

## **Development of a university student-led healthcare program for people with intellectual disabilities**

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### ***Abstract***

*The purpose of this study is to develop the contents of a health care program for the disabled led by nursing students and to verify the effect of the program operation on the disability awareness and disability acceptance attitude of participating university students. Ten nursing students participated in the development and operation of the program, and the validity of the developed program was confirmed through a group of experts. After participating in the program operation, it was confirmed that nursing students' disability awareness ( $Z=-2.80$ ,  $p=.002$ ) and disability acceptance attitude ( $Z=-2.66$ ,  $p=.006$ ) all improved. Various efforts should be made, such as utilizing the health care program for the disabled presented in this study, as an experiential program to properly equip university students with awareness and attitude toward disability as a social competency.*

**Keywords:** *Healthcare Program, Intellectual Disabilities, University Students.*

### **1. Introduction**

According to statistics released by the Ministry of Health and Welfare in 2023, the number of registered disabled people in Korea has remained above 2.5 million since 2012, and 2,652,860 disabled people are registered in 2022 [1]. And among the registered disabled, intellectual disability accounted for 8.5%. In the case of people with intellectual disabilities, physical activity is lower than that of the general public because of their decreased thinking ability, and the incidence of chronic diseases is reported to increase due to autonomous management of their own health [2]. Therefore, health education for people with intellectual disabilities should be implemented in a variety of ways. In particular, education for people with intellectual disabilities needs to be repeated to increase its effectiveness [3]. In the field of pedagogy, it is suggested that education should be holistic, taking into account the characteristics of people with intellectual disabilities, including teaching methods and positive behavior supports [4].

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Non-disabled students' disability awareness affects their attitude toward the disabled, especially university students' relationships with minority students such as disabled students in universities [5]. Amid the recent social issues of environmental, social, and governance, awareness and attitudes toward the disabled are one of the topics emphasized as social issues [6].

As factors influencing university students' attitude toward accepting disabilities, the experience of integrated education conducted by the university, whether they are disabled among relatives and relatives,

and the experience of service related to disability were presented [7]. It was suggested that it has a great educational effect as an experiential method for university students to directly carry out education for the disabled as a disability-related service[8][9]. Therefore, developing and operating practical educational programs for the disabled according to the university student's major will help participating university students cultivate disability awareness and disability acceptance attitudes.

It is essential to provide education on health care to the subject during the nurse's work, and nursing students should be able to experience direct performance in the curriculum so that they can perform their roles as educators [10]. A study on the experience of nursing students directly conducting family health education reported positive effects of obtaining a warm understanding of the subject and a sense of educational achievement [11].

The exposure of adults with intellectual disabilities to diseases through limited physical activity and health care can lead to serious social cost problems [12]. At this point, allowing nursing students to operate health care programs for the disabled is thought to help induce the promotion of health care for the intellectually disabled. In addition, it increases the disability awareness and disability acceptance attitude of participating students, and can expect a dual effect that helps their competence as an educator.

Against this background, this study intends to proceed with the process of organizing and operating the contents of the health care program for the disabled led by nursing students. In addition, we would like to verify the effect of the program operation on the disability awareness and disability acceptance attitude of nursing university students who participated.

## **2. Method**

### **2.1 Study design**

This study is a methodological study led by nursing students to organize and develop the contents of health care programs for the disabled, and is a single-group primitive experimental study to verify the effect of program operation on participating university students' disability awareness and disability acceptance attitude.

### **2.2 Research Subjects**

The subjects who led the development and operation of the health care program for the disabled in this study were university nursing students. After starting a recruitment announcement for research participants at one nursing university in D city, university students who showed voluntary intention to participate were recruited. Any university student who agreed to participate in the study was allowed to participate, and there were no conditions to restrict participation in the study. Before starting the research recruitment announcement, one welfare center for the disabled was confirmed as a community institution where the program will be operated. There were 10 nursing students who showed initial intention to participate, and the data of the final 10 nursing

students were analyzed by operating the entire program, which is 10 nursing students, and participating until the post-evaluation.

## 2.3 Study instrument

### 2.3.1 university student-led healthcare program for intellectual disabilities

In this study, the contents of the health care program for the disabled were developed as a process of discussing and agreeing with researchers and participating nursing students by referring to the contents presented in previous studies [13] [14]. The contents of the program were organized in consideration of the reality that students can actually operate. In addition, the one-way lecture format was avoided in consideration of the learning ability of the intellectually disabled, and the contents were organized around participatory activities. The program operation was divided into five sessions, and the detailed operation contents of each topic were verified by four experts. The four experts consisted of two professors of special education, one social worker with eight years of experience working at a welfare center for the disabled, and one nursing professor with seven years of experience. The contents of the program were confirmed by reflecting the feedback received from the expert group. The contents of the program were confirmed by checking the health status of the disabled in the session 1, safety accident and infection control in the session 2, mental health, stress management in the session 3, nutrition management in the session 4, physical activity in the session 5, and daily life management. Each session program is planned to run for one hour, and the details of each session are shown in Table 1.

**Table 1. university student-led healthcare program**

session	subject	Detailed operation details
Session 1	Check the health status of the disabled	Check your health history Measurement of vital signs Check lifestyle habits (diet, exercise, drinking history, smoking history etc)
Session 2	Safety accident and infection control	Learn about the types of safety accidents that occur in your daily life. Safety accident response method practice Practice infection prevention methods (hand washing)
Session 3	Mental health, stress management	Check your stress status Psychological state analysis through pictures Learn exercises to relieve stress
Session 4	Nutrition management	Find out the nutrients in food Create a healthy eating plan Cooking Healthy Food

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Session 5	Physical activity, daily life management	Practice safe physical activity Write a daily life plan Learn exercises for healthy physical activity
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### 2.3.2 Disability awareness

Disability awareness was reorganized in Lee and Jung's study [15] through consideration of previous studies [16] [17] [18], and was measured using a tool whose validity was verified by a group of experts. The tool consists of a five-point Likert scale of 23 questions with positive self-concept (7 questions), relationship principle with students with disabilities (5 questions), awareness of relationships with students with disabilities (4 questions), efforts to promote interaction with students with disabilities (3 questions), and acceptance of human differences (4 questions). All are positive questions, and the higher the score, the more positive the disability awareness is. In previous studies [15], the reliability Cronbach'  $\alpha$  value of the tool was .92, and in this study it was .82.

### 2.3.3 Disability acceptance attitude

Disability acceptance attitudes were measured using a scale modified based on the tools used in previous studies [19] in Lee and Jung's study [15]. The tool consists of a total of 32 questions that measure four sub-areas: integrated attitude (7 questions), perceived ability (9 questions), familiarity (10 questions), and expectation of classmates' perceptions (6 questions). All are 5-point Likert scales of positive questions, meaning that the higher the score, the more positive the disability acceptance attitude is. In the preceding study [15], the reliability Cronbach'  $\alpha$  value of the tool was .96 and .86 in this study.

## 2.4 Data collection method

In this study, the health care program for the disabled led by university students was held at one welfare center for the disabled for a total of five sessions every two weeks for two months from May to June 2023. The program was operated at hours other than the regular curriculum, and participating students were given volunteer hours for welfare center service. Recruitment of university students to participate in the development and operation of health care programs for the disabled was conducted in March 2023, and in April, the contents of the program were developed and the validity of experts was verified. Nursing students who voluntarily applied to participate in the study signed a consent form for participation in the study and filled out a preliminary questionnaire. Before writing the consent to participate in the study, the researcher explained the purpose and method of the study and the fact that the participation can be withdrawn at any time, along with the provision of the research explanation. Immediately after the end of the health care program for the disabled for a total of five sessions, a post-mortem survey was conducted on nursing students who participated. The actual program was adjusted by the agency's manager so that 10 intellectually disabled people who wished to participate could participate in each session. There was no restriction for the same intellectually disabled person to participate in each session. During the program, intellectually disabled people and nursing students matched one-on-one.

## 2.5 Method of data analysis

The data collected in the study were analyzed by the SPSS 26.0 (SPSS, Inc., Chicago, IL, USA) program. The general characteristics of nursing students who participated in the study were analyzed by descriptive statistics. The difference between disability awareness and disability acceptance attitude measured before and after the health care program for the disabled was analyzed by the Wilcoxon signed-ran test. The data analyzed in this study were collected from 10 subjects, and the normal distribution could not be identified, so it was analyzed by a nonparametric statistical method.

## 3. Results

### 3.1 Characteristics of Participants

Gender, age, grade, and religion were identified as general characteristics of nursing students who participated in the study. All university students who participated were women, and the average age was  $20.10 \pm 1.60$ . Three 1st grade students (30.0%) and seven 2nd grade students (70.0%) participated, and four (40.0%) had religion (Table 2).

**Table 2. Characteristics of Participants (n=10)**

Characteristics	Categories	n (%) or Mean $\pm$ SD
Age (yr)		$20.10 \pm 1.60$
Grade	1st grade	3 (30.0)
	2nd grade	7 (70.0)
Religion	Yes	4 (40.0)
	No	6 (60.0)

### 3.2 Verifying the effectiveness of Healthcare program for Intellectual disabilities

Changes in disability awareness and disability acceptance attitudes of nursing students who participated in development and operation were confirmed to verify the effectiveness of the healthcare program for intellectual disabilities. In the preliminary survey results confirmed before the development of the program, the disability awareness of nursing students was found to be an average of  $4.04 \pm 0.20$  points based on 5 points, and the disability awareness attitude was  $3.89 \pm 0.25$  points based on 5 points. In the post-mortem survey results confirmed after the program operation, the disability awareness of nursing students rose to  $4.55 \pm 0.22$  points, showing a significant difference ( $Z = -2.80$ ,  $p = 0.002$ ). In addition, it was confirmed that the attitude of nursing students to accept disabilities increased to  $4.41 \pm 0.37$  points and changed significantly ( $Z = -2.66$ ,  $p = 0.006$ ) (Table 3).

**Table 3. Verifying the effectiveness of Healthcare program for Intellectual disabilities**

(n=10)

Variables	Pre-test	Post-test	Z	p
	Mean ± SD	Mean ± SD		
Disability awareness	4.04±0.20	4.55±0.22	-2.80	.002
Disability acceptance attitude	3.89±0.25	4.41±0.37	-2.66	.006

#### 4. Discussion

As a result of this study, the content of a five-session healthcare program for people with intellectual disabilities was developed and presented, with nursing students taking the lead. The participating nursing students were responsible for the actual operation of the program after its development. Compared to the education provided by professional athletic trainers and nutritionists in previous study [14] that implemented exercise and nutrition education programs for people with intellectual disabilities, the contents of the developed program differed in that the program in this study covered a wide range of psychological aspects, and participatory education was conducted rather than one-way education. In addition, a previous study [13], which operated an integrated healthcare program for people with mental disabilities, covered physical, psychosocial, and spiritual health, but did not include nutrition management, which is different from the program content in this study. In addition, in the previous studies [13][14], experts related to educational contents operated the program, but in this study, university students developed and operated the program themselves, which can be expected to have an educational effect on the operators.

The results of this study showed positive changes in the nursing students' scores on disability awareness and disability acceptance attitudes who participated in the program, with significant increases in both. These findings support previous studies [8][9][20] that have shown that participation in experiential education helps foster positive disability awareness and attitudes in university students. Therefore, it is thought that universities should strive to develop and operate various types of student participation programs to foster disability awareness and attitudes as one of the social competencies of university students.

The results of this study are significant in that they suggest practical ways for university students to develop and operate their own disability healthcare programs and demonstrate that disability awareness and disability acceptance attitudes can be improved through program operation. However, there were only 10 nursing students who participated in this study, and it was conducted as an experimental study without a control group, so there are limitations in objectifying the results of the study. In addition, we did not check the outcomes and satisfaction of people with disabilities who received healthcare programs, so it is necessary to conduct a follow-up study that complements these aspects.

#### 5. Conclusion

In the results of this study, the contents of nursing students' development and operation of health care programs for the disabled were presented as appropriate for their major. In addition, it was confirmed that the operation of the program improves the awareness of disability and the attitude of acceptance of disability among nursing university students who participated. Based on these results, it is necessary to evaluate whether the operation of the health care program for the disabled presented as a result of the study is actually helpful

to the disabled. In addition, as a regular form, it is proposed to develop various programs related to the disabled led by university students to confirm the operation performance.

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