



Research paper

Perception of the health promotion programme using traditional Korean medicine (HaPP TKM): A survey of traditional Korean medicine public health doctors

Ju Ah Lee^a, Soobin Jang^b, Ho-Yeon Go^c, Kyeong Han Kim^d, Sunju Park^{e,*}

^a Hwa-pyeong Institute of Integrative Medicine, Republic of Korea

^b Clinical Medicine Research Division, Korea Institute of Oriental Medicine, Republic of Korea

^c Internal Medicine, College of Korean Medicine, Semyung University, Republic of Korea

^d Department of Preventive Medicine, College of Korean Medicine, Woosuk University, Republic of Korea

^e Department of Preventive Medicine, College of Korean Medicine, Daejeon University, Republic of Korea

ARTICLE INFO

Keywords:

Public health
Health promotion
Korean medicine
Stroke
Smoking cessation
Osteoarthritis

ABSTRACT

Introduction: This study investigated the current status of the Health Promotion Programme using Traditional Korean Medicine (HaPP-TKM). A survey of public health Traditional Korean Medicine (TKM) doctors asked for suggestions on developing the system and programmes so that TKM public health doctors can practice effectively in different circumstances.

Methods: TKM public health doctors working in health centres in the Republic Korea were asked about the performance status of HaPP-TKM and their opinions on the programme. The questionnaire took about 20 min to complete and included basic information about the respondent, plus performance status and opinions on HaPP-TKM and the TKM public health doctor system. The survey was administered to 908 doctors through SurveyMonkey.

Results: The response rate was 96.2% (n = 838) of which 31.1% (n = 236) of respondents were administering HaPP-TKM. The top three programmes that TKM doctors implemented were; stroke (23.1%, n = 61), smoking cessation (20.1%, n = 53), and osteoarthritis (14.8%, n = 39). Over 50% of TKM public health doctors reported that the difficulties performing the programmes were a result of insufficient infrastructure, followed by lack of information and training on TKM health promotion programmes (32.6%, n = 86).

Conclusion: The study results show that TKM is in high demand and appropriate for stroke, smoking cessation, and osteoarthritis. The activation plan for TKM health promotion programmes are as follows: first, well trained human resources, spaces, facilities, and budget are essential, second, programme development and training manual development should run concurrently and last, it is necessary to consider ways to specialize the health promotion programmes and medical treatment according to specialty areas.

1. Introduction

Interest in health promotion has increased steadily in recent years. As a result, numerous policies have been established and health promotion studies have been conducted to identify disease characteristics and effective health promotion interventions [1–6].

In recent years the disease pattern and medical environment have changed in the Republic of Korea (South Korea). The incidence of chronic diseases has rapidly increased and the accessibility of medical care has been improved by the development of traffic and information communication. Consequently, the needs of community residents have

changed, as disease paradigms have shifted from treatment to prevention and health promotion [7,8].

The public health doctor system was introduced in 1978 to reduce the gap in health care availability between urban and rural areas. The Traditional Korean Medicine (TKM) public health doctor system was introduced in 1998. In South Korea, doctors, dentists, and TKM doctors are assigned to public healthcare centres and units in lieu of three years of military service. The system was applied to improve accessibility for community residents whose accessibility to national health care services had been low for 40 years [9,10]. TKM public health doctors provide both medical services and health promotion programmes,

* Corresponding author at: Department of Preventive Medicine, College of Korean Medicine, Daejeon University, 62 Daehak-ro, Daejeon, 34520, Republic of Korea.
E-mail address: sjpark@dju.kr (S. Park).

enhancing the quality of healthcare services to the public and contributing to improved health in this population. Since the introduction of the public health doctor system, South Korea has achieved remarkable growth in the field of health care including the implementation of the national health insurance system. In recent years, however, the increase of private clinics in rural areas has led to a decrease in the importance of public health centres and units and thus public health doctors' roles in implementing health promotion services and directing health promotion programmes have changed [11].

The Ministry of Health and Welfare revised the HaPP-TKM system in 2014 on the basis of the life course. Since then, HaPP-TKM programmes for each life course group (childhood, adolescence, adult, older adult, pregnant) were developed through 2017. After evaluating the feasibility and effectiveness of the programmes through pilot tests, a manual was developed and distributed to the public health centres [12]. However, to revitalize the TKM public health doctors' Korean health promotion programme according to the changes in local community demands, it was necessary to provide sufficient support for budget, facilities, space, and manpower, and to provide training and manuals for public health doctors.

In light of these social changes, we conducted a survey of TKM public health doctors who were working in the public health field in South Korea, to develop a plan for health promotion services and reconsider the role of TKM public health doctors in implementing health promotion programmes.

The purpose of this study was to investigate the current status of the TKM Health Promotion Programme and the views of public health doctors to suggest directions for developing the system so that public health doctors can effectively practice in different environments.

2. Methods

2.1. Study design and setting

This study surveyed TKM public health doctors in South Korea about the performance of the Health Promotion Programme using Traditional Korean Medicine (HaPP-TKM) and solicited their opinions of this programme and the TKM public health doctor system in South Korea. The survey was conducted anonymously between October 1 and 31, 2016, through SurveyMonkey [13], which provides an online survey platform. Participants enrolled on a voluntary basis.

All current TKM public health doctors were invited to participate in the survey.

2.2. Questionnaire

The questionnaire was developed by three TKM experts. A draft questionnaire completed two rounds of reviews by previous researchers. A pilot test was conducted by administering the questionnaire to five TKM doctors who had worked as TKM public health doctor within the last 3 years. Feedback from the pilot administration was used to complete the final version of the questionnaire, which comprised two categories: (1) questions related to the performance status of HaPP-TKM and (2) questions related to opinions of the HaPP-TKM and the TKM public health doctor system.

2.3. Study variables

- (1) Basic respondent information: age, working period, working region, specialty, type of duty organization, the number of patients per day, the number of home visits per month, and the number of senior centre visits per month.
- (2) Performance status of the HaPP-TKM: whether to implement the HaPP-TKM programme, required time for each programme, frequency of each programme, total period of each programme, number of participants, and whether the detailed programme was

Table 1

Basic characteristics of TKM public health doctors (male, N = 838).

	Mean	SD	
Age	27.9	2.06	
Working Period (Month)	17.7	9.94	
	N	%	
Specialty	General Practitioner	739	88.19
	Rehabilitative TKM	38	4.53
	TKM Internal Medicine	19	2.27
	Acupuncture	14	1.67
	TKM Neuropsychiatry	8	0.95
	TKM Medical Surgery	7	0.84
	Sasang Constitutional Medicine	7	0.84
	TKM Gynaecology	5	0.60
	TKM Paediatrics	1	0.12
	Total	838	100.00
Region	Gangwon-do	77	9.19
	Gyeonggi-do	25	2.98
	Gyeongsangnam-do	103	12.29
	Gyeongsangbuk-do	129	15.39
	Daegu Metropolitan City	7	0.84
	Busan Metropolitan City	3	0.36
	Seoul Special City	1	0.12
	Sejong Special Autonomous City	6	0.72
	Ulsan Metropolitan City	8	0.95
	Incheon Metropolitan City	22	2.63
	Jeollanam-do	171	20.41
	Jeollabuk-do	91	10.86
	Jeju Special Autonomous Province	16	1.91
	Chungcheongnam-do	116	13.84
Chungcheongbuk-do	63	7.52	
Total	838	100.00	
Workplace	Public Health Centre	192	22.9
	Public Health Unit	584	69.7
	Health Clinic	24	2.86
	Long-term Care Centre	31	3.70
	Hospital Ship	7	0.84
	Total	838	100.00
		Median (range)	
Average no. of patients per day	8	(0-50)	
No. of household visits/month	0	(0-19)	
No. of mobile clinics/month	1	(0-25)	

TKM; Traditional Korea Medicine, SD; standard deviation.

- implemented.
- (3) Opinions on HaPP-TKM and the public health TKM doctor system: difficulty of implementing the HaPP-TKM, HaPP-TKM areas you think are needed, priorities when implementing the HaPP-TKM, the role of the TKM public health doctors in the HaPP-TKM programme, improvements for the TKM public health doctor system, education programmes for the TKM public health doctors, and appropriate training time for the TKM public health doctors before regional assignment.

2.4. Statistical analyses

Statistical analyses were performed using IBM SPSS ver. 18.0 (IBM Co., Armonk, NY, USA) [14]. A frequency analysis was performed for all variables.

2.5. Ethical considerations

The entire survey process was approved by the Institutional Review Board of Kyung Hee University (IRB number KHSIRB-16-060). The survey was conducted anonymously. All participants were briefed with an explanation of the study's purpose prior to the initiation of the survey. Only those who voluntarily agreed to participate and to have their data collected for publication were enrolled in the study.

Table 2
HaPP-TKM performance status of TKM public health doctors (N = 264).

	Whole programme duration [*]			Number of participants ^{**}	Whether to implement detailed programme					
	Duration time (hours/programme)	Frequency per week (time/week)	Total course duration time (weeks/course)		TKM treatment		Education		Activity (e.g., qi-gong, art, music)	
	Median (range)	Median (range)	Median (range)	Median (range)	N	%	N	%	N	%
Osteoarthritis (n = 39)	2 (1-4)	1 (1-4)	10 (1-52)	20 (8-60)	31	79.49	29	74.36	11	28.21
Stroke (n = 61)	2 (1-8)	1 (1-4)	10 (1-52)	22 (3-60)	46	75.41	48	78.69	13	21.31
Metabolic Disease (n = 25)	2 (1-4)	1 (1-3)	10 (2-52)	20 (7-54)	13	52.00	18	72.00	7	28.00
Mental Disease (n = 8)	2.5 (1-5)	1 (1-2)	12.5 (2-37)	29.5 (10-52)	6	75.00	7	87.50	3	37.50
Smoking Cessation (n = 53)	1 (1-8)	1 (1-5)	8 (1-52)	7 (1–51)	47	88.68	11	20.75	0	0.00
Dementia (n = 22)	2 (1-8)	1 (1-4)	9.5 (1-52)	25 (9-100)	18	81.82	19	86.36	10	45.45
Menopause (n = 15)	2 (1-4)	1 (1-2)	10 (2-26)	20 (14-50)	11	73.33	11	73.33	5	33.33
Child-Rearing (n = 11)	2 (1-3)	1 (1-2)	5 (2-24)	20 (10-45)	2	18.18	10	90.91	4	36.36
Atopic dermatitis (n = 7)	3 (1-8)	2 (1-2)	26 (9-52)	30 (5-100)	5	71.43	5	71.43	2	28.57
Menstrual Pain (n = 14)	2 (1-5)	1 (1-2)	11 (6-20)	22.5 (10-60)	13	92.86	10	71.43	2	14.29

HaPP-TKM; Health Promotion Programme using Traditional Korean Medicine, TKM; Traditional Korean Medicine.

* the whole programme is consisted of TKM treatment, education, and other activities such as qi-gong, art performance, music therapy. The course is consisted of several whole programmes (e.g. Osteoarthritis programme is 10-week course that is serviced 2 h for every week (in median).

** the average number of patients who participate in an individual programme offered by a TKM doctor.

3. Results

3.1. Basic information (n = 838)

In 2016, 838 of 908 public health doctors agreed to participate in this survey, of which 838 completed the questionnaire (response rate 96.2%). The average age of participants was 27.9 years. The working areas and specialties of participants are shown in Table 1.

3.2. Performance status of HaPP-TKM

Of the 838 respondents, 264 (31.5%) were currently implementing HaPP-TKM, whereas, 574 (68.5%) were not conducting HaPP-TKM. The top 10 major HaPP-TKM areas were as follows: (1) stroke programme 61 (23.1%), (2) smoking cessation 53 (20.1%), (3) bone joint disease 39 (14.8%), (4) metabolic disease 25 (9.5%), (5) dementia 22 (8.3%), (6) menopause 15 (5.7%), (7) menstrual pain 14 (5.3%), (8) pregnancy 11 (4.2%), (9) mental disease 8 (3.0%), and (10) atopic disease 7 (2.7%). Detailed information about each programme is shown in Table 2.

3.3. Opinions on the HaPP-TKM and TKM public health doctor system

On implementing the HaPP-TKM, 138 of the 264 responders (52.3%) replied that ‘budget, space, facilities, and manpower’ were the most difficult aspects of implementing the programme, followed by ‘lack of information and education on public health doctors’ work’ (86, 32.6%), and ‘difficulty in evaluating performance’ (81, 30.7%). Few respondents thought field-study activities were important (37, 4.4%). Detailed information about each programme is shown in Table 3.

Changes in the TKM public health doctor system needed to improve public health included ‘HaPP-TKM standardization’ (562, 67.1%), followed by ‘development of manuals for public health workers’ (519, 61.9%). Educational needs included customised job training (397, 47.4%), health science (385, 45.9%), education on the role of public health doctor (341, 40.7%), and epidemiology (271, 32.3%). Over two thirds of the public health doctors (561, 66.9%) considered that 10 h of

education would be sufficient (Table 4).

4. Discussion

This is the third national survey conducted in the South Korea that has explored the uptake of the HaPP-TKM programme, barriers and solutions. TKM public health doctors also responded that ‘budget, space, facilities, and workforce shortages’ posed the largest issue facing HaPP-TKM [15–17]. In previous surveys in 2016 [17] and 2014 [14], ‘lack of infrastructure such as personnel and facilities’ and ‘absence of standardized manuals’ were pointed out as drawbacks, suggesting that the problems found in the past to affect HaPP-TKM have not been fully resolved. However, in contrast to previous studies that were implemented to public health officials, the survey is meaningful in that the study was conducted to TKM doctors who practically provide public health services. Thus the survey results are close to what occurs in practice and reflects reality.

The results of this study showed that the most common HaPP-TKM programmes that TKM doctors identified as important services to provide were stroke, smoking cessation, and osteoarthritis interventions. Although the views of TKM doctors may be influenced by perceived patient demand and unmet needs, other factors likely come into play, such as perceived effectiveness of TKM as a health promotion intervention for these conditions and the doctors’ own clinical interests and expertise. Although the programme areas primarily involve education or simple treatment, and recruiting participants tends to be easy, many of the areas, such as ‘child-rearing’, ‘menstrual pain’, and ‘menopause’ target women. Since TKM public health doctors are all men, it is possible that they are uncomfortable about implementing programmes that focus on women’s health. There are different illnesses to watch out at each life-cycle, accordingly, a variety of programmes should be carried out on a life-cycle basis.

Study results confirmed the need to expand health promotion programmes. However, lack of standardization, legal status, structure, infrastructure, and motivation, all tend to prevent the growth of these programmes, despite that they decrease the demand for traditional

Table 3
Opinion of TKM public health doctors on the HaPP-TKM programme.

		N	%	
*What are the difficulties in implementing the HaPP-TKM programme? (N = 264, who implement HaPP-TKM)	Budget, space, facilities, and workforce shortages	138	52.27	
	Insufficient information and education provided to TKM public health doctors on the programme and the duties of TKM public health doctors	86	32.58	
	Difficulty in evaluating performance	81	30.68	
	Lack of understanding of the staff in charge of the HaPP-TKM programme regarding Korean traditional medicine	71	26.89	
	Limited types of programmes and lack of contents in the HaPP-TKM programme	62	23.48	
	Lack of promotion/information offered to residents in the region	60	22.73	
	Unnecessary for regional residents, low level of responsiveness	59	22.35	
	*Please select all of the types of the HaPP-TKM programmes that you believe should be implemented.	Osteoarthritis	404	48.21
		Stroke	401	47.85
		Menopause	366	43.68
Menstrual Pain		342	40.81	
Metabolic Disease		308	36.75	
Dementia		248	29.59	
Mental Disease		200	23.87	
Atopy		197	23.51	
Smoking Cessation		187	22.32	
Child-Rearing		120	14.32	
*Which do you think are most needed when performing the HaPP-TKM programme?	Others (e.g. Subfertility, Cold, Insomnia)	16	1.91	
	Securing support including budget, space, facilities, and workforce	553	65.99	
	Providing quality programmes and materials to be offered to regional residents	480	57.28	
	Providing education and information (programme operation manual) to those who perform the programme	395	47.14	
	Encouraging residents to participate in the programme and promoting the programme	337	40.21	
	Establishing a separate division/unit dedicated to the public programmes on Korean traditional medicine	274	32.70	
	Providing education on traditional Korean medicine to the programme managers as well as active participation of the managers	205	24.46	
	Establishing a performance evaluation system	156	18.62	
	*What do you think is the role of the public health TKM doctor in the HaPP-TKM programme?	Traditional Korean medical treatment (acupuncture, moxibustion, prescription of oriental herbal medicine, etc.)	572	68.26
		Educational lecture (including lectures on traditional Korean medicine)	422	50.36
Medical counselling and diagnosis		415	49.52	
Comprehensive management of the programme (planning, organisation, implementation)		224	26.73	
Field-study activities (qi-gong, art, music, etc.)		37	4.42	

HaPP-TKM; Health Promotion Programme using Traditional Korean Medicine, TKM; Traditional Korean Medicin.e.

* duplicate responses.

Table 4
Opinion of TKM public health doctors on the public health TKM doctor system.

		N	%
*Which do you think are the most needed improvements for the public health TKM doctor system to contribute to promoting public health and HaPP-TKM? (Please select all that apply)	Standardisation of the HaPP-TKM programme	562	67.06
	Development of and education on the manual (SOP) for TKM public health doctors	519	61.93
	Reinforcement of education on the HaPP-TKM programme (for TKM college students and public health TKM doctors)	339	40.45
	Indication of public promotion programme in the job description of TKM public health doctors	338	40.33
	Development of educational material for participants (residents of the region) of the HaPP-TKM programme	335	39.98
	Narrowing of the scope of treatment work to promote the programme	304	36.28
*What do you think are the education subjects needed for TKM public health doctors? (Please select all that apply)	Job training (customised programme training, teaching method regarding lesson plan with educational materials, etc.)	397	47.37
	Public health (regional health, health promotion, etc.)	385	45.94
	Orientation on the roles and responsibilities of the TKM public health doctors	341	40.69
	TKM dynamics (research methodology, statistics, etc.)	271	32.34
How much education (hours) do you think is appropriate before being deployed to a region?	less than 5 hours	382	45.58
	5-10 hours	179	21.36
	10-20 hours	150	17.90
	At least 20 hours	127	15.16
	Total	838	100.00

HaPP-TKM; Health Promotion Programme using Traditional Korean Medicine, TKM; Traditional Korean Medicine, SD; standard deviation.

* duplicate responses.

health care roles.

Most TKM public health doctors are generalists (88.19%); only 11.81% are specialists.

Therefore, it is necessary to consider ways to tailor the more specialized health promotion programmes and TKM treatments so that both general and specialist TKM doctors can adequately provide these services.

As it is the special situation of South Korea that TKM public health doctors perform TKM health promotion programmes, it is hard to expand to other countries without modification. Nevertheless, this study has the following strength, the high response rate implies that the survey results reliably reflect the TKM health promotion programmes' situation. Based on the responses, the policy makers and health promotion project developers can reform and build TKM health promotion programmes based on this evidence. Furthermore, it is necessary that the survey is repeated in 2 years to track changes in uptake of HaPP-TKM following any policy implementation or changes to the programmes.

5. Conclusion

The results of this study suggest that to promote and activate health promotion programmes, building infrastructure, including budgets, are a necessary first step. Second, people who perform health promotion programmes need adequate training. Finally, developing appropriate programmes to meet the local community demands must occur in parallel with the expansion of health promotion programmes. In addition, it is necessary to consider ways to focus the health promotion programmes and medical treatment according to specialty areas, including both general medical care and specialized medical care.

Conflict of interest

None.

Acknowledgement

This research was supported by the Daejeon University Research Grants (2017).

References

[1] J. Haggstrom, F. Sampaio, E. Eurenus, A.M. Pulkki-Brannstrom, A. Ivarsson,

- M. Lindkvist, I. Feldman, Is the Salut programme an effective and cost-effective universal health promotion intervention for parents and their children? A register-based retrospective observational study, *BMJ Open* 7 (9) (2017) e016732.
- [2] K. Hammarberg, R.J. Norman, S. Robertson, R. McLachlan, J. Michelmore, L. Johnson, Development of a health promotion programme to improve awareness of factors that affect fertility, and evaluation of its reach in the first 5 years, *Reprod. Biomed. Soc. Online* 4 (2017) 33–40.
- [3] N. Howlett, A. Jones, L. Bain, A. Chater, How effective is community physical activity promotion in areas of deprivation for inactive adults with cardiovascular disease risk and/or mental health concerns? Study protocol for a pragmatic observational evaluation of the 'Active Herts' physical activity programme, *BMJ Open* 7 (11) (2017) e017783.
- [4] C. Rodriguez Fernandez-Viagas, C. Garcia Gil, N. Bayo Barroso, C. Villalba Quesada, M. Alvarez Giron, [Implementation of a health promotion programme for women in social exclusion in the city of Seville (Spain)], *Gac. Sanit.* (2018).
- [5] L.G. Smithers, J. Lynch, J. Hedges, L.M. Jamieson, Diet and anthropometry at 2 years of age following an oral health promotion programme for Australian Aboriginal children and their carers: a randomised controlled trial, *Br. J. Nutr.* 118 (12) (2017) 1061–1069.
- [6] M. McAllister, B.A. Knight, P. Hasking, C. Withyman, J. Dawkins, Building resilience in regional youth: impacts of a universal mental health promotion programme, *Int. J. Ment. Health Nurs.* 27 (3) (2018) 1044–1054.
- [7] T.W. Lee, I.S. Ko, K.J. Lee, Health promotion behaviors and quality of life among community-dwelling elderly in Korea: a cross-sectional survey, *Int. J. Nurs. Stud.* 43 (3) (2006) 293–300.
- [8] E.W. Nam, T. Hasegawa, J.K. Davies, N. Ikeda, Health promotion policies in the Republic of Korea and Japan: a comparative study, *Promot. Educ.* 13 (1) (2006) 20–28.
- [9] K.H. Kim, J.A. Lee, H.-Y. Go, J. Choi, S. Park, M.S. Lee, S.-G. Ko, A review of the development of the public health doctor system in Korea—the role of traditional Korean medicine, *Eur. J. Integr. Med.* 8 (5) (2016) 841–846.
- [10] K.H. Kim, J. Choi, H.Y. Go, J.A. Lee, M.S. Lee, S. Park, S.G. Ko, Health promotion programme using traditional Korean medicine (HaPP-TKM): an overview, *Eur. J. Integr. Med.* 7 (6) (2015) 628–633.
- [11] S.S. Bae, The function of health center in the new public health age, *Korea J. Health Policy Admin.* 11 (1) (2001) 131–152.
- [12] K.H. Kim, S.B. Jang, M.J. Jung, D.B. Choi, J.W. Hwang, J.M. Kim, Y. Sasaki, Y.J. Joo, Y.C. Shin, B.H. Jang, S.G. Ko, A survey of public officials' perception on PHPP-TKM, *J. Soc. o Prev. Korean Med.* 20 (1) (2016) 11–17.
- [13] SurveyMonkey, Inc, San Mateo, CA, <http://www.surveymonkey.com>. Accessed: [14] IBM SPSS Statistics, Version 18.0, IBM Inc, Armonk, NY, USA.
- [15] A.J. Borek, B. McDonald, M. Fredlund, G. Bjornstad, S. Logan, C. Morris, Healthy Parent Carers programme: development and feasibility of a novel group-based health-promotion intervention, *BMC Public Health* 18 (1) (2018) 270.
- [16] S.J. Lee, D.W. Han, T.H. Yoon, K.M. Song, Y.S. Kim, Perception of health center staff on health promotion programme using traditional Korean medicine, *J. Korean Orient. Med. Ophthalmol. Otolaryngol. Dermatol.* 28 (3) (2007) 1–12.
- [17] J.S. Park, S.B. Jang, J.A. Lee, H.Y. Ko, S. Park, A national-wide survey of public health promotion programs in Traditional Korean Medicine targeted on public officials, *J. Soc. Prev. Med.* 21 (2) (2017) 61–68.