

ORIGINAL REPORT

Current status of oriental medicine in treating Korean allergy patients[†]

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SUMMARY

Purpose To evaluate the prevalence, compliance, pattern of use, and economic cost of OM in Korean allergy patients.

Methods A total of 647 allergy patients were enrolled from 10 general hospitals, and were surveyed by the questionnaire. It consisted of 12 items and regarded the prescription rates, reasons for referring, their opinions for the efficacy of OM, and economic costs.

Results A total of 259 (40.5%) patients had used OM, and 35.5% of these patients experienced two or more kinds of these practices. A patients' income or education level did not affect the prescription rates of OM. Of the patients that used OM, 34.6% of them were satisfied with the effect of OM treatment, and 40.9% of them were inclined to continue with their OM treatments. The most frequent reasons for choosing OM were the patient's belief that OM can predispose 'allergic constitution to normal' (30.2%), worries about the possible adverse reactions of the long-term administration of the proven drugs (20.2%), and the safety of OM (15.6%). However, 18.9% of these patients experienced perceived adverse events to their OM treatment such as skin rashes, gastrointestinal discomfort, and hepatitis. The patients that have used OM spent on average \$915 US dollars annually for OM treatment.

Conclusions Many Korean allergy patients are cliental to OM. Some patients experienced a satisfactory treatment effect from OM, however, others had no treatment effect, even adverse event. Therefore, it is important to educate people to use OM appropriately to make harmony with modern medicine. Copyright © 2010 John Wiley & Sons, Ltd.

KEY WORDS — oriental medicine; alternative medicine; allergy

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INTRODUCTION

Alternative medicine is a group of diverse medical and health care systems, practices, and products that are not presently considered as the same class as evidence based standard medicine.¹ Alternative medicine might be of interest to patients with chronic non-life threatening diseases such as allergies, and the global prevalence of allergies has been rapidly increasing.^{2–4} However, there have only been a few available studies

to date that have estimated the use of alternative medicine for allergies.^{5,6}

There are very many alternative medical practices available throughout the world and the utilization of alternative medicine has been continuing to grow globally. Alternative medicine is used by 20% of the population in the Netherlands and 49% of the population in France. Similarly, studies have reported that 21.1% of the UK population and 48.5% of the population in Australia have used alternative medicine.^{7,8} Other studies have reported a higher percentage of alternative medicine users in Germany (64%), which indicates that Germany might have the highest prevalence of using alternative medicine in the world.⁹ In the United States, the use of alternative medicine has

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increased between 1990 and 1997 from 33.8 to 42.1%, and this practice of alternative medicine is associated with considerable annual costs, which was estimated to account for 13.7 billion US dollars in the USA.^{10,11}

Oriental Medicine (OM), which originated from Chinese medicine and modified to Korean style, is very popular in Korea. Usually, OM consists of herbal medicine, acupuncture, and other procedures using herbal product like a moxa cautery. The Korean National Health Insurance Corporation, which has monopolized the medical insurance in Korea, allows OM for the management of allergic diseases. However, to our knowledge, no study has been published on the current status of OM in Korean allergy patients until now. Therefore, we evaluated the prevalence, compliance, pattern of use, safety, and economic costs of OM in Korean allergy patients.

METHODS

A total of 647 patients who had allergic disease and visited the division of allergy, dermatology, and otorhinolaryngology of 10 Korean general hospitals in urban area from January 2007 to April 2007 were randomly selected for this cross-sectional questionnaire study. Prior to starting the study, written informed consent was obtained from all of the participants.

The demographic characteristics of the enrolled patients with or without OM experiences are provided in Table 1. Eight patients were excluded from the analysis because they did not provide an answer to their

utilization of OM. The questionnaire survey was completed by the patients themselves without the help of medical professionals. The questionnaire consisted of 12 items, which were the general characteristics of the patient, the status of their allergic diseases, their experience with OM not other complementary alternative medicine and the type of OM prescriptions prescribed, their reasons for being inclined to OM practices, the economic cost they may have faced, and their opinions of the efficacies of OM.

In this paper, the type of OM prescriptions included herbal decoction, acupuncture, herbal pills, and moxa cautery. Decoction is the traditional method of preparing herbal medicine and a concentrated form of tea. Moxa cautery is a branch of OM using the warmth that is let off when the moxa used as ingredient is burnt. Moxa cautery does not mean actually burning the skin, but instead means using the heat to convey the medical effect deep into the body.

STATISTICS

Descriptive analyses were performed in order to compare the OM users with those who have not used OM. The Mann–Whitney test, the Chi-squared or one-way ANOVA test were used for the analysis of the results. The results were reported as mean values with their respective standard deviations. A *p*-value of 0.05 or less was regarded as significant. All calculations were performed using the statistical software package SPSS 10.0 (Statistical Package for the Social Sciences, Chicago, IL).

Table 1. General characteristics of enrolled patients

Variables	User (<i>n</i> = 259, %)	Non-user (<i>n</i> = 380, %)	<i>p</i> value
Gender			
Male	87 (33.6)	136 (35.8)	NS
Female	172 (66.4)	239 (62.9)	NS
Age (Mean ± SD, year)	40.91 ± 13.96	43.31 ± 15.90	NS
Highest School Graduation			
Middle School	19 (7.3)	26 (6.8)	NS
High School	78 (30.1)	119 (31.3)	NS
College	118 (45.6)	166 (43.7)	NS
Postgraduate School	24 (9.3)	22 (5.8)	NS
Income (US dollar/year/home)			
<15 000	20 (7.7)	43 (11.3)	NS
15 000–30 000	51 (19.7)	71 (18.7)	NS
30 000–50 000	83 (32)	94 (24.7)	NS
50 000–100 000	60 (23.2)	84 (22.1)	NS
100 000–200 000	10 (3.9)	8 (2.1)	NS
>200 000	2 (0.8)	5 (1.3)	NS
Allergic Disease			
Allergic asthma	121 (34.8)	204 (42.3)	NS
Allergic rhinitis	113 (32.4)	150 (31.1)	NS
Atopic dermatitis	88 (25.2)	79 (16.4)	NS
Urticaria	27 (7.7)	46 (9.5)	NS
Others	0 (0)	3 (0.6)	NS
Disease duration (Mean ± SD, year)	8.54 ± 8.05	6.52 ± 7.59	0.002

RESULTS

Demographic characteristics of enrolled patients

The median age was 42.5 years (range 12–88) and 64.3% of the patients were female. Most patients were diagnosed as having only one allergic disease (66.7%), but 202 patients (31.6%) were diagnosed as having two different allergic disease and 11 (1.72%) patients were diagnosed as having three or more different allergic disease. Including duplicated answers, the most frequently diagnosed allergy is allergic asthma (50.7%) and is followed by allergic rhinitis (41.3%), atopic dermatitis (26%), and urticaria (11.3%) and others (0.5%) (Table 1).

Experiences of OM practices in Korean allergy patients

Of the 639 enrolled patients, a total of 259 subjects (40.5%) had experienced at least one of the OM practices for the management of their allergic diseases in their lifetime. The patient's age, gender, level of education, income level, or the diagnosed entities of allergic disease did not affect the decision to pursue treatment with OM. The allergy patients with a longer history of allergic disease did report having more experiences with OM than those with a shorter history ($p = 0.002$) (Table 1).

Herbal decoction (60.3%) was the most frequently prescribed OM among the 259 patients that had used OM, which was then followed by acupuncture (21.7%), herbal pills (10.6%), and moxa cautery (7.3%). On average, these patients have been prescribed 1.4 different methods of OM practices. The survey indicated that 57.9% of these patients had only tried one type of OM practice, while 24.7% had tried two practices, 8.5% tried three practices, and even still 2.3% of patients had tried all four of the OM practices.

Regarding the number of visits per year to the OM clinics, 74.3% of the OM experienced patients visited less than five times, however 2.2% of the patients had made more than 30 visits. The duration of OM treatments were less than one year in 90.3% of the patients, but 9.7% of patients were treated for more than one year with OM (Table 2).

Patients' opinions on the efficacy of OM and their adherence to OM

In the view of patients' opinions for the efficacies of OM, 34.6% of the patients felt that their allergic disease was improved by their practices of OM. There were no significant differences in the percentage of

Table 2. Numbers of OM usage and duration of OM treatment

Parameter	%
Numbers of OM usage (frequency)	
<5	74.3
5~9	10.1
10~19	8.9
20~29	4.5
>30	2.2
Duration of OM treatment (months)	
<3	47.6
3~5	8.2
6~12	34.5
13~24	6.8
>25	2.9

positive responders to the efficacies of the four different types of OM practices; herbal decoction (35.6%), acupuncture (34.2%), herbal pills (22.2%), and moxa cautery (44.4%), respectively (Figure 1). The survey indicated that 40.9% of the patients that have used OM still have the inclination to continue with their OM practices. When we analyzed the effect of OM according to diagnosis, patients who have respiratory allergic disease, like bronchial asthma and rhinitis, answered more positive opinion to their OM treatments than those with atopic dermatitis or urticaria (45.5% vs. 23.5%, $p = 0.003$).

Motives, adverse drug events, and the economic costs of OM practices

According to the survey, 30.2% of the patients, who chosen OM for their allergic disease, believed that OM could convert allergy to normal. Other important motives for choosing to try OM are the worries regarding the potential detrimental effects on health as a result of the long term administration of the proven

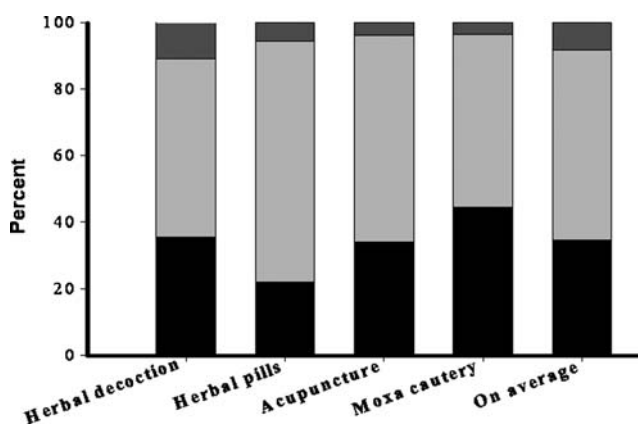


Figure 1. Patients' opinion on the efficacy of OM practices (black column: improved allergy symptoms; gray column: no change in allergy symptoms; white column: worsened allergy symptoms)

Table 3. The motives for choosing the OM practices

Motives	%
OM can predispose allergy patients to normal	30.2
Worries regarding the detrimental effects on their health by the long term administration of the proven treatments	20.2
OM is safe	15.6
Parents, relatives or friends have recommended OM	11.6
Little improvement with the proven treatments	9.7
OM has boosting effects on the immunity	6.1
Advertisement from media, internet, etc.	3.6
OM practitioners can easily explain the allergic disease	2.9

and authorized forms of treatment (20.2%) or the experienced belief that OM is safe and has little risk of adverse reactions (15.6%) (Table 3). However, 18.9% of the patients did experience perceived adverse drug events when practicing OM. The most frequent adverse events were skin rashes (67.3%), followed by gastrointestinal discomfort (12.2%) such as abdominal pain, diarrhea, and nausea. There were even 4.1% of patients that had experienced toxic damages to their livers. Complaints of other adverse reactions consisted of urticaria, angioedema, headache, and dizziness.

Patients that have used OM have paid on average \$915 US dollars for their OM practices, and 9.7% of the patients have reported spending over \$3000 US dollars, annually (Figure 2).

DISCUSSION

OM practices are a popular form of alternative medicine but there are only a few available studies on these OM practices in Korea. Our survey showed that 40.5% patients had tried OM at least once for the treatment of their allergic diseases. The prevalence of

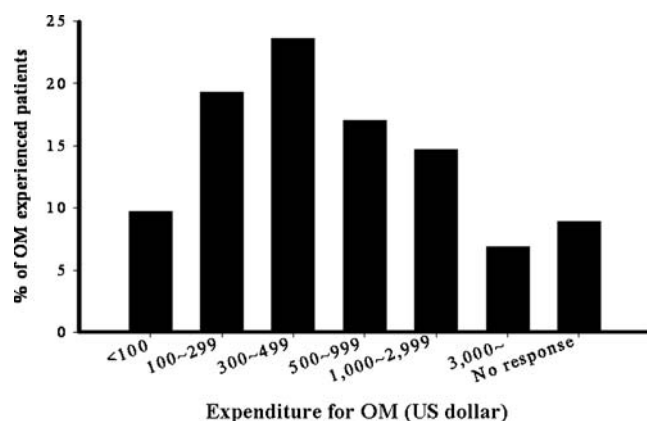


Figure 2. The direct annual cost of OM treatment (in US dollars) to Korean allergy patients

alternative medicine is variable to the studies.^{3,7,9,12} These differences may have resulted from the many different socioeconomic factors such as differences in their culture, gross national product, and in their religions. Of these socioeconomic factors, the cultural difference might be the major determinant for the differences in the prevalence of alternative medicine.¹³

This difference also influenced to Korea, which is uni-cultural and has been deeply influenced by its traditions. OM was the common form of medical treatment in Korea for more than 10 centuries prior to the introduction of modern western medicine. Korean OM originated from Chinese medicine and was further developed to cater to the Korean style. In Korea, OM practices are permitted to only an OM doctor who graduates from college of OM with curriculums for 6 year and pass the OM national license test. Practicing OM might be recognized as a lifestyle in Korea and the Korean National Health Insurance Corporation has authorized the use of OM and reimbursed the payments of OM treatments for all diseases including allergic diseases. Our study found that the decision to use OM in Korea was not affected by the patients' age, level of education or income, or the diagnosed entities of the allergic disease. These results show that OM is prevalent in all social classes in Korea. These results may be different from other studies. Schäfer *et al.* reported that alternative medicine users were significantly younger and better educated.² Also, there was a tendency to Chinese ethnicity, longer disease duration, severity of disease, and higher educational state in alternative medicine user.¹³

However, the concepts of allergic diseases were non-existent in OM about 50 years ago, but as the prevalence of allergic disease started to soar, OM clinicians developed prescriptions for allergic diseases using their traditional modalities, such as herbal medicine, moxa cauter, and acupuncture, without reliable randomized placebo controlled clinical trials. These clinicians accept the pathogenesis of allergic diseases that have been proven by scientific approaches, but they still prescribe their OM regimens, which are not based on the revealed pathogenesis of allergic diseases. While there has been some research that has shown some improvement of bronchial hyper-responsiveness and respiratory symptoms by treatment with an herbal complex, most of these studies report no significant therapeutic effects for allergic diseases.^{14–16} Martin *et al.* did not find evidence of reduced asthma symptoms as a result of acupuncture and Huntley *et al.* reported that the effects of Chinese traditional medicine were not superior to proven medicine in their meta analysis study.⁵ Furthermore, Blanc *et al.*

even found that herbal practices were associated with an increase in hospitalization risk due to the delay in the utilization of a more proven method of treatment.^{17,18} The differences between these studies are mostly due to the lack of performing blinded, large-scaled studies and the frequent withdrawal rates of these types of studies. Moreover, we found that not a few patients had perceived adverse drug event associated with OM, and some of them had serious events such as toxic damages to liver. Therefore, there is insufficient evidence to recommend their use as a first line for allergic disease until now.^{5,19}

In our survey, the patients who had respiratory allergic disease were more satisfied with their experiences of using OM than atopic dermatitis or urticaria patients. Although OM could be effective to respiratory allergic disease, this result might be contributed to the fluctuating natural course of respiratory allergies. For example, some allergic asthma and rhinitis only aggravate at pollen season and then subside.

Despite many perceived adverse reactions by OM, 15.6% of the OM experienced patients chose it based on 'the belief of safe OM' and 20.2% patients chose it due to worries about detrimental effects on health or tachyphylaxis by long term administration of the proven treatments, such as topical or inhaled steroids, inhaled β_2 agonist or anti-histamines. Some serious adverse reactions have been reported for inhaled β_2 agonist and antihistamines, but combined administration of inhaled corticosteroids can prevent the adverse reactions of β_2 agonist, and safe 2nd generation anti-histamines were already developed.^{20–22}

OM also accounts for a large share of healthcare costs, as Hong *et al.* reported that in 2001 approximately 29% of the health care expenditure in Korea was for complementary and alternative medicine, including OM.²³ The personal average costs for OM were estimated to be \$915 US dollars per year and 9.7% of the patients in this study spent more than \$3000 US dollars for OM related expenses. The average cost of \$915 US dollars for OM can be extrapolated to the Korean population, when a prevalence of atopic diseases is assumed to be 20% and the frequency of practicing alternative medicine is assumed to occur in 40% of the population. According to these assumptions, the total expenditure would be up to \$3.7 billion US dollars. This is a good example to popularity of OM in Korea. Estimates for the overall annual expenditure for alternative medicine resulted in \$13.7 billion US dollars for the United States, \$930 million AU for Australia, and £1.6 billion GBP for the UK.⁸

KEY POINTS

- About 40% Korean allergy patients had used OM treatment for their disease.
- Although 34.6% of them were satisfied with the effect of OM treatment, not a few patients perceived adverse reaction by OM treatment.
- It is necessary to educate Korean allergy patients about appropriately using of OM to make harmony with modern medicine.

In this study, we could not use objective method to evaluate the prevalence, compliance, pattern of use, and economic cost of OM. So, this study can contain some recall bias, because of using questionnaire. And we could not find standard questionnaire that was suitable for our study purpose as well as scientifically proven. Therefore, we made our 12-item questionnaire by National Health Committee of Korean Medical Association. Other limitation of this study that must be considered is in regards to the selection bias. Since the patients were enrolled from general hospitals, patients with severe allergies may have been included more than if the enrollment had been from the general Korean population reporting allergies. Patients with low incomes from the rural or slum areas may have also been excluded from the study.

CONCLUSION

We conclude that OM is popular in Korean allergy patients. Some patients experienced satisfactory treatment effects from OM, however, others had no treatment effect, even had adverse events. Therefore, it is important to educate Korean allergy patients about appropriately using of OM to make harmony with modern medicine.

ACKNOWLEDGEMENTS

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