western Doctor for Oriental Medicine by Disease Group

Notification to Western Doctor / Classification	At 1998 Number (%)					At 2007 Number (%)				
	Yes		No		Total	Yes		No		Total
Respiratory	0	(0.0)	7	(100)	7	1	(10.0)	9	(90.0)	10
Musculoskeletal	12	(60.0)	8	(40.0)	20	13	(37.1)	22	(62.9)	35
Neurosensory	3	(33.3)	6	(66.7)	9	2	(9.1)	20	(90.9)	22
Nonspecific	0	(0.0)	12	(100)	12	0	(0.0)	25	(100)	25
Cardiovascular	8	(61.5)	5	(38.5)	13	5	(38.5)	8	(61.5)	13
Urogenital	0	(0.0)	7	(100)	7	2	(18.2)	9	(81.8)	11
Gastrointestinal	6	(50.0)	6	(50.0)	12	1	(20.0)	4	(80.0)	5
Dermatological	0	(0.0)	3	(100)	3	0	(0.0)	1	(100)	1
Endocrine	3	(100)	0	(0.0)	3	-		-		0
Neoplasm	-		-		0	-		-		0
Total	32	(37.2)	54	(62.8)	86	24	(19.7)	98	(80.3)	122

Table 7. The Response of Western Doctor After Information

Contents	At 1998		At 2007	
	Number	(%)	Number	(%)
Unfavorable response	17	(53.1)	10	(41.7)
Favorable response	6	(18.8)	3	(12.5)
No response	9	(28.1)	11	(45.8)

χ^2-test > 0.05

western doctors do not know their use of oriental medicine institutions, the reason was asked and the most of them didnot notice the status of using oriental medical care because of the worry of 'unfavorable response' from doctors , and the trend increased in 2007 compared to the result acquired in 1998 (Table 8).

Discussion

According to the investigation result of 'Study on the Supply and Demand of Oriental Medical Care in 1995' reported by Song KY et al. of Korea Institute for Health and Social Affairs (below KIHASA)(1996)[6], female and old age are the two major variables affecting the increase of oriental medical care. In the 'Study on the Oriental Medical Care Utilization of Korea' conducted by Nam EW et al.(1994)[7], female and old age took large proportions showing a similar pattern to the above study. The present study result revealed higher proportion of female compared to male population by showing thatthe utilization ratio by sex was similar to the results as previously reported by others[6-8]. However, the age distribution of the oriental medical care users revealed balanced distribution in all age groups in 2007 compared to the result acquired in 1998.

In reviewing the causes of choosing oriental medical care institutions, the KIHASA study reported 41.5 % of the patients mostly chose oriental medical care hospitals and clinics by the recommendations of close relatives, the choice by the patients themselves and closeness of oriental hospitals were followed by 34.6 % and 23.5 %, respectively[6]. At the present study conducted in 1998, the recommendation by neighbors was the first reason by taking up 66.7 % of the causes of visiting oriental medical care institutions. However, the choice by patients themselves increased to 51.8 % in the study

Table 8. The Causes of Not Informed to Western Doctor

Contents	At 1998		At 2007	
	Number	(%)	Number	(%)
Be afraid of western doctor's bias	23	(42.6)	53	(54.1)
Had no specific reason	16	(29.6)	32	(32.7)
Assume that it was not necessary	10	(18.5)	12	(12.2)
The others	5	(9.3)	1	(1.0)

χ^2-test < 0.05

conducted in 2007 showing the change of general populations' recognition toward oriental medicine.

The disease distribution pattern of the patients using oriental medical care institutions reported by KIHASA showed that musculoskeletal disease was the most highly distributed disease by taking up 50.1 %, which was followed by 9.6 % of cardiovascular disease, 6.3 % of respiratory disease, and 6.2 % of gastrointestinal disease[6]. According to the study result of Eun Woo Nam, the supplementary of general weakness was the most highly distributed disease by taking up 43.5 %, which was followed by 19.2 % of musculoskeletal disease, 14.6 % of gastrointestinal disease, and 8 % of neurosensory disease[7]. The present study conducted in 1998 suggested 'respiratory disease' was the most highly distributed disease, but 'musculoskeletal disease' and 'neurosensory disease' were found to be prevalent types of diseases in 2007 by showing similar patterns in other study results. However, the proportion of patients hoping to have supplementary prescriptions of oriental medicine was significantly low. Although, the result may be attributable to the fact that the investigation was not conducted in oriental medical care clinics but a hospital, and the characteristics of medical staffs of the investigated hospital must have been reflected in the result. However, the result may have reflected a gradually increasing trend of using oriental medicine in overall ranges of diseases.

Such facts could be found that the patient distribution of using oriental medicine from the start of treating the 'musculoskeletal disease', 'neurosensory disease' and 'nonspecific symptom' was high in other studies[9,10] as well as the present study result, but the high trend of selecting oriental medicine after initially using western medicine was observed in 'respiratory disease'. According to the investigation result for patients having 'respiratory disease', most of them selected the oriental medicine due to the 'absence of therapeutic effect in western medicine'. This is the phenomenon that patients select oriental medicine as an alternative medicine for the diseases to have definitive effects and are difficult to treat in western medicine.

The result investigating the recognition of western doctors for the patients' concomitant use of oriental and western medicine could be utilized as the basic data to review the problems of a binary medical care system. According to the present study result conducted in 1998, 62.8 % of patients who concomitantly used oriental and western medicines responded that the western doctors did not know the patients were using oriental medical care. However it was possible to observe that the ratio was rapidly increased to 80.3 % in the investigation conducted in 2007. Especially when the patients are using oriental medical care due to the 'musculoskeletal disease' and 'cardiovascular disease', the recognition of western doctors was high, which is contrary to the lower recognition of western doctors for the diseases of 'respiratory disease' and 'nonspecific symptom'. Namely, patients concomitantly using oriental and western medical cares, they noticedthe use of oriental medicine for the diseases where the general utility of oriental medicine was well recognized in common knowledge, but for the diseases that the general utility of oriental medicine was not recognized in common knowledge, it could be regarded that the patients did not notify doctors of the use of oriental medicine. Such interpretation could be made from the patients'

response of not notifying the use of oriental medical care was 'unfavorable response of western doctors', and it was possible to know that such trend was deepened at the investigation conducted in 2007.

When the oriental and western medical care were concomitantly used by the selection of patients themselves, it will be important to share both oriental and western medical information for the correct collaborative diagnosis system[9,10]. So, the open minded attitude of western doctors toward oriental medical care and the active medical interview for the utilization of oriental medical care are thought to be necessary.

The limitations of this paper are as follows;

First, the study was performed in one oriental medicine hospital and in a specific area and time, so the generalization of the results may be over-estimated. But the number of study and the duration of investigation were enough to give a meaning and take an interpretation. The only one study may have the selection bias from the area and the time. But if two studies were performed under the same condition (such as area, time, questionnaire, investigator) and compared, many biases can be corrected.

Second, the results of this paper were very superficial to insist on the paradox of the dual system in Korea. But this study was performed to alert the western medical doctors to accept the status of the health behavior of patients, so let them to have an open mind to co-work with oriental medicine. In this respect, this paper is a first step to perceive the status *in vivo*. More studies investigating an appropriate co-work system, the approval and make-up of the dual certified doctor, co-education system in the both colleges et al. will be needed.

Conclusion

The investigation for the selection motivation and background along with the concomitant utilization status of oriental and western medicines was conducted in 1998 for those new patients of an oriental medical hospital, and the same investigation was conducted in 2007 by adopting the same procedure to compare the results.

1. The study conducted in 1998 subjected 1,234 newly visited patients, and 1,025 patients were subjected for the investigation in 2007. Among the subjected patient populations, female population took up the largest proportion and the patients'age distribution was observed to show balanced distribution in 2007 more than in 1998.

2. Among the newly visited patients, 411 patients (33.3 %) responded that the visit was determined by patients themselves at the investigation in 1998, but 531 patients (51.8 %) responded the visit was self determined in 2007 showing the increasing trend. Although patients' families and relatives recommended the oriental medical care, it was possible to know the increase of patient's visits by using internet information.

3. In the patients' distribution by disease, 'respiratory disease' took up the largest proportion in 1998, but 'musculoskeletal disease' took up the largest proportion in 2007. Other than these diseases, the proportion of 'neurosensory disease' and 'nonspecific symptom' was high.

4. In reviewing the western medical care utilization status for the same symptoms, the patient ratio of using oriental medicine after using western medicine was lowered, but the patient ratios of 'utilizing oriental medicine from

the start of treating the symptoms' and 'concomitantly use of both oriental and western medical cares' were increased.

5. By the same chief complaint, patients who transferred from western medical care to oriental medical care responded that the 'absence of therapeutic effects' was the major reason of the transfer, and the proportion was also found to be increased at the comparison investigation.

6. Among the patients who concomitantly use oriental and western medicines, 62.8 % responded that the western doctors did not know the patients'utilization status of oriental medical medicine in the investigation conducted in 1998, but the proportion was increased up to 80.3 % in 2007 investigation. As the cause of not notifying the status of using oriental medicine, 42.6 % of the patients selected the 'unfavorable response' of western doctors as the major reason in 1998, but the proportion was increased up to 54.1 % in the 2007 investigation.

When reviewing the above investigation results, it was possible to know the overlapping and wasteful utilization of medical care by the random utilization of medical care, which does not follow the normal transfer system due to the binary medical care system. The phenomenon was deepened gradually. So, the recognition and establishment for an appropriate medical care system are considered to be urgently necessary.

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