

Original Article

## Effectiveness of Home Visiting Treatment using Traditional Korean Medicine

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**Objectives:** The study was investigated to assess efficacy for home visiting treatment using Traditional Korean Medicine (TKM).

**Methods:** The traditional medical doctor of Um-Sung health center has treated the 109 patients and they also answered the questionnaires of home visiting treatment using TKM before and after. The questionnaires were composed of flexibility, pain, health behavior, perception of health, satisfaction, cognition of TKM, etc. The questionnaires were analyzed by use of paired t-test and chi-square test.

**Results:** They have significantly improved the flexibility ( $p<.001$ ), pain ( $p<.001$ ), health behavior ( $p<.001$ ), and the perception ( $p<.001$ ) of health after home visiting treatment. It was also brought to improve about the perception of TKM, and showed a good satisfaction and the improvement of health.

**Conclusion:** Home visiting treatment using TKM is helpful to improve the health based on these results. We need to systemize the research for the activation of home visiting treatment using TKM.

**Key Words :** Home visiting treatment, Accessibility, Public health, Health-related quality of life

### Introduction

It showed the rate of 10.7% about the aging society in South Korea. It expects to be an aged society about the rate of 14.3% in 2018, and expects to be a super-aged society about the rate of 20.8% in 2026<sup>1)</sup>. 84.9% of people who is over 65 years old are diagnosed with at least over one disease and 78.8% are diagnosed with one or more chronic diseases according to the research from the ministry of health and welfare in 2008<sup>2)</sup>. Furthermore, on the open-ended survey about the problems that senior citizens in rural

areas are experiencing, 67.3% of respondents pointed out the health and medical problems, presenting that most of senior citizens need medical service along with daily life service<sup>3)</sup>.

Nevertheless, the senior citizens of rural areas don't get to enough the opportunity for recovery treatment. The reasons of that are the limitation of their mobility, the lack of money, absence of family members to take care of and medical facilities for the caregiver<sup>4)</sup>.

Therefore, it is necessary to make the improvement in accessibility of medical service. Home visiting

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treatment, one of medical service for local society, was intended to provide medical health care service to the disabled and senior citizens living alone, who were isolated from medical coverage because of their inability to move, their lack of will to pay attention to their own health, and the problems of environment conditions<sup>4)</sup>. Because the Traditional Korean Medicine (TKM) does not need extra equipment and has its own merit of easy mobility and portability, it is an effective therapy for home visiting treatment<sup>5)</sup>.

Researches were conducted to discover the necessity and satisfaction on home visiting treatment using TKM<sup>5,6)</sup>, they had their limits. So far, there isn't any specific and systematic assessment evaluating the effect of home visiting treatment using TKM on health.

We examined the utility and the necessity of home visiting treatment using TKM by looking over the change of health indicator, degree of health improvement, satisfaction on home visiting treatment using TKM, and the change of cognition of TKM, before and after home visiting treatment.

## Research methods

### 1. Research subjects and methods

As a part of health development businesses in TKM, Chungcheongbuk-do *Um-sung-gun* health center performed nine months, from February to October 2009, of home visiting treatment to 109 people for every one or two weeks and conducted surveys of before and after the home visiting treatment.

#### 1) Respondents of survey

The senior citizens with low socioeconomic status and second lowest group living in *Um-sung-gun* were targeted for the treatment: social workers and village foreman investigated the disabled first, and public health oriental medicine doctor visited and chose the final subjects for the treatment.

#### 2) Facilities and equipments

Acupuncture, moxa treatment, TKM pain relief patch, granules, and packed herbal medicine treatment

#### 3) Period and method of home visiting treatment

One public health oriental medicine doctor and nursing staff performed 5 times of home visiting treatment in every one or two weeks, and the respondents answered the survey both before and after the five times of home visiting treatment.

## 2. Questionnaire

From the Ministry of Health and Welfare's suggested objective evaluation index<sup>4)</sup>, items for questionnaires were comprised of flexibility, life quality (daily exercise, pain/inconveniency), changes of perception, changes of behavior, and perception of TKM. Including former items, degree of health improvement and degree of satisfaction of TKM were also included as items for after home visiting treatment's questionnaire (Questionnaire is attached).

## 3. The data from questionnaires

The result of each articles from questionnaires were indicated as frequency and%. Chi-square test and paired t-test were used to compare before and after of home visiting treatment using TKM. P-value below 0.05 was classified as statistically attentive, used SPSS 12.0 for win as statistical program.

## Results

### 1. General traits of investigation subjects

Total of 109 people (31 males (28.4%), 78 females (71.6%)) with 5 times of home visiting treatment were selected as respondents, and 93.6% among them were over 60s (Table 1).

### 2. Changes of objective evaluation index before and after home visiting treatment

1) Changes of flexibility (range of motion) before and after home visiting treatment

While 21.1% respondents had severe restricted motion before home visiting treatment, 0.9% had severe restricted motion after home visiting treatment, showing a significant difference of before and after home visiting treatment (Table 1).

2) Changes of the quality of life (pain and inconvenience) before and after home visiting treatment

(1) Changes of pain (numeric rating scale; NRS) before and after NRS home visiting treatment

Respondents' degree of pain has decreased from NRS  $5.80 \pm 1.63$ , before home visiting treatment, to NRS  $3.32 \pm 1.57$ , after home visiting treatment, showing a significant difference (Table 1).

(2) Changes of inconvenience from pain before and after home visiting treatment

For the aspect of respondents' inconvenience from pain, while 49.6% were very or little inconvenient from pain before home visiting treatment, 8.3% became very or little inconvenient from pain after home visiting treatment, showing a significant difference (Table 1).

3) Changes of perception before and after home visiting treatment (thoughts about one's health condition)

For the aspect of changes of thoughts about one's health condition, 39.5% of respondents thought they are not healthy or in a serious condition before home

visiting treatment. After home visiting treatment, only 11.9% of respondents thought they are unhealthy, showing significant difference of before and after the treatment (Table 1).

4) Changes of behavior before and after home visiting treatment (general effort and activities)

(1) Changes of effort to health improvement after home visiting treatment

For the aspect of changes of effort to health, while 26.6% of respondents never or seldom put an effort to health before home visiting treatment, the rate decreased to 7.3% after home visiting treatment, showing a significant difference (Table 1).

(2) Changes of the frequency of exercising for health improvement before and after home visiting treatment

For the aspect of changes of exercise for health improvement of investigation respondents, while 29.3% of them never or seldom did exercise before home visiting treatment, 7.3% of them never or seldom do exercise after the treatment, showing a significant difference (Table 1).

3. Changes of cognition of TKM before and after home visiting treatment

While 88% of respondents were optimistic at TKM before home visiting treatment, 98.2% became optimistic at TKM after home visiting treatment, showing a significant difference (Table 1).

**Table 1.** General Characteristics of Subjects

Variable		Male	Female	Total
Age	>50	0(0.0%)	3(2.7%)	3(2.7%)
	1(0.9%)	3(2.8%)	4(3.7%)	
	10(9.2%)	16(14.7%)	26(23.9%)	
	15(13.8%)	43(39.4%)	58(53.2%)	
	5(4.6%)	13(11.9%)	18(16.5%)	

**Table 2.** Changes of Health Indexs of Subjects before and after Home visiting Treatment using TKM

Variable		Before	After	P-value
Limitation Extent in Range of movement	Not at all	15(13.8%)*	40(36.7%)	<.001*
	Slightly	71(65.1%)	68(62.4%)	
	Severely	23(21.1%)	1(0.9%)	
	Completely	0(0.0%)	0(0.0%)	
Pain (NRS)		5.80± 1.63	3.32± 1.57	<.001 †
Incommodity due to Pain	Not at all	1(0.9%)	11(10.1%)	<.001*
	Little	9(8.3%)	44(40.4%)	
	Average	45(41.3%)	45(41.3%)	
	Slightly	44(40.4%)	9(8.3%)	
	Severely	10(9.2%)	0(0.0%)	
Perception of Health	Very healthy	2(1.8%)	1(0.9%)	<.001*
	Healthy	8(7.3%)	24(22.0%)	
	Average	56(51.4%)	71(65.1%)	
	Not healthy	40(36.7%)	13(11.9%)	
	Extremely	3(2.8%)	0(0.0%)	
	Unhealthy	0(0.0%)	0(0.0%)	
Effort for health	A great deal	8(7.3%)	24(22.0%)	<.001*
	Much	39(35.8%)	52(47.7%)	
	Average	33(30.3%)	25(22.9%)	
	Little	21(19.3%)	6(5.5%)	
	Never	8(7.3%)	2(1.8%)	
Exercise for health	A great deal	10(9.2%)	28(25.7%)	<.001*
	Much	42(38.5%)	54(49.5%)	
	Average	25(22.9%)	19(17.4%)	
	Little	24(22.0%)	7(6.4%)	
	Never	8(7.3%)	1(0.9%)	
Cognition of Traditional Korean Medicine	Very like	42(38.5%)	63(57.8%)	<.001*
	Like	54(49.5%)	44(40.4%)	
	Neutral	13(11.9%)	2(1.8%)	
	Dislike	0(0.0%)	0(0.0%)	
	Very dislike	0(0.0%)	0(0.0%)	

#### 4. Health improvement and treatment satisfaction after home visiting treatment

##### 1) Degree of health improvement after home visiting treatment

For the degree of health improvement after home visiting treatment, 49.5% of respondents were to a great extent improved, 46.8% were somewhat improved

and 3.7% were little improved (Fig. 1).

##### 2) Treatment satisfaction after home visiting treatment

57.8% of respondents were very satisfied, 38.5% were satisfied, and 3.7% were neutral at the treatment satisfaction after home visiting treatment (Fig. 2).

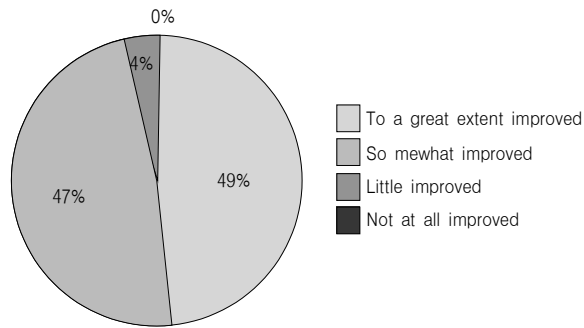


Fig. 1. Degree of health improvement after home visiting treatment using TKM

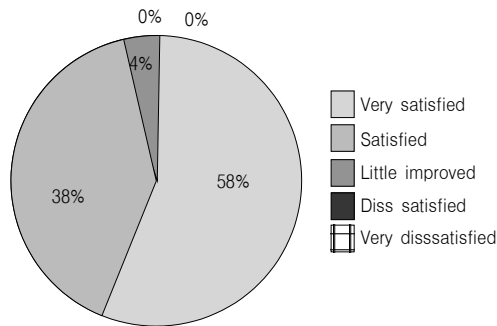


Fig. 2. Degree of satisfaction after home visiting treatment using TKM

### Discussion

Home visiting service is a form of community based on medical service, provided for the disabled, the senior citizens, the young, small income earners and chronic patients who are more efficient to have a treatment at home than be hospitalized, and who are unable to move. For TKM, pilot projects were implemented at 9 health centers in 2001, and since 2003, as a part of 8 health improvement programs<sup>4)</sup>, home visiting treatment has started with focusing on farming and fishing communities' health centers.

Recently, the increase of chronic degenerative diseases caused by population aging changed the aim of public medical treatment from acute disease to chronic disease<sup>7)</sup>. Especially for rural older adults, the high exposure of musculoskeletal disorders with

arthritis leads to high demand of physical therapy or oriental therapy<sup>3)</sup>. For the reason of choosing specific medical facilities, 57.4%<sup>8)</sup> and 52.1%<sup>9)</sup> of respondents chose easy accessibility. To improve the senior citizen's accessibility to medical service, expand of public medical service is required the most<sup>10)</sup>, as most of the senior citizens are living with a chronic illness with severe physical disorders<sup>4)</sup>.

TKM enables holistic approach by regulating human body as an organic identity. As a study that highly regards prevention<sup>11)</sup>, TKM treatment is cost-effective by relatively simple health checkup and cure and has easy mobility and portability<sup>5)</sup>.

Home visiting treatment is in a great favor; 92% residents were satisfied, 77% felt necessity, and 76% felt effectualness<sup>5)</sup>. Home visiting treatment is an industry which public health oriental doctors perceives

as the most important but lack of implementation, thus should be vitalized<sup>12)</sup>.

Therefore, when home visiting treatment is extended and contributes to improvement health-related life quality, based on the oriental traits and easy accessibility, the role of TKM would be extended and the perception of TKM among people would improve.

After 5 home visiting treatments in TKM for people in inconvenient movement, the result of flexibility, their quality of life (pain and inconvenience from the pain), perception of health, changes in behavior is mentioned below.

For the general traits of respondents, the rate of the aged was high; 93.6% were over 60s. 49.6% of respondents felt inconvenience in life from pain, 39.5% had negative perception on their health, but 29.3% never or seldom exercise to improve health.

Life quality is composed of general situation of life and subjective evaluation and satisfaction<sup>13)</sup>. In a field of medical health, the aspect of health is regarded as the most important decision in life quality<sup>14)</sup>, treated as a crucial factor which influences pain, degree of performing daily life, acknowledged health condition, and management (behavior of health improvement) on one's life quality<sup>15)</sup>.

Pain and life quality shows an inverse tendency<sup>16)</sup>, and one of crucial factors of decreasing life quality is the difficulty of daily living due to pain<sup>17)</sup>. For the changes after home visiting treatment using TKM, degree of pain decreased significantly from NRS 5.80 to 3.32, leading decrease in the% of people felt inconvenience in daily lives due to pain from 49.6% to 8.3%. While 39.5% of respondents thought their health negatively before home visiting treatment using TKM, only 11.9% negatively thought about their health after the treatment. An acknowledged health condition indicates subjective evaluation of individual's health condition. Recent study using acknowledged health condition suggested that evaluating one's own health condition positively is more reliable than clinical result<sup>18)</sup>. The higher one's degree of

acknowledging health, the more practice of health improvement and the more practice of health improvement, the better acknowledged health condition, leading to higher life quality<sup>19)</sup>. In fact, the respondents' health behavior, the degree of effort or exercise to improve health is significantly increased after home visiting treatment using TKM.

Therefore, it is evaluated that home visiting treatment using TKM brought positive changes in respondents' pain, health recognition, health behavior and other health-related life quality.

Furthermore, after the home visiting treatment, respondents' 96.3% answered their health improved a lot or significantly, and 96.3% shows high satisfaction on home visiting treatment using TKM, indicating high degree of improvement and satisfaction. Also, home visiting treatment of TKM influenced positively on the changes of perception of the TKM.

Home visiting treatment for the disables and elders who live alone is one of the highest demanded businesses of health improvement of the senior citizens. TKM is feasible to holistic approach and remarkable in mobility. It is suggested that the TKM would be very effective in home visiting treatment.

Problems of this study are; first, the number of investigation respondents were limited; second, the limitation of specific and digitized survey led to subjective and comprehensive survey, resulted in lack of objected in understanding degree of health development.

We need to accumulate objective indicator and clinical data about the effects of home visiting treatment using TKM on respondents' health and life quality. We need to systemize the research for the activation of home visiting treatment using TKM. If we extend the role of TKM by the utility and the activation of the home visiting treatment, the upgrading of TKM with positive perception of the TKM would come to fruition.

## Conclusion

*Um-sung-gun* TKM Health Center analyzed efficiency and satisfaction of home visiting treatment using TKM, targeting participants who did home visiting treatment using TKM, as a part of TKM health improvement business from February to October 2009.

1. 93.6% of respondents from home visiting treatment using TKM were composed of the senior citizens over 60s.

2. Home visiting treatment using TKM caused positive changes to health-related life quality, including flexibility, life quality (pain and inconvenience caused from pain), perception of health and behavior, and the result is statistically attentive.

3. Home visiting treatment using TKM resulted in 96.3% of health improvement and satisfaction of the treatment.

4. Home visiting treatment using TKM changed perception of TKM in optimistic aspect, and is shown as statistically attentive.

It is considered that a systematic study would be needed for further vitalization of home visiting treatment and its efficiency.

## Acknowledgement

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The Questionnaires

1. weight \_\_\_\_\_ kg                      height \_\_\_\_\_ cm

2. How do you think about your limitation extent in range of movement?

- ① Not at all                      ② Slightly                      ③ Severely                      ④ Completely

3. What is your pain degree?(NRS)

0	1	2	3	4	5	6	7	8	9	10

4. How do you feel uncomfortable in daily life because of the pain caused by your disease?

- ① Not at all                      ② Slightly                      ③ Average  
 ④ Severely                      ⑤ Completely

5. How do you think about your health?

- ① Very Healthy                      ② Healthy                      ③ Average  
 ④ Not Healthy                      ⑤ Extremely Unhealthy

6. How much do you try to improve your health?

- ① A great deal                      ② Much                      ③ Average  
 ④ Little                      ⑤ Never

7. Do you exercise regularly for your health?

- ① A great deal                      ② Much                      ③ Average  
 ④ Little                      ⑤ Never

8. How do you think about TKM?

- ① Very like                      ② Like                      ③ Neutral  
 ④ Dislike                      ⑤ Very Dislike

9. Have your Health been improved by Home Visiting Treatment of Traditional Korean Medicine?

- ① To a great extent improved                      ② Somewhat improved  
 ③ little improved                      ④ Not at all improved

10. Are you satisfied with Home Visiting Treatment of TKM?

- ① Very satisfied                      ② Satisfied                      ③ Neutral  
 ④ Dissatisfied                      ⑤ Very dissatisfied