Journal of the Academic Society for Quality of Life (JAS4QoL)

2016 Vol. 2(2) 4:1-5

Assessment of the Effect of Chin-Don Therapy on Emotion and Behavior of the Elderly: Facial Illustration-based Self-Rated and SF8-Assessment Scores

Kanji HATTA[1*]

[1] Department of Psychiatric Medicine, School of Nursing, Takarazuka University, Osaka, Japan
k-hatta@takara-univ.ac.jp

Citation: HATTA, K.; *JAS4QoL* **2016,** *2(2) 4*:1-5.
Online: http://as4qol.org/?p=1615#art4
Received Date:June 1, 2016 Accepted Date:June 15, 2016 Published: June 31, 2016

ANNOUNCEMENT

2016 International Conference on Quality of Life
Friday August 19th to Sunday August 21st
Kyoto, Japan

We invite like minded researchers to come aboard and join us in the search of knowledge and wisdom through enlightened discussion and brainstorming. With inspired vision and a shared mission we can all create a better quality of life for all.

This event is an inclusive interdisciplinary research and publishing project that aims to bring together researchers from a wide variety of areas to share ideas and explore ways to improve global Quality of Life which are innovative and exciting.

We are proud to be holding this year's event will be held in Kyoto, Japan, a city whose living traditions integrating nature and human activity perfectly complement the themes of the conference. During their trip to the conference, we will support all participants as they enjoy Kyoto's timeless beauty, sights, and attractions, suitable for all tastes and interests, that this year's event venue has to offer.

More information at http://as4qol.org/ICQoL2016/

JAS4QoL

Short Communication

Assessment of the Effect of Chin-Don Therapy on Emotion and Behavior of the Elderly: Facial Illustration-based Self-Rated and SF8-Assessment Scores

Kanji HATTA[1*]

[1] Department of Psychiatric Medicine, School of Nursing, Takarazuka University, Osaka, Japan
k-hatta@takara-univ.ac.jp

Abstract

One of the recent approaches to improve health of the elderly in order for them to achieve a higher quality of life (QoL) is the use of Chn-Don therapy (CDT). In this study, we further explored if other methods can be used in investigating the CDT effects on emotion and mental state of elderly patients using: A) the emotional and psychological state of subjects using self-rated scores of drawings of facial expressions, and B) health-related QoL using 8-item short-form health survey (SF8) (HRQOL-SF8). Of a total of 30 elderly subjects commuting to a Daycare Community Service Center in Prefecture A, 18 were categorically enrolled. CDT was given to subjects for 30 min, and scores of methods A and B were measured before and after CDT. When verified statistically, the scores (pre- vs post-CDT performance) of subjects (2.89±1.02 vs 1.78±0.65) were significantly different in method A; however, scores in method B of subjects 1 week before and after CDT indicated no significant differences. The present findings revealed that CDT effects were not persistently effective: i.e. not so very potent and long-lasting to persist for 7 days.

Assessment of the Effect of Chin-Don Therapy on Emotion and Behavior of the Elderly: Facial Illustration-based Self-Rated and SF8-Assessment Scores

Citation: HATTA, K.; *JAS4QoL* **2016**, *2(2) 4*:1-5.

Available online at
http://as4qol.org/?p=1615#art4

Received: June 1, 2016
Accepted: June 15, 2016
Published: June 31, 2016

©2016 JAS4QoL as4qol.org

1. INTRODUCTION

With an increase in longevity, a higher elderly stratum has occupied the demographic display of the Japanese population, and their problems have become more multifaceted and demanding.

A recent approach to adopt complementary alternative medicine has been focused to improve health of the elderly in order for them to achieve a higher quality of life (QoL). Apart from oral intake of chemical and natural compounds, Chin-Don therapy (CDT) has been demonstrated to improve QoL in a multiple-case study.[1] Approaches to influence the body system are adopted according to limitations of acoustic, visual and cognitive abilities of the elderly age-group. The first account of the effect of laughter on recovery of a patient suffering from connective tissue disease in 1976[2] and

other subsequent findings have been reported. In 1994, Itami et al.[3] have reported that two Japanese breast-cancer patients exposed to stand-up comedies and comedian show demonstrated elevated natural killer (NK) cell activity. Additionally, rheumatism-arthritis (RA) patients, who listened to comic stories told by professional storytellers, indicate attenuated interleukin-6 (IL-6) levels with significant decrease in pain scores (Yoshino et al, 1996).[4] Furthermore, patients suffering from atopic dermatitis indicate significantly lower wheal and erythema reactions when they are exposed to laughter-comic videos.[5] Elevating the immunodefense system by increasing certain cell activities[6] and attenuating unwanted chemical/peptide release in the human body has demonstrated the useful outcomes using stand-up comedies, comedian shows, and laughter-comic videos.[4-7] Since QoL of the elderly is improved with these methods, and effects of CDT on behavior and physical expression have been able to provide an assessment method,[1] we further explored if other methods can be used in investigating the CDT effects on elderly patients in this study using: A) the emotional and psychological state of subjects using self-rated scores of drawings of facial expressions (Fig. 1),[7] and B) health-related QoL using 8-item short-form health survey (SF8) (HRQOL-SF8).[8] Additionally, we evaluated the time-related outcome of CDT on 18 elderly subjects using these 2 methods. Since healthy elderly subjects have been proven to respond favorably to CDT earlier using biochemical methods,[9] they were omitted from the present study.

2. METHODS and SUBJECTS

2.1 Subjects

Of 30 elderly subjects commuting to a Daycare Community Service Center (DCSC) in Prefecture A, 18 (age range: 70-89 yr; male: 1, female: 17) with Mini Mental State Examination (MMSE) scores (http://www.dementiatoday.com/wp-content/uploads/2012/06/MiniMentalStateExamination.pdf) of >17 (based on the Tombaugh report) were enrolled, and subjected to CDT for reliability evaluation of the methods A and B undertaken in this study. Physical states of subjects were as follows: independent (n=1); needed nursing support degree 1 (n=12), degree 2 (n=2); and nursing care degree 1 (n=1). Subjects with (n=15) and without (n=3) pre-existing diseases were basically independent and psychologically functional/normal, and 3 were on sleeping pills. The MMSE scores showed that they were slightly demential (n=2) but otherwise normal (n=16). Subjects and their next-of-kin (whenever necessary) were briefed orally and in written form on the purpose, methods and outcome of the study, and written consent was obtained from those (or their next-of-kin) who decided to participate in the study. Additionally, those with MMSE scores of <17, or disagreed to participate in the study, were omitted from the present investigation. Based on their mean Barthel index (BI) of 92.5±9.43, the 18 subjects were categorized as physically independent (http://www.strokecenter.org/wp-content/uploads/2011/08/barthel.pdf). The moral and ethic codes in the treatment of participants were approved by the Ethics Committee of the Faculty of Medicine, Shiga University.

2.2 Methods

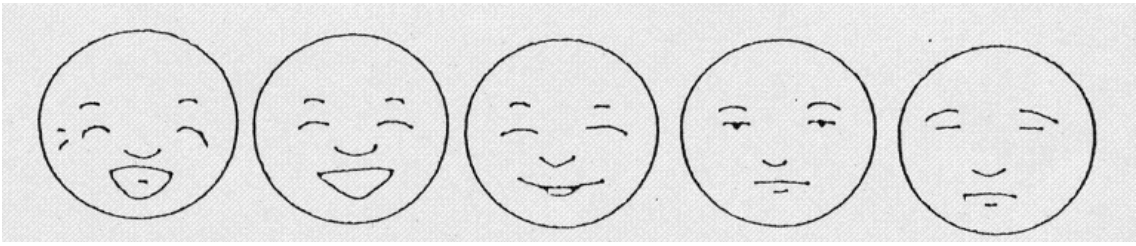
a) Timing and use of CDT

The 18 elderly non-residential subjects participated in our study, which lasted from June 20 to September 28, 2008, arrived at about 09:00 hr on every visit, and engaged in daily chores and activities designated for the day at the DCSC. On the day of investigation, CDT was given to subjects for 30 min (10:00–10:30 hr) in a room layered with Japanese mattresses (tatamis). CDT given was similar to that used in a previous study.[1] Briefly, the 'chin' and 'don' are sounded respectively by beating a gong-like instrument and a drum with a stick to produce a rhythmic musical flow of 3 (don x 3) + 7 (chin x 7) beats by colorfully dressed performers who moved and danced in circles.[1] In the study, we measured self-assessment of emotional and psychological scores (method A) and QoL-related parameters using the HRQOL-SF8[9] (method B) before and after CDT.

b) Method A: Self-assessments of mood (motional and psychological states) using the face-scale (drawings of facial expressions; see Fig. 1):

Mood (emotional and psychological) evaluations of each individual by self-rating were conducted by 2 investigators on a 5-rank scoring assessment (Fig. 1) using the face-scale;[6] and scores on the emotional and psychological were based on score-related pictorial illustration rated by the CDT participants per

Fig. 1: The moods (emotion and psychological states) of the participants were scored according to facial expressions (face-scale), where very happy (extreme left), happy, slightly happy, normal and unhappy were scored as 1, 2, 3, 4 and 5, re - spectively. The mean scores before and after 30-min CDT delivery in CDT group were 2.89±1.20 and 1.78±0.65, respectively.



Scores: **1** **2** **3** **4** **5**

se. Notice that the lower the scores, the happier or the better the emotional and psychological state of the subject. Subjects were asked to point at the relevant facial drawing before and after the 30-min CDT.

c) Method B: Assessment with HRQOL-SF8

The physical and psychological health statuses of participants were assessed with the HRQOL-SF8.[7] Briefly, an 8-item questionnaire was given to each participant to score on his/her HRQOL status 1 week before and 1 week after CDT: viz., 1) global health status, 2) body functions (score-range: 1-6), 3) daily activity of physically functional ability (score range: 1-4), physical pain (score-range: 1-6), 5) vitality, 6) social life functional ability, 7) daily activity of psychologically functional ability, and 8) mental health condition. Except for those items indicated, the score range was 1-5 for the respective health statuses. Each participant was asked to rate the scores for the respective item. Scores obtained were then treated according to calculations based on the HRQOL-SF8 program.

d) Statistical analysis

Mean scores of both methods for CDT subjects were compared before and after CDT using the Wilcoxon rank-sum test. Differences where $p<0.05$ were considered significant. All calculations were done using statistical analysis software Windows SPSS-15.0.

3. RESULTS

3.1 Personal particulars, physical data, and health status

Table 1: CDT elderly subjects (n=18) were exposed to 30-min CD performance, and they were asked to score their mood based on a facial scale (Fig. 1). The mean scores indicated significant difference in mood after CDT when compared with scores before CDT.

Pre-CDT	Post-CDT performance
2.89±1.02	1.78±0.65*

The age ranges of male (1/18; 5.6%) and female (17/18; 94.4%) subjects (n=18) were 70-79 (7/18; 38.9%) and 80-89 (11/18; 61.1%), respectively. Based on their personal particulars, physical data and health status of patients, the percentage (tested/total number) of subjects required nursing care level 1, 2 and 1+2 were 66.6% (12/18), 11.1% (2/18), and 5.6% (1/18), respectively. Moreover, the BI and MMSE values of subjects registered 92.50±9.43 and 27.06±2.94, respectively. Except for the gender factor, there were no significant differences in personal particulars and relevant items in the group (Table 1).

3.2 Method A: Self-assessments of mood (motional and psychological states) using a face-scale (drawings of facial expressions):

Depending on their likes and dislikes of the songs and content of performance, not all participants responded significantly well to certain versions of CDT using the face-scale. Therefore, the present study

focused on common and popular song performances, the scores (pre- vs post-CDT performance) of the CDT subjects (2.89±1.02 vs 1.78±0.65) taken 30 min after CDT exposure were significantly different.

3.3 Method B: Assessment with HRQOL-SF8

Table 2: Elderly subjects with (n=18) CDT were exposed to 30-min CD performance. Scores were twice rated based on observations of the investigating authors: 1 week before and 1 week after CDT. Based on the 8-item questionnaire, the respective mean item-scores were not significant compared with pre-CDT values.

Pre-CDT	Post-CDT performance
Physical health status	Psychological health status
39.74±5.65	41.49±4.82
48.67±4.82	50.61±6.46

Although nursing levels 1-2 were required for 1 and 3 cases in subjects, they were on the whole physically independent. Observations showed apparent facial and behavioral gestures of happiness and 'fun' in subjects; however, the scores for physical and psychology health statuses of the CDT subjects 1 week before and after CDT indicated no significant differences when verified statistically (Table 2).

4. DISCUSSION

According to Freud (1928),[7] humor can be seen as a specific defense[7] mechanism where positive emotions can overcome the undesirable negative emotions involved in a stressful situation. Previous findings have demonstrated that humor and laughter can improve depression and dementia (and therefore QoL)[8] as well as attenuate stress[6] in psychologically affected patients,

In our previous study[1], we have shown that Chin-Don therapy (CDT) can evoke smiles/laughter and improve mood to yield useful effects with positive psychological and neurological outcomes via retrieval of fond memories of past events and experiences of three elderly Japanese cases: a finding previously[1] observed with a multiple case study. To confirm the above findings, we conducted two additional assessment methods for CDT on mood and health-related QoL status with a larger sample-size population: 18 subjects. The methods used were: A) self-assessments of mood (emotional and psychological states) using the face-scale (drawings of facial expressions); and B) assessment with HRQOL-SF8. Method A has been extensively used for emotional and psychological states, while method B - HRQOL-SF8 assessment - has been used previously for measuring the health status of patients.[9]

In the present study, Method A indicated significant difference in mood improvement using the face-scale (Table 2). CDT therefore reconfirmed that it worked effectively in improving mood (motional and psychological states) for the CDT group. All the elderly subjects had previous exposure to CD performance. Therefore, CDT may work effectively for elderly participants who had previously exposed to CD performance using 'musical' sound evoked from traditional instruments. This CDT may work for only those that have been previously exposed to CD performance/music, as participants in this study were all exposed to CD performance when young or during their childhood. A study using young subjects may have to be followed up to investigate if the CD performance or CDT is effective for the middle-age group.[10]

In the HRQOL-SF8 assessment for physical independence, significant differences were not established in the group of 18 subjects. The purpose of this assessment with a 7-day interval after CDT was to assess if the CDT effects were long enough to last for a week. The present findings revealed that CDT effects are not persistently effective. This insignificant difference in scores expected of CDT (shown to be significantly different in scores of Method A immediately after CDT) might not be so very potent and long-lasting as to persist for 7 days, although our study was limited with the effective post-CDT interval. Therefore, the present study assessed that the effective time-length of CDT was not persistent, albeit ef-

fective within a short time-interval. A more time-related monitoring of the CDT effect by monitoring blood levels of certain relevant neurotransmitters or peptides is warranted to more objective and accurate in determining the effective time-course of CDT action.

5. References

1. HATTA K. (2015). *Effects of Chin-Don performance as a therapy to promote the psychological and health status in the elderly in a community setting: A multiple-case study*. Journal of Academic Society for Quality of Life. **1**(1): 26-31, 2015 (available online at http://as4qol.org/).

2. COUSIN N. (1976). *Anatomy of an illness (as perceived by the patient).* N Engl J Med. **295**:1458-1463.

3. ITAMI J, NOBORI M, TESHIMA H. (1994). *Immunodefense ability of laughter.* Shinshini **34**:565-571 (in Japanese).

4. YOSHINO S, NAKAMURA H, BANJI N, KITA M. (1996). *Effects of joyful laughter on patients with arthritis rheumatism.* Shinshini **36**:559-564 (in Japanese).

5. KIMATA H. (2001). *Effect of laughter on atopic dermatitis.* Stress and Clinical. **110**:33-37.

6. BENNERT MP, ZELLER JM, ROSENBERG L, McCANN J. (2003). *The effect of mirthful laughter on stress and natural killer cell activity.* Altern Ther Health Med **9**:38-45.

7. FREUD S. (1928). *Humor.* International Journal of Psychoanalysis. **9**:1-6.

8. WALTER M, HANNI B, HAUG M et al. (2007). *Humor therapy in patients with late-life depression or Alzheimer's disease: a pilot study.* Int J Geriatr Psychiatry **22**:77-83.

9 HASHINE K, KASUHARA Y, MIURA N, SHIRATO A, SUMIYOASHI Y, and KATAKA M. (2009). *Health-related Quality of Life using SF-8 and EPIC Questionnaires after Treatment with Radical Retropubic Prostatectomy and Permanent Prostate Brachytherapy.* Jpn J Clin Oncol. **39**(8): 502–508 (available online at http://dx.doi.org/10.1093/jjco/hyp053).

10. HATTA K. (2015). *An Objective Study of Chin-Don Therapy for the Cognitively Impaired Elderly: Salivary Cortisol and Immunoglobulin-A Monitoring.* Journal of Academic Society for Quality of Life. Vol **1**(2): 28-32 (available online at http://as4qol.org/?p=645).