

論 文 要 旨

重症心身障害児（者）施設の看護職および福祉職に対する相互作用を重視した
食事の援助行為における教育プログラムの効果

The effect of an educational program emphasizing interaction in the act of dietary assistance:
For nurses and welfare workers in facilities for persons with severe motor and intellectual disabilities.

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Research objectives

Focusing on interactions with persons with severe motor and intellectual disabilities (SMID), an educational program on dietary assistance was developed and administered to nurses and welfare workers at facilities for persons with SMID to investigate its effects.

Operational definitions of terms

1. **Persons with SMID:** Collectively refers to children, and those of 18 years of age or older, who are residents of an institution for people with disabilities, and who have both severe intellectual disabilities and severe physical disabilities (Article 7-2 of the Child Welfare Act).
2. **Act of dietary assistance with a focus on interactions with patient:** An act of assistance by an aid to help a person with SMID have a meal, by picking up and responding to any reactions and intentions of the person with SMID; and an act of assistance which involves interacting with a person with SMID, such as talking to, making physical or eye contact with, and otherwise communicating with, the person throughout the course of a meal from start to finish, so that the person with SMID can enjoy the food and have a good time during the meal.

Study methods

1. **Study design:** Pretest-posttest design with control group
2. **Study participants:** Total of twelve nurses and welfare workers who worked at two of the wards of an institution for persons with SMID, and were responsible for dietary assistance for persons with SMID. Eight participants from Ward A were assigned to the intervention group and four from Ward B to the control group, and their data were collected at the same time points. After the participants completed the program at Ward A, three of those from Ward B were assigned to the intervention group and their data were collected.
3. **Selection of persons with SMID to receive dietary assistance:** Ten persons with SMID who were capable of taking in food orally but not having a meal without assistance, and whose consent to participate in the study had been obtained from their guardians.
4. **Intervention schedule:** All participants received a pre-intervention (Time 1) evaluation in July 2016. The eight participants from Ward A attended the program in September 2016, and the three from Ward B in January 2017. Post-intervention evaluation was performed one month (Time 2) and three months (Time 3) after the intervention.
5. **Overview of educational program:** Using previous studies as references, four factors in the act of dietary assistance with a focus on patient-nurse interaction were extrapolated: “catching patient's eye; talking to them; touching them; and helping them eat.” The program was developed to help participants understand and practice the four factors. The Program consisted of a series of two sessions, where participants watched footage on DVD of a parent and a child during a meal, received short lectures presented by researchers, and engaged in group work and role play. The time and place for the program were set up so that participants would be able to concentrate on the training without feeling stress, i.e. for 30 minutes after their shift at a training room of the institution.
6. **Data collection period:** July 2016 - April 2017
7. **Ethical considerations:** This study was approved by the Ethics Committee of the School of Nursing and Social Services and the Graduate School of Nursing and Social Services, Health Sciences University of Hokkaido (Approval No.: 16N003002).
8. **Data collection items and collection methods:**
 - 1) **Attributes of study participants:** Participants were asked in a self-administered questionnaire to submit information on the following: sex, age, profession, a total years of experience working at the ward for persons with SMID, whether or not they had been taught on dietary assistance, and whether or not they had experience of providing dietary assistance to families and about the recipients of such assistance.
 - 2) **Attributes of persons with SMID and circumstances of assistance:** Information was collected from medical records of the persons with SMID, regarding their sex, chronological age, diagnosis, severity and overview of their disabilities, posture when taking a meal, and state of development. Based on the graphic records of their

meal taking behavior, the number of photographic images taken, and the duration of time it required for assistance were calculated for each of the persons with SMID.

3) Outcome indicators:

(1) Subjective evaluation: i) Using a checklist on the act of dietary assistance with a focus on interaction (hereafter the “Checklist”) on a total of 28 items, i.e. catching their eye (7 items), talking to them (9), touching them (3), and helping them eat (9), participants were asked to answer on a scale of four from “I always do this” (4 points) to “I never do this” (1 point), and their scores were calculated. The self-administered questionnaire was completed and collected at Time 1, Time 2, and Time 3. ii) Effects of taking the program: At Time 3, the participants were asked to answer on a self-administered questionnaire about the reactions of the persons with SMID, any changes after they had attended the program, and other comments about their experience of attending the program

(2) Objective evaluation: i) Behavioral observation in dietary assistance settings: A video was shot when assistance was provided to a person with SMID when he/she had lunch or a snack. Behavioral observation was made based on the Japanese version of Nursing Child Assessment Feeding Scale (hereafter “JNCAFS”), which is designed to evaluate the quality of parent-child interaction during a meal. Data were collected at Time 1, Time 2, and Time 3. While JNCAFS is a scale applied to children during development who require dietary assistance, the persons with SMID included in the present study had physical and cognitive disabilities that rendered it difficult for them to take a mean on their own. Accordingly, the scale was used after the authors of the scale had ascertained the applicability of JNCAFS to such persons. On this scale, a higher score represents a more desirable state of interactions.

9. Analysis on outcome indicators:

1) Subjective evaluation: The items on the Checklist were divided according to the four factors, and a total score was calculated for each factor. A Shapiro-Wilk test showed that all the variables were not normally distributed. A Friedman test was performed to see changes in the act of dietary assistance at the three time points for the intervention and control groups. Next, a Mann-Whitney *U* test was performed to compare differences in the median values between the intervention and control groups. Responses by participants on the effects of their attending the program were organized for each of the questions.

2) Objective evaluation: For JNCAFS scores, total score, caregiver total score, child total score, 6 subscale scores, and caregiver and child contingency scores were calculated and compared to the JNCAFS cutoff scores. Using analytical procedures similar to those used for the subjective evaluation, the intervention and control groups were compared in terms of changes in the JNCAFS scores between the three time points, and differences in the median values.

Results

1. Attributes of study participants: Of the participants, eight were female; 33% were in their 40s; 75% were nurses; 58.3% had five or less years of experience working at an institution for persons with SMID; and 91.7% had been taught on dietary assistance.

2. Attributes of persons with SMID receiving dietary assistance: There were nine persons with SMID included in the study, ranging in age from 42-66 years. Of those, four were female, eight were in 1-4 of Oshima's classification, and all of them were rated as being of developmental age of 12 months or lower in the “basic life habits area” on Enjoji's infant analytic test.

3. Effects of educational program:

1) Subjective evaluation - Change on Checklist scores on the act of dietary assistance

Comparison of changes in scores between the three time points for each of the four factors found significant increases after the program for the intervention group ($n=11$) on “catching their eye” ($p=.048$), “talking to them” ($p=.025$) and “touching them” ($p=.001$), while no significant difference was observed for the control group ($n=4$) on any of the factors. The results of the comparison of scores between the intervention and control groups at the three time points for each of the four factors showed that there were significant differences on “catching their eye

at Time 2 ($p=.018$) and on “touching them” at Time 3 ($p=.018$), both with the intervention group scoring higher compared to the control group.

2) Objective evaluation - Changes in JNCAFS scores

In terms of changes between the three time points on subscale scores, the intervention group showed significant differences on the caregiver total ($p=.022$) and the promotion of cognitive development ($p=.014$), both with a post-program increase. Comparison of the JNCAFS scores between the intervention and control group at the three time points found no significant difference.

Discussion

That favorable changes in interaction were observed in the intervention group alone on three of the factors on the Checklist, (i.e. “catching their eye,” “talking to them” and “touching them”); and that the intervention group alone showed significant increases in their JNCAFS scores including the caregiver total and “promotion of cognitive development,” in particular, were considered to be a result of the program. Through group work and role play, the study participants reflected on their own act of assistance, and put themselves in the shoes of persons with SMID who receive dietary assistance, which is likely to have helped underscore the importance of the act of dietary assistance with a focus on patient-nurse interaction and prompted them to act. The lack of significant change on the “helping them eat” factor, on the other hand, may have been due to the fact that there was no major difference from the methods they had previously used regarding how to provide dietary assistance.

Research limitations and challenges to address

The credibility of the study results may have been affected by the small number of participants in the study, the difficulty in controlling the conditions of the persons with SMID, the fact that the aid providers and the persons with SMID did not match, and that the evaluation was made on limited photographed settings. This warrants having a larger number of subjects while developing strategies to ensure that program attendants continue to practice the act of dietary assistance with a focus on interaction even after the completion of the program.