

Effects of a Beauty Massage Therapy Program on Cognitive Functions and Psychological Factors in the Elderly

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Abstract

Background/Objectives: This study analyzed the effects of a beauty massage therapy program on elderly people's cognitive functions and psychological factors for the purpose of providing some empirical data conducive to the future applicability of beauty therapies to programs benefiting the leisure life of the elderly.

Methods/Statistical analysis: For the purpose of this study, 46 senior citizens aged 65 or over participated in an 8-week beauty therapy program, where each weekly session lasted for 120 minutes. The program consisted of hand, foot and face massages. The MMSE-DS (Mini-Mental State Examination-Dementia Screening) for cognitive function testing, GDS (Geriatric Depression Scale) Short Form, and a psychological well-being scale were used as measurement instruments was verified with Cronbach's α . To verify the pretest-posttest effects on cognitive functions and psychological factors, a t-test was conducted.

Findings: It should be <170 words. Mention your findings in the form of statements along with the conclusive data of statistical importance; Mention how your findings are unique and novel; how your findings are in consensus with the existing values/ reports or how different are they from the already reported findings. Highlight how your results are helpful in adding more value to the existing reports.

Improvements/Applications: we propose the development of an independent beauty therapy program and empirical research other than beauty massage therapy.

Keywords: Beauty massage therapy, Cognitive function, Depression, Psychological well-being, Elderly

1. Introduction

Seriously low birth rates and growing average life expectancy due to advanced medical science have brought about notable demographic changes, expediting the super-aged society [1]. The increasing average life expectancy has consequently caused elderly citizens to increasingly become interested in how to spend longer later years [2]. Additionally, in the course of aging, people are subject to diverse physical. Social and mental changes including deterioration of health, discontinuation of social life, changes in appearances and loss of cognitive functions [3]. A wide range of changes occurring with age exert negative psychological effects by adding to the depression of the elderly and decreasing their self-esteem, while the loss of cognitive functions hinders them from leading a normal everyday life and from independent living [4]. For those reasons, the improvement of cognitive functions and the positive psychological factors of the elderly are deeply relevant to their successful aging in their later years. Therefore, non-pharmaceutical therapies for cognitive improvement and intervention for negative emotion in the elderly have actively been used in recent times [5]. Previous studies cast light on beauty therapies applicable to the intervention for the psychological factors and cognitive functions of the elderly, music therapies for reinforcing their positive psychology, exercise therapies for intervention for their emotional aspects and cognitive functions. The foregoing therapies are usually included in leisure activities or treatment programs and provided for senior citizens through diverse agencies such as welfare centers of community centers, so that the elderly can choose to participate in the programs of interest for pre-set durations to increase their psychological satisfaction and enjoy successful recharging in their later years [6]. Beauty therapy programs included in leisure activities or treatment programs are utilized to prevent dementia, reduce negative psychology and improve physiological and cognitive functions by the medium of diverse beauty activities [5]. Yet, despite meaningful results of beauty therapy programs, relevant studies are rare, and no research has applied independent beauty therapies in designing such programs. Hence, this study verified the effect of the proposed program on the cognitive functions and psychological factors in the elderly subjects, with a view to presenting an empirical reference conducive to the applicability of beauty therapies to leisure activities or emotional improvement programs for senior citizens.

To that end, this study was focused on the following three aspects.

First, this study investigated the effects of the proposed beauty massage therapy program on the cognitive functions in the elderly

subjects.

Second, this study investigated the effect of the beauty massage therapy program on the psychological factors in the elderly subjects.

Third, this study explores the correlation between cognitive functions and psychological factors in the elderly subjects following the proposed beauty massage therapy program.

2. Materials and Methods

2.1. Program development

2.1.1. Analysis of previous studies

To develop the beauty massage therapy program for this study, an in depth analysis of 9 articles on comparable topics was conducted. The analysis results are outlined in Table 1 below.

Table 1: Preliminary Study on Domestic Beauty Therapy Program.

Researcher	Program name	Object	Program Contents	Dependent variables
Bo-kyoung Kim (2008)	Self-Beauty Program	Women over 65 years old	Hand care Scalp Hair care Skin care Makeup Foot care Beauty health	Depression Self-respect Life satisfaction
Young-Ran Kim	Self-Beauty Program	Female Universities students	Hair care Skin care Makeup Nail care	Self-esteem Interpersonal Relationship Stress
Hye-Jeong Lee & Myung-Ju Kang (2010)	Beauty therapy program	Elderly Dementia Women over 65	Hair care Nail care	Cortisol Epinephrine norepinephrine
Jeong-Mi Im (2011)	Beauty therapy program	Women over 60	Skin care Makeup Hair care Nail care Body care Fashion	Self-esteem Life satisfaction Social health Mental health Interest in appearance
Jong-Hun Ji (2012)	Beauty therapy program	Elderly dementia Women over 65	Hair care Makeup Nail care	Cognitive function Mood scale
Jung-Hyun Moon (2014)	Beauty Welfare therapy program	60 years old or older	Shoulder massage Ear massage Hair care Scalp care Hand care Nail care Foot care Skin care Aroma therapy Face-painting	Self-esteem Life satisfaction Emotional balance scale Depression
Kwang-Hyun Kil (2015)	Self-cosmetology training program	Nurses from Tertiary hospitals	Makeup Skin care Hair care	Self-esteem Self-efficacy Stress
Hye-Keun Ham (2017)	Cosmetic therapy program	Elderly women over 70	Nail care Hand care Skin care Makeup Hair care	Cognitive Functions Psychological characteristics
Kyung-Suk Park (2018)	Beauty education program	Improvement of depression	Makeup Hair styling	Self-esteem Depression

The analyzed previous studies mostly included females as their subjects. As the primary media for their programs, they combined two or more beauty therapies. 8 out of the 9 studies reported on the results concerning psychological attributes. Thus, the foregoing analysis illuminated the lack of programs involving a single beauty therapy, in which male subjects could participate. Also, in reference to results of Kim and Im that participants' satisfactions was highest with face and hand massage and makeup and that participants continued to practice the skin care and makeup even after the program, this study opted for the massage therapy as the primary medium in that it is easily applicable regardless of gender. The massage therapy relaxes muscles and increases the oxygen-carrying capacity of blood by fiving elasticity to the skin and raising the blood supply through the movement of hands [7]. In addition, the massage therapy was reported to have positive effects on psychological stability by helping maintain the balance of the autonomic nervous system and reduce stress [7]. Particularly, improving the natural healing capacity of our body by simulating the meridian points on palms and soles, hand and foot massages are beneficial for health improvement, easy to learn and applicable regardless of places, with the brisk hand movement known to increase the concentration and improve brain functions [8]. Thus, the proposed beauty massage therapy program, where the subjects were required to engage in skin care and foot and hand massage, involved some physical activities that had positive effect on the elderly subjects.

2.1.2. Development of the final beauty massage therapy program

The proposed program mainly involved self -skin care and hand and foot massages. Targeted at the elderly subject, the program was composed of repetitive movements that were easy to remember and follow. Also, to arouse the subjects interest, tools such as stones, acupressure rods and golf balls were used, and some skin care products were altered. Finally, an expert having more than 20 years' experience in skin care and 3 beauty majors with doctoral degrees verified the proposed program, before it was partly modified based on the results form a 2-week preliminary program administered to 15 senior citizens aged 65 or over. The final program was offered for 8 weeks with each session lasting for 120 minutes. Each 120-minute session was divided into two 50-minute parts and a 20-minute recess, considering the senior citizens' physical strength and concentration. The proposed program consistently unfolded the introduction, practice and wrap-up in the order named. Following the author's demonstration, the participants repeated each movement, with two assistants individually helping those having trouble keeping up instructions. The one group pretest-posttest design of this study was approved by Daejeon University IRB (Institutional Review Board: 1040647-201906-HR-010-02). To estimate the sample size, G*Power program was used with an effect size of 0.5, a significance level of 0.05 and a statistical power of 0.95. Despite the estimated sample size being 34, 50 subjects were selected among the senior citizens who used community welfare center and culture centers run by financial institutions. The selected 50 subjects were aged 65 or over and informed of the purpose and intent of this study before they voluntarily consented to participate. Also, they had no history of participating in any similar programs and of suffering from cognitive disorders or serious illnesses based on the MMSE-DS ratings. Out of 50 subjects, 48 were females and 2 were males. With 4 females dropping out of the program for personal reasons. 46 subjects were analyzed.

2.2. Measurement tools

2.2.1. Cognitive function

To test the cognitive functions, the MMSE-DS (Mini-Mental State Examination-Dementia Screening) developed for the national dementia careening project was used. Returning 0-30 in raw scores, the MMSE-DS comprised 19 sub-items including memory, concentration, calculation, practice of instructions, orientation, and judgment to measure the cognitive functions of the elderly.

2.2.2. Depression

Depression was measured with the GDSSF-K, a standardized GDS Short Form of Korean geriatric depression scale, with the 30 items of the GDS (Geriatric Depression Scale) adapted into 15 items. Using the simple 15 'Yes/No' question items, the subjects rated their depression levels as universal (0-15), normal (<5), potential depression (5-9), and depression (≥ 10). The reliability coefficient of the depression scale used in this study was 0.627 (Table 2).

2.2.3. Psychological well-being

Psychological well-being is a multi-dimensional concept concerning the extent to which people are satisfied and happy with their life. Those whose psychological well-being is high maintain positive interpersonal relationships and accept what they are [9]. The instrument used to measure the psychological well-being was originally developed by Ryff and translated by An, Jeong-shin. It comprises 18 items concerning such sub-factors as purpose in life, self-acceptance, environmental mastery, autonomy, relations with others, and personal growth. However, An reported Korean adults' psychological well-being conformed to just 8 items among the 4 factors of Ryff's psychological well-being scale relevant go personal growth, autonomy, environmental mastery and purpose in life [10]. Based on the previous study, this study used an 8-item scale. Each item was rated on a 5-point Likert scale, where higher scores meant higher psychological well-being. The reliability coefficient of the psychological well-being scale used in this study was as high as 0.812 (Table 2).

Table 2: Psychological well-being and Depression reliability

Variable	Number of questions	Cronbach's Alpha
Depression	8	.812
Psychological well-being	15	.627

3. Results and Discussion

3.1. Cognitive functions

Table 3 shows the cognitive functions before and after the beauty massage therapy program. The cognitive functions increased by 20.2 to 29.02 from 27.00. which was statistically significant ($t=-8.295$, $p,0.01$). The cognitive function test required such abilities as concentration, memory, judgment and practice of instructions. The proposed program was asked to memorize the order of massages and the names of skin care materials so that they could learn repetitively for 8weeks, with diverse beauty care tools and skin care products serving as sensory stimuli. To maintain the cognitive functions for the plasticity of the brains of seniors, it is essential to provide not only simple repetitive memorization drills but also sensory stimuli [4]. Thus, the diverse sensory stimuli and repetitive learning experienced in the proposed program may functions associated with beauty therapies have not been well-documented, the validity of the effects found in this study need be substantiated through further studies.

Table 3: Change in Cognitive function

Variable	Time	MD	S	t	p
Cognitive function	Pre-inspection	27.00	2.076	-8.295	.000
	Post-inspection	29.02	1.202		

$p<.01$

3.2. Depression

Table 4 shows the change in depression scale in light of the beauty massage therapy program. Depression decreased by 2.27 to 1.37 from 3.65, which was statistically significant ($t=6.741$, $p<0.01$). Female seniors who good at skin care and makeup were more satisfied with life than those who were not, which suggested personal grooming efforts raised people's satisfaction with life [11]. This finding supports the effects of the proposed program on reducing the depression in seniors.

Table 4: Change of Depression

Variable	Time	MD	S	t	p
Depression	Pre-inspection	3.65	3.701	6.741	.000
	Post-inspection	1.37	11.743		

$P<.01$

3.3. Psychological well-being

Table 5 shows the change in psychological well-being scale in light of the proposed beauty massage therapy program. The psychological well-being increased by 6.02 to 34.52 from 28.5, which was statistically significant ($t=-7.439$, $p,0.01$). choi reported that cultural education should involve developing a range of programs utilizing music, photography, art and drama for retirees' better quality of life and linking those programs with their hobbies and leisure activities. Also, choi concluded seniors' participation in cultural activity programs had positive effects on their psychological well-being [12]. The psychological well-being in senior citizens is their subjective evaluation of their own life, and affected by the people's evaluation of their satisfaction and happiness with life. Hence, the results of this study suggest the proposed beauty therapy program could play important roles as the activities conducive to increasing seniors' quality of life.

Table 5: Change of psychological well-being

Variable	Time	MD	S	t	p
Psychological Well-being	Pre-inspection	28.50	6.366	-7.493	.000
	Post-inspection	34.52	3.914		

$P<.01$

3.4. Correlation between dependent variables

To examine the correlation between dependent variables used in this study, the Pearson correlation analysis was performed, with the results outlined in Tale 6 below.

Table 6: Correlation between dependent variables

Variable	Depression	Cognitive function	Psychological well-being
Depression	1		
Cognitive function	-.068	1	

Psychological well-being

-.319*

-.116

1

*p<.05, **p<.01

As shown in Table 6, depression had significant correlation with cognitive functions, whereas it did show a significantly negative correlation with the psychological well-being. Also, the cognitive functions had no significant correlation with the psychological well-being. Depression in the elderly leads them to underestimate their value, hindering them from feeling the joy of everyday life. In addition, adding to the potential for limited social activities and self-isolation, severe symptoms of depression may cause suicide [13]. By contrast, seniors with high psychological well-being positively evaluate themselves, being in an inner state of enjoying a happy life [14]. Hence, depression in the elderly is detrimental to their psychological well-being, with quite a few reports supporting the negative correlation between depression and psychological well-being [15]. The negative correlation between depression and psychological well-being in this study may have been effective for reducing their depression, improving their psychological well-being and ultimately playing positive roles for the psychological stability of the elderly subjects.

4. Conclusion

This study established the effects of the engagement in the proposed beauty massage therapy program on the cognitive function and psychological factors in the elderly for the purpose of presenting some empirical reference data so that beauty therapies can be utilized as part of programs designed to improve seniors' leisure activities and emotional improvement. In brief, the subjects' cognitive functions statistically significantly increased from 27.00 to 29.02, whilst their depression significantly decreased from 3.65 to 1.37. Also, their psychological well-being significantly increased from 28.5 to 34.52. As for the correlation between variables, their depression did not have any significant correlation with their cognitive function but a significantly negative correlation with their psychological well-being, whereas their cognitive functions showed no significant correlation with their psychological well-being. Taken together, the seniors' engagement in the proposed beauty manual massage program had positive effects on their cognitive functions and psychological stability. Hence, these findings have some implications for the applicability of beauty therapies to activity programs designed to improve quality of life in the elderly.

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