



Review Article

Korean-Western Integrative Medicine for Bell's Palsy: A Review of Randomized Controlled Trials



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ABSTRACT

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This review aimed to compare the effectiveness of Korean medicine (KM) with Korean-Western integrative medicine (KWIM) at treating Bell's palsy. A literature search of several databases for relevant randomized controlled trials was performed. Six studies that compared KM with KWIM to treat Bell's palsy were included in this review. Acupuncture and steroids were the most commonly used treatments in KWIM. A comparison of the effectiveness of KW with KWIM did not produce consistent results. Both KM and KWIM were useful in treating Bell's palsy. KWIM was more effective than KM when the Western medicine was a steroid and was given in the early stages of treatment. However, these findings are limited due to the low quality and number of included studies. KM and KWIM are both effective in Bell's palsy, and KWIM is more effective than KM. However, more high-quality randomized controlled trials are required.

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Introduction

Combinations of Korean medicine (KM) and Western medicine (WM) have been used in Korea since the introduction of WM. While both KM and WM have contributed to improving health, it has been reported that the dualized medical system does not work efficiently [1]. Therefore, Korean-Western integrative medicine (KWIM), was introduced so that patients could benefit from both approaches. Currently, integrative medicine is a trend in which Chinese medicine models are internationally recognized [2].

Facial paralysis is a neurological condition in which facial muscles are paralyzed on 1 side of the face due to facial nerve damage. It has been reported that 85% of facial paralysis cases are idiopathic. Facial paralysis may be caused by viral infections (e.g. Bell's palsy, herpes simplex, herpes zoster ophthalmicus), bacterial infections (e.g. Lyme disease, leprosy), autoimmunity (e.g. Bell's

palsy, hypothyroidism), trauma, tumors, strokes, sarcoidosis of unknown etiology, diabetes, strokes (e.g. Bell's palsy), and congenital conditions. Among these, Bell's palsy, which is characterized by idiopathic peripheral neuropathy, accounts for the largest portion of facial nerve paralysis [3-5].

According to the "Clinical Practice Guidelines in KM for facial nerve paralysis" revised in 2016, Korean treatment methods include acupuncture, moxibustion, herbal medicine, aqua-acupuncture, electro-acupuncture, auricular acupuncture, scalp acupuncture, and Ohaeng-acupuncture, while Western treatment methods include drug therapy (steroids, antiviral drugs), physical therapy, eye treatment, and surgical treatment [6].

Recently, a number of clinical studies [3,5,8-11] have compared the effectiveness of KM with KWIM in treating facial paralysis without a conclusion. Here, the effectiveness of KM and KWIM to treat Bell's palsy were compared by performing a literature search

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of randomized controlled trials (RCTs).

Materials and Methods

Selection and exclusion criteria

RCTs comparing KM and KWIM were selected for this review based on “Clinical Practice Guideline in KM for facial nerve paralysis,” revised in 2016. KM treatment methods included acupuncture, moxibustion, herbal medicine, aqua-acupuncture, electro-acupuncture, auricular acupuncture, scalp acupuncture, and Ohaeng-acupuncture. WM treatment methods included drug therapy (e.g. steroids, antiviral drugs), physical therapy, eye treatment and surgical treatment. In this study, KM also included treatments that used KM treatments originating from other countries that were classified in the “Clinical Practice Guideline in KM for facial nerve paralysis,” revised in 2016 [6]. The exclusion criteria included duplicate studies, not KWIM, not a RCT, not clinical research, did not compare KM with KWIM, and not studying Bell’s palsy.

Databases and search methods

Using Embase, PubMed, Cochrane Library, China Academic Journal (CAJ), Korean Studies Information Service System (KISS), Research Information Sharing Service (RISS), and Oriental Medicine Advanced Searching Integrated System (OASIS), studies were retrieved up to July 08th, 2020. The search was conducted by 2 independent researchers.

The search terms were “Bell’s palsy or facial palsy or facial nerve paralysis” in Embase, PubMed and Cochrane Library, and in CNKI the search terms were “Bell’s palsy and Chinese-Western” in the subject. In KISS, RISS, and OASIS, the search terms were “Bell’s palsy and integrative.” The Chinese and Korean databases used a variety of search terms to describe “Bell’s palsy” and “integrative.”

Quality evaluation of the selected studies

The methodology quality of the selected study was assessed using the Jadad scale by 2 independent researchers. The Jadad scale is an evaluation tool that can be used to assess RCT by evaluating 3 items: “randomization,” “blinding,” and “an account of all patients”. For randomization, +1 if it is mentioned and +1 if appropriate, and -1 if it is not appropriate. For blinding, +1 if it is mentioned and +1 if appropriate, and -1 if the method is inappropriate. For an account of all patients, +1 if the fate of all the patients in the RCT is known. The total score can range from 0-5 points. The RCT is categorized as high quality if 3 or more points are scored and low-quality if 2 or fewer points are scored [7].

Results

Study selection

In total, 2517, 2037, 10, 199, 17, 34, and 14 studies were retrieved from Embase, PubMed, Cochrane Library, CAJ, KISS, RISS, and OASIS, respectively. Altogether, 4,828 studies were retrieved, from which, 1,651 were duplicates. From the 3,177 remaining studies, 108 studies were selected for review, and 6 studies were included in this review (Fig. 1).

General characteristics of the selected studies

Among the 6 included studies, there were no significant

differences between the KM and KWIM groups in terms of the patient’s general characteristics, such as gender, age, and facial paralysis (Table 1).

Overview of the selected studies

In all studies, the KM group used acupuncture. Along with acupuncture, there were studies that used herbal medicine. Dialectical herbal medicine was used in the studies reported by Kwon et al [3], Kim et al [5], and Park et al [8], and prescriptions that were representative of Bell’s palsy were applied equally to all patients in the studies by Cho et al [9], and Qiao and Yan [10]. Drug therapy, along with KM treatment, was used in all studies included in the KWIM group. The Western drugs used included steroids, antiviral drugs, peripheral vasodilators, antacids, and vitamins (Table 2).

Among the selected studies, Kwon et al [3], Kim et al [5], Park et al [8] and Cho et al [9] evaluated whether KM and KWIM were effective treatments for Bell’s palsy. Kwon et al [3] and Kim et al [5], showed that KM and KWIM were significantly effective treatments for Bell’s palsy, over all treatment periods. In the study of Cho et al [9], KM and KWIM were effective treatments for Bell’s palsy, but in the case of KM, there was no significance in the 1st week. The differences between Cho’s study and other studies were assessed. While the studies of Kwon et al [3], Kim et al [5] and Park et al [8] used different prescriptions depending on the patient’s condition, the study of Cho et al [9] showed that Gami-Ligi geopoongsan, 1 of the representative prescriptions for Bell’s palsy, was used for all patients (Tables 2 and 3).

The results of each of the studies included in this review were analyzed. In the study of Kwon et al [3], KM and KWIM were both significantly effective treatments for Bell’s palsy. After 1 week of treatment, KM showed a greater treatment performance than KWIM, 2 weeks later, and 3 or 4 weeks later KWIM showed greater treatment performance than KM, but there was no statistically significant difference between the 2 groups overall periods [3]. In

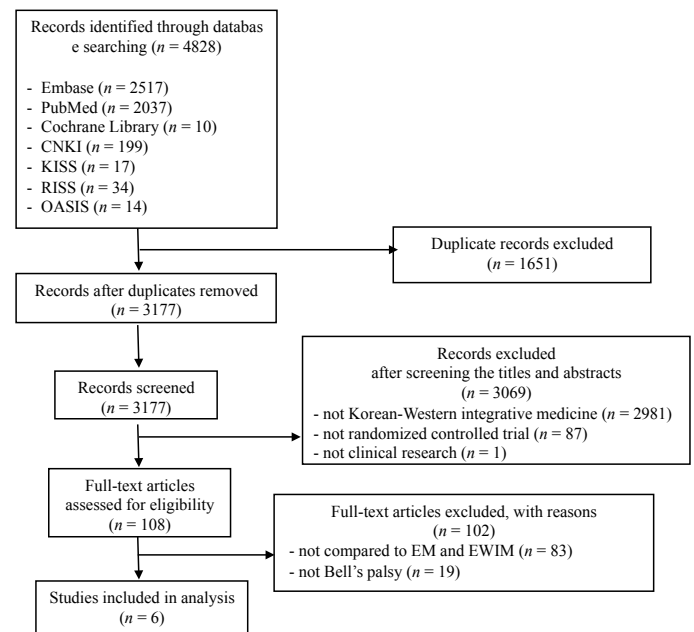


Fig. 1. Flow chart of screening process.

Table 1. General Characteristics in Selected Studies.

First author [ref] (y)	Type	Diagnosis	Sample size	General characteristics				
				Sex		Age (y) Mean (SD)	Left/right	
				Male	Female		Left	Right
Kwon [3] (2008)	RCT	Bell's palsy	KM 15	9	6	35.73	6	9
			KWIM15	5	10	48.2	8	7
Kim [5] (2001)	RCT	Bell's palsy	KM 15	9	6	41.93	8	7
			KWIM 15	10	5	37.93	7	8
Park [8] (2004)	RCT	Bell's palsy	KM 20	7	13	43.6	10	10
			KWIM 21	7	14	47.19	12	9
Cho [9] (2008)	RCT	Bell's palsy	KM 31	13	18	47±15		
			KWIM 34	12	22	54±13		
Qiao [10] (2014)	RCT	Bell's palsy	KM 28	32	24		30	26
			KWIM 28	12	22			
Li [11] (2008)	RCT	Bell's palsy	KM 68	32	36	35.5 ± 7.8		
			KWIM 68	33	35	36.6 ± 6.6		

RCT, randomized controlled trials; KM, Korean medicine group; KWIM, Korean-Western integrative medicine group.

Table 2. How to Treat Selected Studies.

First author [ref] (y)	Acupoint	Herbal medicine	Medicine
Kwon [3] (2008)	ST2, ST4, ST6, ST7, GV26, CV24, TE23, BL1, GB14, LI20, BL2, SI18	[Paralytic/deterioration period] Ligigeopoongsan [Recovery/a false charge period] Boikyangwitang-gamibang	Steroid, antacid, peripheral vasodilators
Kim [5] (2001)	ST2, ST3, ST4, ST6, ST7, BL2, GB14, TE23, GB1, LI20, SI18, GB20, LI4	[According to dialectical evidence] Ligigeopoongsan, Bojungyukgitang, Bosimgunbitang, Gami-Boictang, Pyeongjin-Gunbitang	Steroid
Park [8] (2004)	ST2, ST4, ST6, ST36, ST41, ST43, LR8, KI10, LU8, SI5, GB41, GV26, CV24, LI4, TE23, BL1, GB14, LR3, LR4	[According to dialectical evidence] Ligigeopoongsan BoyangHwanohtang-gamibang, Bohyeltang-gamibang, Gwakhyangjunggisang-gamibang	Steroid, antacid, peripheral vasodilators
Cho [9] (2008)	Facial Acupoint	Gami-Ligigeopoongsan	Steroid, antiviral
Qiao [10] (2014)	GB14, GB20, BL2, ST4, ST6, TE17, LI4, GB21, LI20, GV26, CV24, TE23, et al.*	Kyunjeongsan-gamibang	Steroid, vitaminB1, peripheral neurotherapy
Li [11] (2008)	LI20, ST4, ST6, ST7, GB14, TE17, LI4, et al. [†]		Steroid, vitaminB1, peripheral Neurotherapy, antiviral, glucose

*An acupoint located at center of eyebrows

[†]An acupoint located at the top of the ear and at the side of the eye.

the study of Kim et al [5], KM was more effective than KWIM, but there was no statistically significant difference between the 2 groups. In the study of Park et al [8], KM and KWIM were both significantly effective treatments for Bell's palsy. Comparing the 2, KWIM was more effective than KM, but the results after 1 or 2 weeks were statistically significant, but the results after 3 weeks were not statistically significant [8]. Both KM and KWIM were effective in the study of Cho et al [9], but KM was statistically

significant from 2 weeks later and KWIM from 1 week later. There was no significant difference between the 2 groups [9]. Studies by Qiao and Yan [10] and Li [11] compared the treatment rates after treatment, both of which showed that KWIM was significantly more effective than KM alone (Table 3).

In the 6 selected studies, the patient's symptoms were improved after treatment. Both KM and KWIM were effective in treating Bell's palsy. However, a comparison of the effectiveness of KW

Table 3. Results of Selected Studies.

First author [ref](y)	Outcome measure	Result		
		KM	KWIM	Comparison of KM and KWIM
Kwon [3] (2008)	HBGS	Before treatment 3.67 ± 0.900 After 4 wk 1.73 ± 0.884 (<i>p</i> = 0.000)	Before treatment 4.13 ± 0.516 After 4 wk 1.93 ± 0.799 (<i>p</i> = 0.000)	After 1 wk KM > KWIM (<i>p</i> = 0.285) After 2 wk KM > KWIM (<i>p</i> = 0.713) After 3 wk KM < KWIM (<i>p</i> = 0.775) After 4 wk KM < KWIM (<i>p</i> = 0.567)
Kim [5] (2001)	HBGS	Before treatment 4.60 After 3 wk 2.47	Before treatment 4.67 After 3 wk 2.87	(HBGS) After 3 wk KM > KWIM (<i>p</i> = 0.684)
	DEFS	Before treatment 25.93 After 3 wk 86.06	Before treatment 25.13 After 3 wk 66.46	After 3 wk KM > KWIM (<i>p</i> = 0.698)
Park [8] (2004)	YUGS	Before treatment 14.95 ± 5.84 After 5 wk 31.45 ± 6.75 (<i>p</i> = 0.000)	Before treatment 16.81 ± 4.84 After 5 wk 32.10 ± 7.91 (<i>p</i> = 0.000)	After 1 wk KM < KWIM (<i>p</i> = 0.005) After 2 wk KM < KWIM (<i>p</i> = 0.044) After 3 wk KM < KWIM (<i>p</i> = 0.204) After 4 wk KM < KWIM (<i>p</i> = 0.255) After 5 wk KM < KWIM (<i>p</i> = 0.694)
Cho [9] (2008)	HBGS	Before treatment 3.44 Final evaluation 2.45 (<i>p</i> = 0.000)	Before treatment 3.63 Final evaluation 2.50 (<i>p</i> = 0.000)	After 1 wk KM < KWIM (<i>p</i> = 0.923) After 2 wk KM < KWIM (<i>p</i> = 0.665) After 3 wk KM < KWIM (<i>p</i> = 0.309) Final evaluation KM < KWIM (<i>p</i> = 0.479)
	YUGS	Before treatment 20.81 Final 28.32 (<i>p</i> = 0.000)	Before treatment 19.85 Final 28.71 (<i>p</i> = 0.000)	Gap between 1st and final KM < KWIM (<i>p</i> = 0.472)
Qiao [10] (2014)	Clinical efficacy (<i>n</i>)	Cure 18 Apparent effect 5 Effective 1 Ineffective 4	Cure 23 Apparent effect 3 Effective 1 Ineffective 1	KM < KWIM (<i>p</i> < 0.05)
Li [11] (2008)	Clinical efficacy (<i>n</i>)	Cure 35 Apparent effect 21 Effective 11 Ineffective 1	Cure 39 Apparent effect 25 Effective 4 Ineffective 0	[Recovery rate (%)] KM 82.35 < KWIM 94.12 (<i>p</i> < 0.05)

HBGS, House Brackmann grading system; YUGS, Yanagihara's unweighted grading system; DEFS, detailed evaluation of facial symmetry; N, number of people; KM, Korean medicine group; KWIM, Korean-Western integrative medicine group.

and KWIM did not produce consistent results. In the study by Kwon et al [3], KM was more effective in the 1st and 2nd weeks of treatment, but KWIM was more effective in the 3rd and 4th weeks of treatment. However, these results were not statistically significant. Kim's [5] study showed that KM produced better treatment results than KWIM, but this observation was not statistically significant. On the other hand, the remaining 5 studies showed that KWIM was more effective than KM. Among these, Park et al [8] reported that KWIM was statistically more effective 1 week after treatment than KM, and Qiao and Yan [10] and Li [11] reported that KWIM was statistically more effective than KM by comparing symptoms before and after treatment (Table 3).

An analysis of the frequency of acupoints and drug therapy used in the 6 selected studies showed that the most commonly used acupoints were ST4, ST6, GB14 and LI20. These acupoints were used in all studies except for the study by Cho et al [9], which did not list the acupoints. Regarding drug therapy, steroids were used in all studies (Table 4). The stomach meridian was the most commonly used meridian, including 8 acupoints (Table 5).

Table 4. Frequency of Acupoints and Medicine.

Frequency	Acupoints	Medicine
6		Steroids
5	ST4, ST6, GB14, LI20	
4	TE23, LI4, BL2	
3	ST2, ST7, CV24, GV26, et al.*	
2	GB20, SI18, BL1, TE17	Peripheral vasodilators, antacid, peripheral neurotherapy, vitaminB1, antiviral,
1	ST36, ST41, ST43, KI10, GB1, GB21, GB41, LR4, SI5, LU8, LR3, LR8, et al.†	Glucose

* A acupoint located at the top of the ear and at the side of the eye.

† A acupoint located at center of eyebrows.

Table 5. Frequency of Meridian Used to Treat Bell's Palsy Listed in the Study.

Frequency	Meridians	Acupoints
8	Stomach	ST2, ST3, ST4, ST6, ST7, ST36, ST41, ST43
5	Gallbladder	GB1, GB14, GB20, GB21, GB41
3	Liver	LR3, LR4, LR8
2	Bladder	BL1, BL2
	Large intestine	LI4, LI20
	Triple energiger	TE17, TE23
	Small intestine	SI5, SI18
1	Lung	LU8
	Kidney	KI10
	Conception vessel	CV24
	Governor vessel	GV26

Evaluation of the quality of the studies using the Jadad scale

Two independent researchers used the Jadad scale to evaluate the quality of the 6 included studies. The 6 studies were all rated as being low quality, with total scores below 2 points. Of the 5 studies that conducted randomization, only Li [11] used the appropriate randomization. The study by Cho et al [9] did not mention the randomization method used. All 6 studies did not mention blinding of the study or an account of all patients (Table 6).

Discussion

Facial paralysis is loss of movement of the facial muscles which are paralyzed on 1 side of the face. There are various causes of facial paralysis. Among them, Bell's palsy, a idiopathic facial paralysis, accounts for the largest percentage [3-5]. WM uses steroids to treat facial palsy, which help to control inflammation and reduce edema around facial nerves. Furthermore, antiviral, peripheral vasodilators, and other physical therapy options have been used [12,13]. In KM, acupuncture, herbal medicine, aqua-acupuncture, electro-acupuncture, moxibustion are practiced.

In Korea, KM and WM coexist as KWIM, which uses practices from both KM and WM to treat patients, and in the case of Bell's palsy this may be beneficial. In addition to studies that compared the effectiveness of KM with KWIM, there are RCT studies that examine the effectiveness of KWIM. Gökçe Kütük et al [14] reported better resolve of nerve dysfunction, a decrease in paralysis severity, and better functional recovery with electro-acupuncture in conjunction with WM therapy. Liu [15] compared KWIM using drugs and acupuncture with KWIM using drugs, acupuncture, and herbal medicine, and reported that the latter was a more effective KWIM.

In this study, among Bell's palsy integrative medicine, the effects of KM and KWIM were compared. Treatment methods reported in the "Clinical Practice Guideline in KM for facial nerve paralysis," revised in 2016, were used as the criteria for distinguishing between KM and WM treatments [6].

Table 6. Jadad Scale of Selected Studies.

First author [ref] (y)	Randomization	Blinding	An account of all patients
Kwon [3] (2008)	1	0	0
Kim [5] (2001)	1	0	0
Park [8] (2004)	1	0	0
Cho [9] (2008)	0	0	0
Qiao [10] (2014)	1	0	0
Li [11] (2008)	2	0	0

There are many ways to show the degree of facial paralysis including the degree of facial paralysis which was assessed using House Brackmann grading system (HBGS), Yanagihara's unweighted grading system, detailed evaluation of facial symmetry and clinical efficacy. Among them, HBGS is the most representative in this review, where 4 of the 6 studies evaluated the degree of facial paralysis using HBGS. HBGS evaluates the degree of facial paralysis in 6 stages. Yanagihara's unweighted grading system consists of a total of 40 points by visually assessing each motion presented and scoring it. Detailed evaluation of facial symmetry may also be used to describe the degree of recovery for each part of the face in detail. Qiao and Yan [10] evaluated by clinical efficacy, classified HBGS Phase 1 as recovery, HBGS Phase 2 as apparent results, HBGS Phase 3 as effective results, and HBGS Phase 4-6 as no effects. Similarly, Li [11] also evaluated the effectiveness of the treatment based on clinical efficacy (Tables 7-10) [16-18].

In all of the 6 included studies, the patient's symptoms improved after treatment. Both KM and KWIM were effective in treating Bell's palsy. However, a comparison of the effectiveness of KW and KWIM did not produce consistent results. Thus, considering statistically significant studies, Park et al [8] reported that KWIM was more effective 1 week after treatment than KM, and Qiao and Yan [10] and Li [11] studies reported that KWIM was more efficacious than KM by comparing symptoms before and after treatment. Therefore, KM and KWIM are both effective in Bell's palsy, and KWIM is more effective than treatment with KM alone.

One of the most representative features of KM is that the treatment depends on the patient's overall condition, not the symptoms. This study also shows that both KM and KWIM were effective, but differences can be observed only when looking at the statistically significant results. In studies in which prescriptions varied according to the patient's condition through dialectics, KM and KWIM were both effective during the treatment period. On the other hand, studies that gave everyone the same herbal medicine had a period of treatment that was effective, but not significant. Through this, the importance of different prescriptions through dialectics in KM is highlighted.

Among the treatments used for KWIM, acupuncture, and herbal medicine were the most commonly used KM, while drug therapy was the most typically used in WM [19]. In this review, all 6 studies used acupuncture, and 5 of them used herbal medicine. In

Table 7. House Brackmann Grading System.

Grade	Description	Characteristics
I	Normal	Normal facial function in all areas
II	Moderate dysfunction	Gross: slight weakness notice able on close inspection; may have very slight synkinesis At rest: normal symmetry and tone Motion Forehead: moderate to good function Eye: complete closure with minimum effort Mouth: slight asymmetry
III	Moderate dysfunction	Gross: obvious but not disfiguring difference between two sides; noticeable but not severe synkinesis, contracture, and/or hemifacial spasm At rest: normal symmetry and tone Motion Forehead: slight to moderate movement Eye: complete closure with effort Mouth: slightly weak with maximum effort
IV	Moderately severe dysfunction	Gross: obvious weakness and/or disfiguring asymmetry At rest: normal symmetry and tone Motion Forehead: none Eye: incomplete closure Mouth: asymmetric with maximum effort
V	Severe dysfunction	Gross: only barely perceptible motion At rest: asymmetry Motion Forehead: none Eye: incomplete closure Mouth: slight movement
VI	Total paralysis	No movement

Table 8. The Yanagihara's Unweighted Grading System.

1	At rest	
2	Wrinkle forehead	
3	Wrinkle nasal root	
4	Closure of eye lightly	
5	Closure of eye tightly	
6	Closure of eye on the involved side only	
7	Blowing out cheeks	
8	Whistle	
9	Grin	
10	Depress lower lip	
	Normal	4 points
	Partial palsy	2 points
	No motility	0 points

Table 9. Detailed Evaluation of Facial Symmetry by Pillsbury and Fisch.

Symmetry	%	Points
At rest (20)	0 30 70 100	0 6 14 20
Wrinkling forehead (10)	0 30 70 100	0 3 7 10
Eye closure (30)	0 30 70 100	0 9 21 30
Smiling (30)	0 30 70 100	0 9 21 30
Whistling (10)	0 30 70 100	0 3 7 10

KWIM, drug therapy and KM (acupuncture/herbal medicine) was used.

In a previous literature review of acupuncture for Bell's palsy, the meridians most used were the stomach, bladder, large intestine, and triple energizer, and the most used acupoints were ST4, ST6, LI4, GV26, ST2, TE17, and ST3 [20]. This study also observed a

similar use of meridians. In this study, the stomach meridian with 8 acupoints, gallbladder meridian with 5 acupoints, liver meridian with 3 acupoints, bladder meridian, large intestine meridian, triple energizer meridian and small intestine meridian with 2 acupoints, lung meridian, kidney meridian, conception vessel and governor vessel with 1 acupoint were used. The acupoints most used were

Table 10. Clinical Efficacy.

Recovery	Normal facial function in all areas, no symptoms of facial nerve palsy when smiling, can eat normally.
Apparent results	Obvious but not disfiguring difference between the 2 sides; noticeable but not severe synkinesis and contracture.
Effective results	A slight improvement in symptoms, but asymmetric wrinkle forehead, still has symptoms of facial nerve palsy around the mouth.
No effects	No improvements in symptoms.

ST4, ST6, GB14, LI20 (5 studies), TE23, LI4, BL2 (4 studies), ST2, ST7, CV24, GV26, an acupoint located at the top of the ear and at the side of the eye (3 studies), GB20, SI18, BL1, TE17 (2 studies), ST36, ST41, ST43, KI10, GB1, GB21, GB41, LR4, SI5, LU8, LR3, LR8, and an acupoint located at center of eyebrows (1 study).

Steroids are known to be effective in treating Bell's palsy. In particular, using steroids within a week of symptoms of Bell's palsy reduces neurological edema and nerve damage [13,21]. Most of the included studies for this review also used steroids in KWIM. Looking at the statistically significant results, both KM and KWIM were effective in the treatment of Bell's palsy, especially KWIM which was more effective than KM. In particular, studies have shown that KWIM is significantly more effective than KM alone in the early stages of treating Bell's palsy [13,21]. Studies have also shown that while KWIM is still effective over a longer period, it becomes statistically less significant over time [8,22].

Steroid therapy may be restricted for use in vulnerable groups, such as those with diabetes, osteoporosis, digestive ulcers, high blood pressure, cardiovascular disease, and psychiatric problems. Steroid therapy is also associated with a number of complications that can affect the musculoskeletal system, as well as ophthalmological, gastrointestinal, cardiovascular, and metabolic abnormalities. Furthermore, withdrawal symptoms such as joint pain, muscle pain, fatigue, headache, emotional changes, and gastrointestinal problems can occur after treatment [23]. Cho et al [9] reported an increase in blood sugar as a side effect of KWIM. However, steroids are known only to have minor side effects when used as short-term therapy for 2 to 3 weeks.

The Jadad scale is 1 of the evaluation tools that can be used to assess RCT studies by evaluating 3 items: "randomization," "blinding," and "an account of all factors." The total score can range from 0-5 points. The report sets out how to categorize high quality (≥ 3 points) and low-quality (≤ 2) studies [7]. It is reported that double-blinded studies often show negative results compared with non-blinded studies, but a double-blind study reduces the risk of bias [24]. The studies included in this review were all rated below 2 points on the Jadad scale.

In summary, KM and KWIM are both effective in Bell's palsy, and KWIM is more effective than treatment with KM alone. In particular, steroid-based KWIM is believed to be effective in the early stages of Bell's palsy treatment. Steroids have few side effects when used as short-term therapy for 2-3 weeks, but there are concerns regarding side effects with long-term use. Therefore, steroids should be used in the early stages of Bell's palsy treatment and subsequently reduced over time, with KM used to treat symptoms in the long-term. In addition, when using herbal medicine in both KM and KWIM, it is more effective to prescribe it according to dialectics.

There are several limitations to this study. The number of studies included is small, and the quality of the studies was low,

making it difficult to make any definitive conclusions regarding the treatment of Bell's palsy. Nevertheless, this current study may help in selecting a treatment method for Bell's palsy, as it was observed that early treatment has a great effect on prognosis. In the future, high-quality studies that compare the effectiveness of KM and KWIM are required.

Conclusion

A total of 4,828 studies were retrieved from 7 databases, and 6 studies that compared KM and KWIM were included in this review. Both KM and KWIM were effective in Bell's palsy, and KWIM was more effective than treatment with KM alone. In particular, KWIM with steroids can lead to more beneficial results initially. However, the quality of the selected studies is low, making it difficult to make any definitive conclusions regarding the treatment of Bell's palsy.

Conflicts of Interest

The authors have no conflicts of interest to declare.

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