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Feasibility and effectiveness of a cosmetic intervention program for institutionalized older women in Japan

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ABSTRACT

We examined the feasibility and effectiveness of a cosmetic intervention program for frail older women. Thirty-nine older adults (83.0 ± 8.65 years) from two nursing homes in Tokyo were allocated to a cosmetic (intervention: $n = 27$) or a light-exercise (control: $n = 12$) group according to their nursing home residence. Both groups attended weekly classes over a 5-week period from May to June 2009. The program feasibility was examined using class participation, class attendance, and program adherence rates, while the effectiveness of the program was examined using the Geriatric Depression Scale (GDS) and participants' engagement in positive activities (i.e., engaging in social activities and going outside). The intervention group showed significantly higher rates on all feasibility measures than did the control group (class participation: 24.1% vs. 13.3%, class attendance: 75.5% vs. 32.6%, program adherence: 70.8% vs. 10.0%). Furthermore, the GDS scores decreased significantly in the intervention group, but not the control group. Although the change in GDS score was larger in the intervention group (−1.30 ± 2.36) than in the control group (−0.75 ± 3.53), the inter-group difference in this change was not significant. No significant differences were found between pre- and post-intervention positive activity rates in either group, or in the inter-group comparisons of changes in these rates. Overall, the cosmetic program was highly feasible and effective for improving the mental health of frail older women. However, further studies using longer intervention periods and larger samples would be needed to identify the program effectiveness.

1. Introduction

Exercise programs that involve muscle-strength training, such as resistance training and stretching, have been demonstrated to be effective as part of nursing care prevention efforts (Fiatarone et al., 1994; Oida et al., 2003). However, the usage rate of such exercise programs by frail older adults is extremely low (Harada et al., 2008). Therefore, it would be important to develop new nursing care prevention programs that frail older adults—the target population of long-term care prevention services—can join and adhere to for longer periods, in place of these earlier exercise programs.

Frail older adults targeted for long-term care prevention services exhibit significant declines in activities of daily living due to their decreased physical functioning (Ono, 2009). They also tend to experience declines in psychological health, which often manifest as impaired cognitive functioning and depression; notably, these declines can often precede the aforementioned declines in physical and functional activities (Ono, 2009). Therefore, it is important for frail older adults to maintain or improve their mental health. As such, it is necessary to develop nursing care prevention programs for mental health that are easy to join and attend for longer periods for frail older adults, particularly for older women. Because the ratio of women among the oldest-old population is especially higher than that of men and is expected to increase in the next few decades in Japan, nursing care prevention programs might focus on maintaining the health of older women in particular.

Both young and older women tend to have a high level of interest in beauty (Taoka et al., 2007). Indeed, many women perform cosmetic routines on a daily basis, and these routines reflect their own individuality. Changing one's normal appearance can have notable psychological effects, including promoting therapeutic levels of excitement and satisfaction or encouraging more proactive interpersonal behaviors (Yogo, 1990). Studies of cosmetic interventions in clinical settings have noted improvements in the quality of life and psychological health status of patients with cancer (Kendrick, 2008), psychiatric disorders (Hama et al., 1990; Hibino et al., 2002), and dementia (Hara, 2004). However,

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few Japanese or international studies have reported on the effects of using cosmetic activities as a therapeutic intervention for institutionalized or community-dwelling frail older women.

Therefore, we developed a cosmetic intervention program intended to improve the psychological and social health of frail older women. In this study, we examined the program's feasibility and effectiveness.

2. Methods

2.1. Participants

Participants were recruited from among residents living in two nursing homes operated by the same social welfare corporation in Hachioji, Tokyo, Japan. Both facilities were located near local communities and were similar in terms of their design and living conditions. Participants were recruited using two methods, which were the same at both sites. First, handmade posters informing residents that an intervention class would be held and that they could register for it at the office of that facility were posted on bulletin boards throughout each facility. Additionally, care staff members in each facility were asked to introduce the class to residents at facility meetings and recommend that they participate.

Thirty-nine residents volunteered as participants for this study. Oral and written information concerning the initial investigation and the details of the intervention were provided to all them. Participants who were able to comprehend and make decisions personally signed the consent forms; in contrast, a legally authorized representative, such as a family member or facility director, signed the consent form for participants who were judged as having difficulty in comprehending and making decisions.

The specific inclusion criteria included being an older woman residing in one of the two nursing homes, being capable of continuous participation during the intervention period, and consenting to participate. The exclusion criteria included diagnosed or suspected dementia or being judged by facility workers as having difficulty in participating in the study. A physician diagnosed all cases of dementia; suspected cases were identified by facility workers based on their observations of potential participants during daily activities.

This study was conducted after obtaining the approval of the Research Ethics Review Board of the School of Sport Sciences, Waseda University.

2.2. Study design

This was an intervention study with a non-randomized cluster allocation. We assigned participants to an intervention or control group arbitrarily according to the facility in which they lived. Specifically, 27 residents of Facility A (mean age 82.3 $\pm$ 9.3 years) were assigned to a cosmetic intervention group (i.e., intervention group) and 12 residents of Facility B (mean age 81.8 $\pm$ 6.1 years) were assigned to a light-exercise intervention group (control group).

2.3. Intervention protocol

The intervention period was four weeks from May 27 (one week after baseline) to June 24, 2009. During this period, the intervention group participated in a health class involving cosmetic activities designed for this study, while the control group participated in a health class comprising tea parties and light calisthenics. Both groups attended the classes once a week for five weeks and each class lasted for approximately 60 min.

2.4. Intervention program

The intervention program was conducted by licensed beauticians and volunteers who had completed an educational course developed by the researchers. The aim of the cosmetic intervention was for participants, by the final class, to be able to apply cosmetics on their own. In other words, the program was designed to teach methods of applying cosmetics, starting with passive methods and progressing to active ones. The program staff comprised one volunteer beautician who taught cosmetic skills to participants and volunteers who provided support for each participant.

The control group's classes were conducted under the same conditions (i.e., time, frequency, and duration) as the intervention group's to ensure that we isolated the effects specific to the cosmetic program—in other words, to ensure that we excluded unplanned intervention effects, such as a "group effect." The class routine comprised staff endorsements of the participants' physical condition (10 min), simple calisthenics performed in a sitting position (20 min), and teatime (30 min).

2.5. Assessment of program feasibility

We evaluated the feasibility of both programs based on class participation, mean class attendance, and program adherence rates. The class participation rate was calculated by dividing the number of residents in each group who participated in the baseline investigation (i.e. number of registrants) by the total number of female residents in each facility. The mean class attendance rate was calculated by dividing the number of participants who attended each class by the number of enrolled participants in each group. The mean value of the class attendance rates of the five classes was used as the mean attendance rate. Finally, the program adherence rate was calculated for each participant by dividing the number of times that the person attended the program by the total number of classes (i.e., five). Participants with a class adherence rate of 80% or higher were defined as "program adherents." We calculated the program adherence rate of each group based on the ratio of program adherents to the total number of class registrants of each group. Participants who were hospitalized, withdrew from the facility, or died were excluded from calculations of the class attendance and program adherence rates from the point that attendance was not possible.

2.6. Assessment of program effectiveness.

2.6.1. Assessment

Both groups were evaluated before and after the intervention. The post-intervention evaluation was performed before the final class for both groups to prevent the occurrence of any acute effects of the intervention on the final measure of its effectiveness. Mental status was assessed using a self-administered questionnaire. For participants who were unable to complete the questionnaire, the research staff, who had received appropriate training before the intervention, administered the questionnaire via an interview. The following measures were used.

2.6.2. Depression

The 15-item (i.e., shorter) version of the Geriatric Depression Scale (GDS) was used to evaluate mood (Yatomi, 1994). Participants who scored five points or higher were judged as being depressed; higher scores indicated more severe depression.

2.6.3. Positive activity

Participants' engagement in positive activity was judged according to their desire to go outside and to participate in the facility's social activities. In response to the question, "How do you feel about going outside?" participants selected one of four answers: (1) strong desire to go outside, (2) moderate desire to go outside, (3) little desire to go outside, and (4) no desire to go outside. We also assessed participants' desire to participate in the leisure, cultural, or educational activities held in the facility (13 activities in the intervention facility and 14 activities in the control facility). Most activities were held once a month. This desire was assessed with the question, "Do you want to participate in activities