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## Original Article

# Recognition of and interventions for Mibyeong (subhealth) in South Korea: a national web-based survey of Korean medicine practitioners



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## ABSTRACT

**Background:** Medically unexplained symptoms (MUSs) are common in primary care. At present, there are no proven, comprehensive treatments available in primary care for patients with MUSs. However, MUS has parallels with “subhealth” or *Mibyeong* from traditional East-Asian medicine, and thus, *Mibyeong* interventions could be effective in treating MUS. Unfortunately, studies on *Mibyeong* and its intervention methods are relatively rare.

**Methods:** We administered a web-based survey to 17,279 Korean medicine (KM) practitioners registered with the Association of Korean Medicine. The response rate was 4.9% ( $n = 849$ ). Based on the responses received, we assessed how much they agreed with concepts related to *Mibyeong* on a 7-point scale from “do not agree” to “strongly agree.” Respondents were also asked to indicate how frequently they encountered various subtypes and patterns of *Mibyeong*, and how frequently they use listed intervention methods.

**Results:** Data from 818 respondents were analyzed after excluding those with no clinical experience. On average, respondents were male general practitioners aged between 30 years and 49 years, working or living in metropolitan areas such as Seoul, Incheon, and Gyeonggi-do. Responses did not differ by demographics. Respondents generally thought that *Mibyeong* referred to subjective or borderline findings without certain disease, and that *Mibyeong* has various subtypes and patterns. Subtypes included fatigue, pain, and digestion problems; patterns were either deficiencies (e.g., qi, blood, and yin deficiency) or stagnations (e.g., liver qi depression and qi stagnation). Decoction was the most frequently used type of intervention for *Mibyeong* of all items listed, followed by acupuncture and moxibustion. Patient education was also recommended, suggesting healthy eating, promoting healthy environment, and exercise.

**Conclusion:** We were able to provide preliminary results on KM practitioners’ recognition of and interventions for *Mibyeong*, but further research is needed to develop a detailed definition of *Mibyeong* and its myriad subtypes and patterns, and evaluations of the efficacy of *Mibyeong* interventions.

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## 1. Introduction

Somatoform disorders and medically unexplained symptoms (MUSs) are common in primary care. Furthermore, of patients who report suffering from fatigue or pain, only 10–15% are given a formal diagnosis within a 1-year period.<sup>1</sup> The prevalence rates for MUS range from 1.6% to 70% in 20–50 year olds, from 2.4% to 87% in 50–65 year olds, and from 4.6% to 18% in people over the age of 65 years.<sup>2</sup> Somatoform disorder and MUS are generally thought not to result from biological diseases, but rather are more related to mental disorders such as anxiety and depression.<sup>3</sup>

Unexplained symptoms can result in decreases in health-related quality of life,<sup>4</sup> as well as increases in medical costs because of frequent, unnecessary visits to healthcare facilities for checkups and diagnoses.<sup>5</sup> However, there are no proven, comprehensive treatments currently available in primary care for patients with MUS. Several studies have suggested that the combination of collaborative stepped care, cognitive-behavioral therapy, and a good provider–patient relationship may be effective in relieving symptoms, but this is not considered a standard treatment.<sup>6,7</sup>

To treat MUS, we suggest using treatments for “subhealth” or *Mibyeong* (China: *Weibing*, Japan: *Mibyōu*) from traditional East-Asian medicine. *Mibyeong* generally refers to an abnormal body condition without certain disease.<sup>8</sup> Thus, it is considered similar to MUS in “presenting physical and mental symptoms without related disease”; by contrast, *Mibyeong* has differences with unexplained symptoms or somatoform disorders in to intervene symptoms in pattern identification.<sup>8</sup> Some Korean medicine (KM) practitioners use *Mibyeong* treatments to relieve MUS, although there are no reports on the efficacy of this practice. The *Huangdi Neijing*, an important medical text in traditional East-Asian medicine, has emphasized that treating *Mibyeong* is even more important than curing a disease that has already manifested, because *Mibyeong* implies that the condition could get worse over time.<sup>9</sup> Indeed, *Mibyeong* has two different clinical definitions: (1) symptoms and signs without apparent disease and (2) a high-risk factor for disease. In general, KM clinics target the first definition. Of the Korean general population, 77.5% have reportedly experienced using KM, and 75.6% of KM users have responded that they trust KM treatments. Furthermore, 12% of KM users are interested in KM for health promotion and not to cure disease.<sup>10</sup> Research has shown that some KM treatments are effective in relieving *Mibyeong* symptoms; for example, acupuncture and moxibustion appear to relieve chronic fatigue.<sup>11,12</sup>

However, few studies have been conducted on practitioners’ recognition and knowledge about *Mibyeong*, or on available treatment methods. To fill this gap, we conducted a web-based survey to describe KM practitioners’ recognition of and interventions for *Mibyeong*.

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## 2. Methods

### 2.1. Study population

The study population included 17,279 members of the Association of Korean Medicine (AKOM) who had their e-mail address

registered. The AKOM is a national professional organization for doctors of KM.

### 2.2. Study design

The survey was conducted after obtaining AKOM’s approval. The AKOM members were invited to respond to a web-based questionnaire on *Mibyeong* concepts and interventions from April 2013 to May 2013. We excluded the responses of any practitioner without clinical experience. E-mail invitations for study participation were sent three times—on April 19, April 26, and May 6. A short message asking practitioners to complete the survey was also sent after the second e-mail.

### 2.3. Survey instrument

The questionnaire was composed of three parts: (1) eight items assessing respondents’ recognition of *Mibyeong*, including whether it consisted of subtypes and patterns; (2) seven items assessing intervention methods, including herbal medicine, acupuncture, and patient education, which are generally used for *Mibyeong* in KM clinics<sup>10</sup>; and (3) eight items on personal background. Items 1–6 on the recognition of *Mibyeong* assessed how much practitioners agreed with various statements about *Mibyeong* on a 7-point scale, ranging from “1 = do not agree” to “7 = strongly agree.” Items 7 and 8 assessed the frequency of subtype and pattern for *Mibyeong*. The items for assessing respondents’ knowledge of the concepts and their recognition of *Mibyeong* were as follows: (1) *Mibyeong* can be defined as uncomfortable symptoms without apparent disease; (2) *Mibyeong* refers to subjective symptoms, including fatigue, pain, sleep disorder, and digestive problems, that have no formal diagnosis by Western medicine; (3) the clinical definition of *Mibyeong* is “borderline findings without specific symptoms”; (4) *Mibyeong* could be classified into subtypes based on the exhibited condition and severity; (5) subtypes of *Mibyeong* are fatigue, pain, sleep, digestive problems, and borderline findings; (6) the pattern/syndrome identification can be used to classify *Mibyeong*; (7) what are the frequent subtypes of *Mibyeong* in KM clinic?; and (8) what are the frequent patterns of *Mibyeong* in KM clinic?

Respondents were asked to choose their three most frequently used interventions for each of the seven items. All items were constructed with the collaboration of three researchers, and were assessed and revised by other KM experts at four separate meetings.

### 2.4. Statistical analysis

Descriptive statistics, which are mean and standard deviation, were calculated for all variables. We calculated the number of respondents who chose a given answer for each item. Continuous variables were compared using the independent two-sample t test and one-way analysis of variance with a post hoc Scheffé’s test. All statistical analyses were performed using IBM SPSS Statistics 21 (IBM Corp., Armonk, New York, USA) for Windows and  $p < 0.05$  were considered statistically significant.

**Table 1 – Demographic characteristics of respondents.**

Characteristic	n (%)
Gender	
Male	681 (83)
Female	137 (17)
Age (y)	
20–29	57 (7)
30–39	326 (40)
40–49	313 (38)
50–59	108 (13)
60+	14 (2)
Number of years in practice	
1–10	440 (54)
11+	378 (46)
Region	
Seoul, Incheon, and Gyeonggi-do	408 (50)
Gangwon-do	22 (3)
Chungcheong Province	101 (12)
Jeolla Province	94 (11)
Gyeongsang Province	193 (24)
Specialties *	
General practitioner †	633 (77)
Specialist ‡	167 (20)
Board certification §	33 (4)

Data are presented as n (%).

\* Specialist and Board certification could overlap.

† General practitioner, Doctors of Korean Medicine who did not take training course in hospital nor have Border Certification from Academic Societies or Association of Korean Medicine.

‡ Specialist, Doctors of Korean Medicine who usually further their medical education in a specific specialty of medicine by completing a multiple year residency after completing Korean medical school. There are eight specialties in Korea.

§ Border Certification, Doctors of Korean Medicine who are qualified to perform specific technique. It is certified by Academic Societies or Association of Korean Medicine.

### 3. Results

#### 3.1. Respondent demographics

Of the 17,729 invited participants, 884 opened the survey e-mail, whereas 847 (4.9%) completed the survey during the data-collection period. Among the 847 respondents, 29 answered that they had no clinical experience, and therefore, we excluded their responses from analysis. Thus, we analyzed data from a total of 818 respondents. On average, survey respondents were male general practitioners aged between 30 years and 49 years, working or living in metropolitan areas including Seoul, Incheon, and Gyeonggi-do (Table 1).

#### 3.2. Recognition of Mibyeong

Participants generally agreed with presented items on their recognition of Mibyeong. We found no significant differences by demographic characteristics in agreement on items, except between general practitioners and specialists on Items 3 and 4 (Item 3 = The clinical definition of Mibyeong is borderline findings without specific symptoms; Item 4 = Mibyeong could be classified into subtypes in terms of exhibited condition and severity) with specialists being less likely to agree for both items; however, the difference, although significant, does not

indicate the opposite meaning between general practitioners and specialists. In other words, most participants agreed that Mibyeong was borderline findings without specific symptoms, and that Mibyeong had specific subtypes (Table 2).

#### 3.3. Subtypes, patterns, and interventions for Mibyeong

Table 3 displays respondents' chosen answers for the most frequently encountered subtypes and patterns, and the most frequently used interventions. Over half of the respondents indicated that "fatigue" was observed as a subtype of Mibyeong; for the second and third most frequent subtypes, a similar number of respondents listed "digestive problems." Pain had the second highest proportion of responses (ranked two), followed by "sleep disorders" (ranked three).

A total of 45.1% of participants listed "qi deficiency" as the frequent pattern of Mibyeong, followed by "blood deficiency" and "yin deficiency." However, the responses for the patterns of Mibyeong are somewhat more scattered than for the subtypes, and therefore, the proportions of responses for other items were high. For the interventions, we first examined them as groups, followed by individual intervention methods within those groups. In the group analysis, participants answered "decoction" was the most important intervention, with nearly 60% of responses. Acupuncture therapy was ranked second (36.1% response rate) and moxibustion was ranked third (21.8% response rate).

With regard to individual interventions by group, the herbal drug product *Bojungikgi-tang* (*bu-zhong-yi-qi-tang*) had the highest proportion of responses for all three rankings. *Sipjeondaebo-tang* (*shi-quan-da-bu-tang*), *Gwibi-tang* (*gui-pi-tang*), and *Ssanghwa-tang* (*shuang-hua-tang*) also had high frequencies of use.

For herbs, *Ginseng radix* had the highest proportion of responses for all three rankings. The other herbs—*Cervi parvum cornu*, *radix astragali*, *radix rehmanniae preparata*, and *angelicae gigantis radix*—each had over 10% of responses.

For acupuncture, the response rate of "common acupuncture" was 52.3%. "Saam acupuncture" and "Dong's acupuncture" were the second and third most frequently used intervention methods, respectively. For the herbal acupuncture, we found that bee venom had the highest proportion of responses for all three rankings, although none of the interventions had more than 40% of responses for any ranking.

For physical therapy, 45.6% of participants answered that infrared therapy was used for Mibyeong intervention, followed by hot packs and interferential current therapy as the second and third most frequently used interventions, respectively.

Finally, for patient education, healthy eating was recommended by 63.1% of participants, followed by promotion of environmental health and exercise as the second and third most frequently used interventions, respectively.

### 4. Discussion

In this study, we aimed to describe the recognition of and interventions for Mibyeong in KM practitioners. Respondents did not generally differ in their recognition of Mibyeong, although

**Table 2 – Respondents’ recognition of *Mibyeong* compared by demographics.**

Characteristic	Item 1*	Item 2†	Item 3‡	Item 4§	Item 5	Item 6¶
Gender						
Male	5.48 (1.56)	5.65 (1.47)	4.78 (1.66)	4.99 (1.3)	4.97 (1.48)	5.82 (1.43)
Female	5.57 (1.38)	5.56 (1.44)	5.02 (1.61)	5.1 (1.3)	4.96 (1.49)	5.81 (1.36)
Age (y)						
Below 40	5.44 (1.45)	5.61 (1.41)	4.81 (1.59)	5.02 (1.25)	4.9 (1.44)	5.78 (1.39)
40–49	5.58 (1.58)	5.68 (1.51)	4.77 (1.71)	5.04 (1.34)	5.04 (1.53)	5.94 (1.44)
Over 50	5.45 (1.65)	5.6 (1.53)	5 (1.7)	4.89 (1.37)	5 (1.49)	5.62 (1.47)
Number of years in practice						
1–10	5.48 (1.49)	5.55 (1.51)	4.83 (1.6)	5.02 (1.27)	4.96 (1.46)	5.8 (1.41)
11 +	5.51 (1.58)	5.73 (1.41)	4.81 (1.71)	4.99 (1.34)	4.98 (1.5)	5.85 (1.44)
Region						
Seoul, Incheon, and Gyeonggi-do	5.51 (1.56)	5.72 (1.45)	4.87 (1.68)	5.03 (1.36)	4.95 (1.52)	5.88 (1.4)
Gangwon-do	5.23 (1.72)	5.64 (1.68)	4.18 (1.53)	4.91 (1.23)	5.14 (1.52)	5.27 (1.93)
Chungcheong Province	5.55 (1.4)	5.53 (1.45)	4.74 (1.62)	4.97 (1.27)	4.88 (1.47)	5.86 (1.2)
Jeolla Province	5.4 (1.48)	5.66 (1.43)	5.01 (1.51)	4.95 (1.31)	5.02 (1.4)	5.62 (1.55)
Gyeongsang Province	5.51 (1.56)	5.5 (1.49)	4.74 (1.68)	5.01 (1.22)	5.01 (1.45)	5.84 (1.44)
Specialties						
General Practitioner	5.5 (1.55)	5.65 (1.49)	4.89 (1.63) **	5.01 (1.32)	5.03 (1.48) **	5.85 (1.44)
Specialist	5.44 (1.45)	5.6 (1.38)	4.53 (1.71)	4.93 (1.23)	4.71 (1.46)	5.66 (1.4)
Total	5.5 (1.53)	5.63 (1.46)	4.82 (1.65)	5.01 (1.3)	4.97 (1.48)	5.82 (1.42)

Data are presented as mean (standard deviation).

\* Item 1, *Mibyeong* can be defined as uncomfortable symptoms without apparent disease.

† Item 2, *Mibyeong* refers to subjective symptoms including fatigue, pain, sleep disorder, and digestive problems without a formal diagnosis by Western Medicine.

‡ Item 3, The clinical definition of *Mibyeong* is borderline findings without specific symptoms.

§ Item 4, *Mibyeong* could be classified into subtypes in terms of exhibited condition and severity.

|| Item 5, Subtypes of *Mibyeong* are fatigue, pain, sleep, digestive problems, and borderline findings.

¶ Item 6, The pattern/syndrome identification can be used to classify *Mibyeong*.

\*\*  $p < 0.05$ .

general practitioners and specialists significantly differed on Item 3 (the clinical definition of *Mibyeong* is borderline findings without specific symptoms) and Item 4 (*Mibyeong* could be classified into subtypes in terms of exhibited condition and severity). This difference may result from the patient populations they typically care for. Evidence to support this comes from other web-based surveys in which practitioner groups were divided by major patients they care for and were found to vary in their recognition of *Mibyeong*.<sup>13,14</sup> In this study, the lack of difference suggests that KM practitioners’ recognition of *Mibyeong* was not based on their background.

Respondents agreed that *Mibyeong* is not a disease based solely in Western medicine, but is rather a borderline finding. Because South Korea uses a combination of Western medicine and KM, KM practitioners must often use the Western medicine concepts when diagnosing diseases.

*Mibyeong* subtypes included fatigue, pain, and other symptoms. Fatigue is the most common symptom of *Mibyeong* in KM clinics. In addition, there are several symptoms or subtypes in *Mibyeong*, and fatigue could be described as the main symptom of *Mibyeong*. Fatigue without disease has also been reported in primary care. Reports suggest that 8.4% of primary care users have chronic fatigue; of this group, 42.9% of patients can be formally diagnosed. Furthermore, the prevalence of fatigue-specific disease is relatively rare; the prevalence rate of chronic fatigue syndrome is below 1%,<sup>15</sup> and that of hypothyroidism is 3.8–4.6%.<sup>16</sup> Deficiencies were the most frequent patterns, followed by stagnation (e.g., “liver *qi* depression” and “*qi* stagnation”). Deficiencies typically feature exhaustion

and decreased bodily functions, and are contextually related to fatigue. However, complaints of fatigue by itself are not directly connected to a diagnosis of deficiency patterns. For example, patients with high fever and constipation complain of fatigue as a chief symptom, which could be diagnosed as heat or excess pattern. By contrast, gaunt female patients with recurring fever and perspiration have heat pattern, which could mean deficiency with heat pattern. To identify the patterns clearly, we must consider symptoms as a whole aspect taking body shape, gender, etc. into account. Stagnation generally refers to psychological symptoms, such as mental stress and low mood. As with treating MUS, KM practitioners believe that physical symptoms and psychological factors are related, and therefore, relieving mental stress would be one method of curing patients.

The highest proportion of respondents rated “decoction,” as the most important intervention, whereas herbal drug products were much lower. This is interesting, given that both interventions use herbal compounds. However, it can be explained by how the use of herbal drug products is decreasing in KM hospitals and clinics.<sup>10</sup> *Bojungikgi-tang* (*bu-zhong-yi-qi-tang*), *Sipjeondaebo-tang* (*Shi-quan-da-bu-tang*), and *Ssanghwa-tang* (*shuang-hua-tang*) are tonification prescriptions, whereas *Gwibi-tang* (*gui-pi-tang*) is used to treat psychological problems related to sleep disorders and stress. Research on these products is relatively rare, but studies have reported that *Bojungikgi-tang* (*bu-zhong-yi-qi-tang*) can relieve fatigue from cancer,<sup>17</sup> and *Sipjeondaebo-tang* (*Shi-quan-da-bu-tang*) can influence hemoglobin recovery.<sup>18</sup> Herbs also had

**Table 3 – Mibyeong's subtypes, patterns, and interventions.**

n (%)	First highest frequency	Second highest frequency	Third highest frequency
<b>Subtypes</b>			
Fatigue	530 (64.8)	157 (19.2)	98(12)
Pain	169 (20.7)	231 (28.2)	143 (17.5)
Digestion	67 (8.2)	269 (32.9)	283 (34.6)
Abnormal findings	25 (3.1)	42 (5.1)	105 (12.8)
Sleeping	19 (2.3)	106(13)	174 (21.3)
No response	8(1)	13 (1.6)	15 (1.8)
<b>Pattern/Syndrome</b>			
Qi deficiency	369 (45.1)	78 (9.5)	38 (4.6)
Liver qi depression	73 (8.9)	51 (6.2)	77 (9.4)
Qi stagnation	66 (8.1)	101 (12.3)	36 (4.4)
Deficiency	48 (5.9)	27 (3.3)	43 (5.3)
Phlegm	35 (4.3)	43 (5.3)	58 (7.1)
Yin deficiency	26 (3.2)	43 (5.3)	88 (10.8)
Blood deficiency	25 (3.1)	161 (19.7)	57(7)
Other (28 items)	144 (17.6)	261 (31.9)	357 (43.6)
No response	32 (3.9)	53 (6.5)	64 (7.8)
<b>Interventions</b>			
Decoction	487 (59.5)	136 (16.6)	163 (19.9)
Acupuncture	255 (31.2)	295 (36.1)	150 (18.3)
Herbal drug products	23(2.8)	143 (17.5)	110 (13.4)
Moxibustion	21 (2.6)	151 (18.5)	178 (21.8)
Other (4 items)	26 (3.2)	81 (9.9)	186 (22.7)
No response	6 (0.7)	12 (1.5)	31 (3.8)
<b>Herbal prescriptions</b>			
<i>Bojungikgi-tang (bu-zhong-yi-qi-tang)</i>	190 (23.2)	92 (11.2)	73 (8.9)
<i>Sipjeondaebo-tang(Shi-quan-da-bu-tang)</i>	76 (9.3)	80 (9.8)	52 (6.4)
<i>Gwibi-tang (gui-pi-tang)</i>	61 (7.5)	59 (7.2)	61 (7.5)
<i>Ssanghwa-tang (shuang-hua-tang)</i>	46 (5.6)	83 (10.1)	63 (7.7)
Other (22 items)	437 (53.4)	470 (57.5)	522 (63.8)
No response	8 (1)	34 (4.2)	47 (5.7)
<b>Herb</b>			
<i>Ginseng radix</i>	162 (19.8)	141 (17.2)	94 (11.5)
<i>Cervi parvum cornu</i>	153 (18.7)	54 (6.6)	68 (8.3)
<i>Radix astragali</i>	82 (10)	64 (7.8)	58 (7.1)
<i>Radix rehmanniae preparata</i>	60 (7.3)	84 (10.3)	70 (8.6)
<i>Angelicae gigantis radix</i>	58 (7.1)	102 (12.5)	73 (8.9)
Other (29 items)	287 (35.1)	341 (41.7)	410 (50.1)
No response	16 (2)	30 (3.7)	43 (5.3)
<b>Acupuncture theory</b>			
Common acupuncture	428 (52.3)	201 (24.6)	159 (19.4)
Saam acupuncture	203 (24.8)	217 (26.5)	94 (11.5)
Herbal acupuncture	38 (4.6)	121 (14.8)	90 (11)
Dong's acupuncture	20 (2.4)	64 (7.8)	115 (14.1)
Other (7 items)	112 (13.7)	159 (19.4)	265 (32.4)
No response	17 (2.1)	56 (6.8)	95 (11.6)
<b>Herbal acupuncture</b>			
Bee venom	179 (21.9)	131 (16)	78 (9.5)
Placenta	107 (13.1)	115 (14.1)	61 (7.5)
Cultivated wild ginseng	66 (8.1)	37 (4.5)	57 (7)
<i>Ba gang</i>	44 (5.4)	62 (7.6)	70 (8.6)
Other (2 items)	95 (11.6)	87 (10.6)	114 (13.9)
No response	327 (40)	386 (47.2)	438 (53.5)
<b>Physical therapy</b>			
Infrared	373 (45.6)	168 (20.5)	111 (13.6)
Hot Pack	216 (26.4)	250 (30.6)	97 (11.9)
Interferential current therapy	57 (7)	106 (13)	157 (19.2)
Transcutaneous electrical nerve stimulation	25 (3.1)	81 (9.9)	113 (13.8)
Other	97 (11.9)	148 (18.1)	250 (30.6)
No response	50 (6.1)	65 (7.9)	90(11)
<b>Patient education</b>			
Healthy eating	516 (63.1)	183 (22.4)	78 (9.5)
Promoting environmental health	110 (13.4)	263 (32.2)	107 (13.1)

**Table 3 (Continued)**

n (%)	First highest frequency	Second highest frequency	Third highest frequency
Exercise	84 (10.3)	222 (27.1)	280 (34.2)
Other (10 items)	96 (11.7)	136 (16.6)	318 (38.9)
No response	12 (1.5)	14 (1.7)	35 (4.3)

Data are presented as n (%).

high response rates; *G. radix* and *C. parvum cornu* are common *qi*-tonifying herbs, whereas *radix rehmanniae preparata* and *angelicae gigantis radix* are blood-tonifying herbs. These herbs also make up some of the drug products used in KM.

Compared with herbal prescriptions, nonherbal interventions such as acupuncture, herbal acupuncture, and physical therapy, despite their high use, are not well understood in terms of their efficacy in treating *Mibyeong*. Common acupuncture and bee venom were the most frequent of the acupuncture interventions, likely because it is generally used in KM clinics and hospitals. Healthy eating was an important recommendation in patient education in treating *Mibyeong*, followed by promoting health environments and exercise. Eating well was ranked high because of its possible influence on stomach *qi*, which is the basal form of *qi* that maintains that of the whole body. It could be also interpreted by the “Spleen dominates four extremities” theory, which means digestion malfunction results in exhaustion, fatigue, and aversion to move using four limbs.<sup>9</sup> Exercise is considered good if tailored to a person’s constitution/condition. For example, a person with *qi* deficiency should not do hard exercise, which causes severe perspiration and hence further loss of *qi*. Practitioners of Sasang constitution medicine claim that each type of constitution has specific exercises, and not using these exercises can result in poor health.<sup>19</sup>

In this study, there are some limitations. First, KM practitioners responded relatively consistently for subtypes, patterns, and interventions related to *Mibyeong*, but there is still a lack of reliable and standardized diagnosis guidelines are also lacking. Second, we suggested many selections in questions, especially in patterns, herbal prescriptions, and herbs so that there are scattered answers. Further research building from our results should seek to create a more detailed definition of *Mibyeong* and assessments of the effectiveness of the interventions.

### Conflict of interests

The authors declare that they have no competing interests.

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