J Acupunct Res 2020;37(3):161-166

Journal of Acupuncture Research

Journal homepage: http://www.e-jar.org

Original Article

# A Clinical Study of Collaboration between Western and Korean Medicine for the Treatment of Peripheral Facial Palsy in a Korean Medicine Hospital

Jaewon Kim *, Yongsuk Kim

*Department of Acupuncture and Moxibustion Medicine, Kyung Hee University Hospital of Korean Medicine, Seoul, Korea*

***Article history:***
Submitted: April 21, 2020
Revised: May 06, 2020
Accepted: May 13, 2020

***Keywords:***
peripheral facial palsy,
medicine consultation,
medicine collaboration,
Korean traditional medicine

**ABSTRACT**

**Background:** The purpose of this study was to investigate the characteristics and direction of treatment for peripheral facial palsy (PFP) based on medical collaboration between Western and Korean medicine departments.
**Methods:** There were 195 outpatients with PFP identified retrospectively by examining electronic medical records. These patients were treated with Korean and Western medicine from January 1st, 2018 to December 31st, 2018 at the Kyung Hee University hospital. Records were analyzed according to the patients' demographic characteristics and clinical features of the collaborative combined treatment.
**Results:** According to the collaborative treatment pathway, the number of patients consulted from Western medicine departments was more than consulted from Korean department for the first time. The time taken by the Western medicine departments to consult with the patients at the Korean center for the first time was 14.9 days from the onset of symptoms. Acupuncture was the most frequently used Korean medicine treatment. The total treatment period for Korean medicine sessions and intervals were 91.9 days, 23 times and 3.6 days, respectively. When the Korean medicine center consulted with Western medicine departments, the time taken until the first consultation was 8.5 days from the onset of symptoms. Medication was the most used treatment, prescribed after 3.1 days. The most frequently used clinical test was an electromyogram, and this was performed after 20.5 days. The total treatment period, sessions and intervals were 21.2 days, 2.8 times and 5 days, respectively.
**Conclusion:** The clinical status of collaborative treatment for PFP was determined including the timing and interval of consultation according to treatments.

https://doi.org/10.13045/jar.2020.00115
**pISSN 2586-288X eISSN 2586-2898**



## Introduction

Collaboration between Western medicine and Korean medicine is a clinical practice based on sharing patients' medical information and discussing cases, which can improve treatment effects by taking advantage of each type of medicine [1]. In Korea, the first project to demonstrate collaboration between Korean and Western medicine started in 2016. Medical fee structures, identifying diseases for collaborative treatment, and the institution of consultation have been further developed since then. The third project of collaboration started in October 2019, and grades the institution by evaluating its performance with respect to medical collaboration, and a differential medical fee is applied according to grade [2]. Previous research has reported on the perception, satisfaction, and process of medical collaboration [3].

Peripheral facial palsy (PFP) is a disease that is included as a good candidate project for collaboration between Korean and Western medicine; it is a common disease for medical consultation [4]. Although several studies have reported on quality of life, treatment effects, and the medical fees of consultations for PFP patients, there are few reports on consultation timing or duration [4-10].

In this study, we examined the records of PFP outpatients who were treated by way of collaboration between Korean and Western medicine at Kyung Hee University hospital from January 1st, 2018 to December 31st, 2018. We investigated the timing, department,

*Corresponding author. Jaewon Kim
Department of Acupuncture and Moxibustion Medicine, Kyung Hee University Hospital of Korean Medicine, Seoul, Korea
E-mail: kjw_0211@naver.com
**ORCID**: Jaewon Kim https://orcid.org/0000-0002-5253-7331, Yongsuk Kim https://orcid.org/0000-0002-2655-5405

treatment period and interval of medical consultation. The aim of this study was to determine the direction of PFP treatment by comparing with guidelines and providing basic data for research on models for PFP medical collaboration.

## Materials and Methods

### *Patients*

There were 457 outpatients with facial palsy who were treated with Korean and Western medicine from January 1st, 2018 to December 31st, 2018, as determined by the electronic medical records of Kyung Hee University hospital. Of the 457 patients who were treated for facial palsy in both the Western and Korean medicine departments, 262 did not meet the inclusion criteria.

Inclusion criteria

Patients who visited the facial palsy center in the Kyung Hee University Korean medicine hospital from January 1st, 2018 to December 31st, 2018, who were older than 18 years, who were diagnosed with PFP according to the Korean standard classification of diseases Version 7, and who were treated with combined Korean-Western medical treatments were included in this study. Therefore, 195 patients were enrolled in this study (Fig. 1).

Exclusion criteria

Patients who were admitted with PFP and those who first visited the facial palsy center before 2018 or whose chief complaint was a sequelae of facial palsy, were excluded from this study.

Ethics statement

This study was approved by the Institutional Review Board of Kyung Hee Korean Medical Hospital (IRB no.: KOMCIRB-2019-07-004). To protect patients' privacy, personal information was managed with an identification code which was stored using a locked computer with limited access.

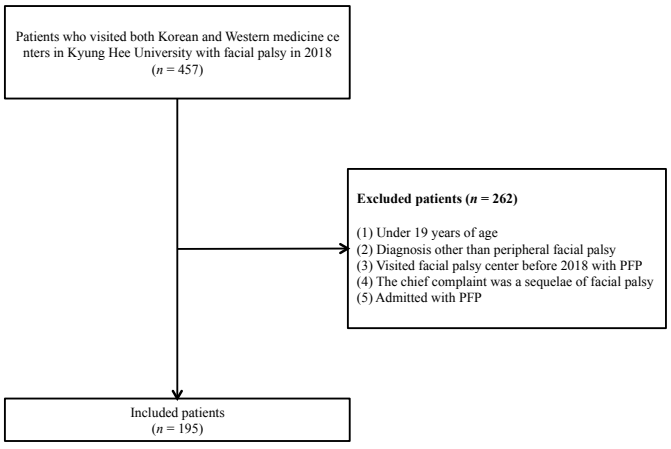


Fig. 1. Study flowchart.
PFP, peripheral facial palsy.

### *Assessment methods*

General information

The demographic characteristics included patients' gender and age. The pathway of medical consultation was classified as Korean or Western department, according to where the initial consultation was requested. Western medicine departments were separate from the Kyung Hee University hospital and other hospitals.

Clinical features of Korean medicine consultation

The time taken until the first consultation from the day of onset of symptoms was investigated, with Day 0 representing the day that the patient was treated in the Korean medicine department on the day of onset of treatment. Consultations requested in Western medicine departments were also considered.

Korean medicine treatments on the first consultation were classified as herbal medicine, acupuncture, heat therapy, moxibustion or cupping therapy. Only oral medicine was included in herbal medicine. Acupuncture was classified as conventional, electroacupuncture, or pharmacoacupuncture. Heat therapy was either infrared therapy or mugwort hot pack. Duplicate treatments were not considered for each treatment.

The period and sessions involved in Korean medicine treatments were investigated. The treatment interval for each patient was calculated by dividing the total treatment period by the number of sessions. The total treatment period, sessions and interval for all patients were calculated by averaging the data of each patient. A treatment interval within 2 weeks of onset was separately investigated to identify differences in the acute stage.

Clinical features of Western medicine consultation

The time taken for the first consultation from the day of onset of symptoms was investigated, with Day 0 representing the day that the patient was treated in the Western medicine departments on the day of onset of treatment. All Western medicine departments in Kyung Hee University were included in this study. The time taken until the first consultation based on Western medicine was investigated and classified according to each department. Western treatments were classified as clinical tests, medicine, and physical therapy. Clinical tests included neuroimaging, electromyogram and others. Steroid treatment was included in the medicine category. Duplicate treatments were was not considered for each treatment and data for each patient was collected for up to 5 consultations.

The period and sessions of Western treatment for each patient were investigated. The treatment interval for each patient was calculated by dividing the total treatment period by the number of sessions. The total treatment period, sessions and intervals for all patients were calculated by averaging the data of each patient. The treatment sessions were also investigated by department.

## Results

### *General information*

Distribution by gender and age

There were 97 males and 98 females included in this study, with a mean age of 53.61 ± 16.19 years (Table 1). Most patients ($n$ = 83) were ≥ 60 years old (42.6%), followed by patients in their 40s (18.4%), 50s (15.9%), 30s (14.9%) and 19 to 29 year-olds (8.2%; Table 2).

Pathway of the initial medical consultation

On the first consultation, 109 patients (55.9%) were referred from Western medicine departments to the Korean medicine

center, and 86 (44.1%) from the Korean medince center to the Western medicine departments. Of the 109 patients from the Western medicine departments, 79 were from Kyung Hee University hospital, which was more than from other hospitals (Table 3).

### *Clinical features of Korean medicine consultation*

Time taken until the first consultation

The time taken for the first Korean medicine consultation was 14.9 days on average from the day of onset of symptoms. Consultation after referral from other hospitals was 15.4 days, compared with the time taken for a consultation at Kyung Hee University hospital which was 13.6 days (Table 4).

Korean medicine treatment at the first consultation

The treatment received on the first consultation included (in order of frequency), acupuncture, heat therapy, herbal medicine, moxibustion and cupping therapy. All cases were treated with acupuncture (109 cases with conventional acupuncture, 81 cases with pharmacoacupuncture, and 74 cases with electroacupuncture). More than half of the patients (56.9%) were prescribed herbal medicine (Table 5).

Korean medicine treatment period and interval

The average treatment period of all patients was 91.9 days, with an average of 23.0 sessions, at an interval of 3.6 days. There were 79 cases treated with Korean medicine in the acute stage, and the treatment interval was 1.6 days, more frequently than the average (Table 6).

Table 1. Mean Age of Patients.

| | Mean age (y) |
|---|---|
| Male ($n$ = 97) | 52.78 ± 15.26 |
| Female ($n$ = 98) | 54.43 ± 17.02 |
| Total ($n$ = 195) | 53.61 ± 16.19 |

Table 2. Distribution by Age and Sex.

| Age (y) | Sex (%) | | Total (%) |
|---|---|---|---|
| | Males | Females | |
| 19-29 | 8 (8.3) | 8 (8.2) | 16 (8.2) |
| 30-39 | 14 (14.4) | 15 (15.3) | 29 (14.9) |
| 40-49 | 20 (20.6) | 16 (16.3) | 36 (18.4) |
| 50-59 | 14 (14.4) | 17 (17.3) | 31 (15.9) |
| ≥ 60 | 41 (42.3) | 42 (42.9) | 83 (42.6) |
| Total | 97 (49.7) | 98 (50.3) | 195 (100) |

Table 3. Pathway of Initial Medical Consultation.

| Pathway of medical consultation | $N$ (%) |
|---|---|
| From Western to Korean | |
| Other hospitals | 79 (40.5) |
| Kyung Hee University hospital | 30 (15.4) |
| From Korean to Western | 86 (44.1) |

Table 4. Time Taken to First Consultation.

| | Time from onset (d) |
|---|---|
| Other hospitals ($n$ = 79) | 15.4 |
| Kyung Hee university hospital ($n$ = 30) | 13.6 |
| Total ($n$ = 109) | 14.9 |

Table 5. Korean Medicine Treatment on the First Consultation.

| Korean medicine treatment | $N$ (%) |
|---|---|
| Herbal medicine | 62 (56.9) |
| Acupuncture | |
| Conventional acupuncture | 109 (100) |
| Electroacupuncture | 74 (67.9) |
| Pharmacoacupuncture | 81 (74.3) |
| Heat therapy | |
| Infrared therapy | 109 (100) |
| Mugwort hot pack | 35 (32.1) |
| Moxibustion | 12 (11.0) |
| Cupping therapy | 1 (0.9) |

Table 6. Korean Medicine Treatment Period and Interval.

| | $N$ |
|---|---|
| Total treatment period (d) | 91.9 |
| Total treatment sessions (no. of times) | 23 |
| Treatment interval (d) | |
| Total | 3.6 |
| Acute stage | 1.6 |

***Clinical features of Western medicine consultation***

Time taken until the first consultation by a department of Western medicine

The time taken until the first consultation was 8.5 days on average, from the day of onset of symptoms. Otorhinolaryngology and the emergency medicine department took the shortest time to invite patients for their first consultation, with an average of 2.0 days, while rehabilitation medicine took the longest time, with an average of 21.1 days. The largest number of patients required treatment from the department of neurology, followed by rehabilitation medicine, otorhinolaryngology and emergency medicine department (Table 7).

Time taken until the first consultation by treatment

Among the clinical tests, 59 cases had electromyograms, followed by other tests and neuroimaging. It took an average of 20.5 days for the electromyogram test, and 16.9 days for neurology, shorter than the time for the rehabilitation medicine department. Other tests took an average of 4.1 days, and neuroimaging took 5.5 days. Other tests included blood tests and hearing tests. Consultation resulting in prescription of steroid medicine occured for 62 patients, and took 3.1 days on average. By department, 58 cases visited the neurology department, followed by otorhinolaryngology and emergency medicine. Physical therapy consultation was carried out for 2 patients and took 132 days on average. Superficial heat, massage, electrical stimulation therapy and exercise treatment were included in physical therapy. All visited the rehabilitation medicine department (Table 8).

Western medicine treatment period and interval

The average treatment period for the total number of patients was 21.2 days, with an average of 2.8 sessions, at an interval of 5 days. The neurology department carried out the highest number of treatments with 2.8 sesssions on average, while family medicine and emergency medicine carried out 1 treatment on average (Table 9).

Table 7. Time Taken to First Consultation According to Department.

| Department | *N* | Time from onset (d) |
|---|---|---|
| Emergency medicine | 1 | 2 |
| Neurology | 60 | 4.3 |
| Otorhinolaryngology | 3 | 2 |
| Rehabilitation medicine | 22 | 21.1 |
| Total | 86 | 8.5 |

## Discussion

The number of patients visiting hospital in 2017 due to facial nerve disorders (G51) was 81,203, according to data from the National Health Insurance Service [11]. Bell's palsy affects 20–30 people per 100,000 annually [12].

The Western medicine treatment for PFP is focused on medicine including steroids and antiviral agents, and an electromyogram is performed to check the degree of facial nerve damage [13]. The prognosis of PFP varies, but most patients show some recovery 2 to 3 weeks after onset of symptoms, and completely recover within 3 to 4 months. However, about 30% of patients do not completely recover [14], and patients with severe symptoms do not recover to the same extent as patients with mild symptoms [15]. PFP is accompanied by psychological symptoms, such as anxiety and decreased self-esteem, due to changes in appearance caused by the affected facial muscles. For this reason, patients with PFP may

Table 8. Time Taken to First Consultation by Treatment.

| | | | Department | | | | Total |
|---|---|---|---|---|---|---|---|
| | | | ER | NR | ORL | RM | |
| Clinical test | | | | | | | |
| | Neuroimaging | N | 1 | 1 | 0 | 0 | 2 |
| | | Time (d) | 2 | 9 | N/A | N/A | 5.5 |
| | Electromyogram | N | 0 | 20 | 0 | 39 | 59 |
| | | Time (d) | N/A | 16.9 | N/A | 22.3 | 20.5 |
| | Others | N | 1 | 6 | 2 | 0 | 9 |
| | | Time (d) | 2 | 5 | 2.5 | N/A | 4.1 |
| Medicine | | | | | | | |
| | Steroid | N | 1 | 58 | 3 | 0 | 62 |
| | | Time (d) | 2 | 3.2 | 2 | N/A | 3.1 |
| Physical therapy | | N | 0 | 0 | 0 | 2 | 2 |
| | | Time (d) | N/A | N/A | N/A | 132 | 132 |

ER, emergency medicine; NR, neurology; ORL, otorhinolaryngology; RM, rehabilitation medicine.

Table 9. Western Medicine Treatment Period and Interval.

| | *N* |
|---|---|
| Average treatment period (d) | 21.2 |
| Average treatment sessions (no. of times) | 2.8 |
| Otorhinolaryngology ($n$ = 4) | 2 |
| Emergency medicine ($n$ = 1) | 1 |
| Family medicine ($n$ = 1) | 1 |
| Neurology ($n$ = 61) | 2.8 |
| Rehabilitation medicine ($n$ = 38) | 1.6 |
| Average treatment interval (d) | 5 |

seek to be treated with both Korean and Western medicine, as described in studies on the effects of the collaborative treatment, medical expenses and quality of life [4-10]. However, there have been few studies on the time taken until the initial consultation and treatment intervals.

This study examined the records of 195 patients with PFP who received combined Korean and Western medicine treatment in Kyung Hee University hospital from January 1st, 2018 to December 31st, 2018. There were no significant differences in the treatment groups gender (97 males and 98 females) and the mean age was 53.61 ± 16.19 years.

In the pathway of the initial medical consultation, 109 cases were referred from Western medicine departments to the Korean medicine center, which was a greater number than were referred from the Korean medicine center to Western medicine departments. Previous research has reported that PFP patients visit Korean medicine centers more than patients with other diseases, similar to this study [9]. In the case of consultation in Western medicine departments with a referral to Korean medicine departments, the average time taken until the first consultation was 14.9 days from onset of symptoms. Consultation from within Kyung Hee University hospital took place earlier than from other hospitals, because both Western medicine and Korean medicine treatments are available in that hospital. Although there is no clear recommendation for the initial time of treatment by Korean medicine, Li et al [16] reported that starting acupuncture treatment during the acute stage and stationary stage (1 to 3 weeks from onset of symptoms) was more effective than any other treatment timing to improve PFP symptoms. This was a similar finding to this current study.

In the first consultation in a Korean medicine department, acupuncture treatment was performed for all patients, with conventional acupuncture most frequently used, followed by pharmacoacupuncture and electroacupuncture. In the Idiopathic Facial Paralysis Korean Medicine Clinical Practice Guideline [17], conventional acupuncture is strongly recommended, and pharmacoacupuncture and electroacupuncture are recommended. The results of this study were consistent with the guideline.

Treatment in Korean medicine departments involved 23.0 sessions on average, with an interval of 3.6 days, while the interval for acute stage patients was shorter, at 1.6 days. Park et al [4] reported that collaborative treatment between Western and Korean medicine departments involved 32.5 sessions on average, with only 9.3 sessions accounting for Korean medicine. The results of this current study are different, because recovery time for PFP is different depending on the severity of symptoms.

In the case of referral from Korean to Western medicine departments, the average time taken until the first consultation was 8.5 days from onset of symptoms, with majority of patients initially being referred to the neurology department. A previous study also reported that most patients with PFP were referred to the neurology department [9].

The most common Western medicine treatment was steroid medicine which was observed in 62 cases, and it took on average 3.1 days from onset of symptoms. This figure is longer than the guideline, and steroid treatment is generally recommended to start within 48 to 72 hours from the onset of symptoms [14,15]. Among the clinical tests, an electromyogram was performed most frequently, on average 20.5 days from the onset of symptoms. That is longer than the guideline, considering that an electromyogram test is typically recommended to be performed within 1 to 2 weeks from the onset of symptoms [13]. Physical therapy was carried out for 2 patients, on average 132 days from the onset of symptoms, which was longer than other treatments. In the design of this study, the data was collected for up to 5 consultations, and the results reflect the low number of patients sent for physical therapy. There were 2.8 Western medicine treatment sessions on average, with an interval of 5 days.

The Ministry of Health and Welfare started the demonstration project for the collaboration between Korean and Western medicine in 2016, and related studies include systems or manuals suggesting how to complement collaborative medical treatment. Medical consultation between Western and Korean medicine department is unfamiliar to patients. Jeong et al [18] surveyed patients' perceptions and reported that most patients did not receive collaborative Western and Korean medical treatment as it was not common practise in hospitals. In addition, there is a lack of the communication and understanding between staff of Western medicine and Korean medicine centers. Some Western medicine staff thought it was difficult to confirm the effects of Korean treatments, or there was little shared knowledge between staff in Western medicine departments to Korean medicine departments. Some Korean and Western medicine departments thought that treatments were excessive because they did not appreciate the medical goals of each type of treatment [19]. Finally, there was a lack of an effective referral process. Lee et al [1] reported that unitary electronic medical records, continuous medical consultation, and a simplified process for patients were needed in the collaborations between medical staff of Western and Korean medicine departments. These issues make an active collaberative consultation difficult, and seem to cause differences in the initial treatment timing in the guidelines and what was observed in this current study.

This study investigated the timing of the initial consultation, medical treatments and departments accessed, and the treatment period, number of sessions and interval between treatments. The study provides meaningful insights into the timing of initial consultations, and it is expected to help in developing models and clinical guidelines for PFP treatment though collaboration between Korean and Western medicine departments. It may help medical staff understand the purpose of collaboration and lead to a more active involvement in initiating combined Korean and Western medicine treatment through collaboration.

There are limitations to this study. A treatment period and intervals between sessions were not detailed for medical treatments and each patient's condition. There was a deviation in treatment sessions because PFP severity grade was not classified. In physical therapy, the initial treatment timing could be

inaccurate because data collected for Western medicine treatment was limited in the design of this study. Moreover, we investigated Western medicine physical therapy, not Korean medicine physical therapy, due to its focusing on the active treatment like massage or exercise. Further studies will be required to compensate for these limitations.

In conclusion this study determined the timings and intervals of medicine collaboration for the treatment of PFP, and may provide the basis for further studies to determine improvements in collaborative treatments between Western and Korean medicine departments.

## Conflicts of Interest

The authors have no conflicts of interest to declare.

## References

[1] Lee KJ, Lee GR, Song YK. A Report on the Status of Cooperation through the Korean Medicine and Western Medicine Collaboration Process. J Korean Med Rehabil 2019;29:129-139. [in Korean].
[2] Ministry of Health and Welfare. Korean medicine and Western medicine collaboration 3rd demonstration project guide. Seoul (Korea): Ministry of Health and Welfare; 2019. p. 1-17. [in Korean].
[3] Han KI, Shin SH, Lim GM, Lee JH, Ko YS. Reviewing Research of Eastern-Western Integrative Medicine Studies in Korea. J Korean Med Rehabil 2018;28:53-60. [in Korean].
[4] Park HS, Uhm TW, Kim NK. A study on the facial palsy patients' use of Western-Korean collaborative treatment: Using Health Insurance Review and Assessment Service-National Patients Sample. J Korean Data Info Sci Soc 2017;28:75-86. [in Korean].
[5] Park IB, Kin SW, Lee CW, Kim HG, Heo SW, Youn HM et al. Comparative Clinical Study between Oriental Medicine and Oriental-Western Medicine Treatment on Bell's palsy. J Korean Acupunct Moxibustion Soc 2004;21:191-203. [in Korean].
[6] Cho KH, Jung WS, Hong JW, Hwang JW, Na BJ, Park SU et al. The effectiveness of oriental medical therapy compared to Oriental-Western medical therapy on acute Bell's palsy. J Korean Orient Med 2008;29:146-155. [in Korean].
[7] Kwon NH, Shin YJ, Kim CY, Koh PS, Yi WI, Joh BJ et al. Comparative Clinical Study between Oriental Medical and Oriental-Western Medical Treatment on Bell's Palsy. J Korean Acupunct Moxibustion Soc 2008;25:19-28. [in Korean].
[8] Kim JH, Song JJ, Hong SU. A Clinical Study of Oriental-Western Medicine Treatment on Facial Nerve Paralysis. J Korean Orient Med Ophthalmol Otolaryngol Dermatol 2009;22:148-156. [in Korean].
[9] Hong MJ, Umh TW, Kim SA, Kim NK. Medical costs for patients with Facial paralysis: Based on Health Big Data. J Korean Med 2015;36:98-110. [in Korean].
[10] Kim DH, Jung DL, Cho CG, Hong SU. Changes in Facial palsy Patient's Quality of life based upon Oriental-Western Medicine Treatment. J Korean Orient Med Ophthalmol Otolaryngol Dermatol 2010;23:174-185. [in Korean].
[11] Kim ST, Kim YI. National Health Insurance Statistical Yearbook, 14th ed. Gangwondo (Korea): Health Insurance Review and Assesment Service, National Health Insurance Service; 2017. p. 634-635. [in Korean].
[12] Korean Society of Otohinolaryngology-Head and Neck Surgery. Otorhinolaryngology, 1st ed. Seoul(Korea): Ilchokak; 2016. p. 203-215. [in Korean].
[13] Korean Otological Society. Clinical Guideline for Acute Facial Nerve Palsy. Seoul (Korea): Korean Otological Society 2010. p. 1-15. [in Korean].
[14] Baugh RF, Basura GJ, Ishii LE, Schwartz SR, Drumheller CM, Burkholder R et al. Clinical Practice Guideline: Bell's Palsy. Otolaryngol Head Neck Surg 2013;149:1-27.
[15] de Almeida JR, Guyatt GH, Sud S, Dorion J, Hill MD, Kolber MR et al. Management of Bell palsy: Clinical practice guideline. CMAJ 2014;186:917-922.
[16] Li Y, Li Y, Liu LA, Zhao L, Hu KM, Wu X et al. Acupuncture and moxibustion for peripheral facial palsy at different stages: multi-central large-sample randomized controlled trial. Chin Acupunct Moxibustion 2011;31:289-93. [in Chinese].
[17] Korea Institute of Oriental Medicine. Idiopathic Facial Palsy Korean Medicine Clinical Practice Guideline. Seoul (Korea); Elsevier Korea LLC; 2015. p. 12-13. [in Korean].
[18] Jeong YM, Cho SW. Survey on Perception Level of the East-West Collaborative Medical Practices among the General Public. J Korean Med Rehabil 2019;29:41-61. [in Korean].
[19] Kim BM, Jo HG, Kang HW, Choi SY, Song MY, Sul JU et al. Proposal of East-West Integrative Medicine Manual for Mild Cognitive Impairment in a Korean Medicine Hospital. J Orient Neuropsychiatry 2018;29:239-253. [in Korean].