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The Effect of a Workshop on a Urinary Incontinence Self-Management Teaching Program for Community Health Nurses

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Purpose: This study aimed to examine the effectiveness of the workshop on the nurses' knowledge about urinary incontinence (UI) self-management, attitudes toward UI, and self-efficacy to plan and implement a UI self-help group program for their clients. **Methods:** A one-group pretest and posttest design was used to examine changes in knowledge, attitudes, and self-efficacy following a one-day training workshop. Twenty-seven community health nurses completed a questionnaire before and after the workshop. Before participating in the workshop, the participants were required to take a UI online continuing education program developed by the researchers. During the workshop, the participants took four sessions which consisted of an introduction of a self-help group program, demonstration of a 5-week UI self-management program contents, pelvic floor muscle training and biofeedback practice, and group discussions to plan the implementation in their workplaces. **Results:** A significant improvement in knowledge of and attitudes toward UI were found (t=3.53, *p*=.002; t=2.83, *p*=.009, respectively) after the workshop. Participants also demonstrated improvement in their self-efficacy to plan and operate a UI self-help group program (Z=-2.64, *p*=.008). **Conclusion:** The one-day workshop for community health nurses is a feasible strategy to increase their abilities and confidence in operating a UI self-help group program.

Key Words: Urinary incontinence, Self-management, Education, Program evaluation

INTRODUCTION

Urinary incontinence (UI) is a common condition that affects the quality of life of numerous women worldwide. A Korean epidemiologic study reported that the prevalence of UI in Korean women aged 19 years or older was 28.4% and increased with age, reporting 45~65% UI prevalence in women aged 40 years and older[1-3]. Not only can UI lead to limitation in daily activities, but it also influences psychosocial well-being such as levels of stress, anxiety, depression, as well as fear and shame related to urine leakage[1]. Prolonged UI can result in a greater impact on the quality of life than many other chronic diseases such as diabetes or hypertension[4]. Therefore, the prevention and management of UI should be carefully considered to improve health and quality of life of women with UI.

Despite a high prevalence of UI and its negative impacts on daily activities, women with UI seldom seek medical treatment due to their perception of UI as a part of the normal aging process or because it is an embarrassing genitourinary condition[5]. In Korea, only 4.0~12.6% of women with UI seek help from health care professionals[1,5] in that the majority of women with UI try to manage their condition themselves[6]. Indeed, their self-management of UI is often limited to pad changes and personal hygiene[1].

Support for effective self-management is needed for women with UI to better manage their chronic condition. Community-based UI self-help group education programs can help affected women change their self-management behaviors and improve their confidence in managing

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the symptoms. However, it has been suggested that operating self-help group programs may be difficult because of a lack of trained healthcare professionals and adequate training[7]. A Korean study on UI-related nursing activities in community nurses revealed that nurses' knowledge level of UI was relatively low, and nursing practices on UI were hardly performed[8]. Moreover, misguided beliefs and attitudes toward UI in nurses were found to have negative effects on UI-related nursing practices[9]. Thus, systematic programs for fostering trained healthcare professionals are warranted to improve knowledge and attitudes on UI care in community health nurses and to strengthen confidence and capacity of planning and implementing UI self-help groups.

The prevalence of UI is also relatively higher than that of urban women[3], and those individuals are less likely to receive medical treatment or participate in UI education programs[1]. As such, a need for UI self-management group programs is greater than ever in Korean rural areas. The continuing education on UI self-management targeted at CHPs as well as home visiting nurses is expected to contribute to the enhancement of UI self-management in women residing in local communities. Therefore, we designed an educational training program for CHPs and home visiting nurses to improve their competency and confidence in UI self-management for their clients. The purpose of this study was to examine the effectiveness of the workshop on the nurses' knowledge about UI self-management, attitudes toward UI, and self-efficacy in the operation of a UI self-help group program.

METHODS

1. Research Design

A one-group pretest and posttest design was used to examine changes in nurses' knowledge, attitudes, and self-efficacy following a one-day training workshop.

2. Participants

Participants of this study were CHPs, home visiting nurses, and nurse educators interested in a UI self-management training program. To participate in the workshop, the participants were required to take the UI online continuing education program (http://www.nursing-practice.org) developed by the researchers. Those who received online education but did not submit the number of hours spent for their self-study were excluded from this study. Of the 59 nurses who received online UI education, 58 completed all of the online modules from October 2013 to January 2014 (attrition rate, 2%). Of those, 27 volunteered to participate in the training workshop on the UI self-help group program. The sample size was calculated using G*Power3.1.9.2 program. A total of 23 subjects were required to detect a difference means in UIKS, UIAS, and self-efficacy before and after the workshop, assuming a large effect size (0.8), 80% power, and a two-tailed α of 0.05.

3. The Training Workshop on UI Self-help Group Program

A self-help group is formed to share experiences among people with the same problem or disease to achieve a common goal[10]. The training workshop was designed to help nurses improve their capabilities and confidence in planning and implementing a self-help group program for women with UI.

Before the actual on-site workshop, acquisition of basic UI knowledge and the concept of self-management was required in order to maximize the efficiency of on-site training. The authors developed the UI online continuing education program, which was piloted, and examined its effectiveness[11]. Completion of the UI online education continuing program was a prerequisite for applying for the workshop. Based on reviews of literature on UI self-management[12-14], the authors developed the continuing education program comprised of three mandatory modules (understanding of UI, principles of UI self-management, and education of UI self-management) and various supplementary materials (articles related to UI, useful websites, video clips, and others). The average learning time for the participants in the pilot study was 4.8 hours (range, 3.2-7.8)[11].

The workshop contained four sessions (8 hours), consisting of an introduction of self-help group program, demonstration of 5-week self-help group education program, pelvic floor muscle training and biofeedback device practice, and group discussions (Table 1). With regard to the 5-week self-help group education program, the authors developed its detailed contents and operation strategies based on both literature reviews and case studies on chronic disease self-help group programs[12,15]. The effect of the program has been demonstrated through a pilot study[16]. The specific content of the workshop sessions contained lectures on knowledge and skills about principles of UI self-management including strengthening of self-efficacy, collaborative goal settings between health care instructors and cli-

Table 1. The Content of the Workshop on Urinary Incontinence Self-management

Session	Contents	Activities
I	Introduction on UI self-help group program - The fundamental principle of self-management	Lecture
II	Demonstration of a 5-week UI self-help group program self-management program - Week 1: Understanding of UI & Kegel exercise - Week 2: UI management & Kegel exercise - Week 3: Myths and facts about UI & Kegel exercise - Week 4: UI treatments & Kegel exercise - Week 5: Review of the program & Kegel exercise	Lecture Discussion
	Success stories - Implementation of a UI self-help group program for clients - Graduation ceremony	Lecture Discussion
III	Pelvic floor muscle training Biofeedback practice	Lecture Exercise
IV	Planning for operation of a self-help group program - Specific action plans	Discussion Brainstorming Presentation

UI=urinary incontinence.

ents, determination and practice of individualized health behaviors, and patient-centered problem-solving strategies. An exercise session for pelvic floor muscle group therapy was included in each session to help clients understand the importance of pelvic floor muscle exercises and to teach the correct use of pelvic floor muscles to maximize exercise effects. Other teaching and program materials included: UI assessment questionnaire, program evaluation questionnaire, 5-week education curriculum, daily voiding and diet diary, trainee name tag, attendance table, supplementary supplies (e.g. O and X boards, UI pad, etc.), program completion certificate template. For the last session, participants were divided into small groups, discussing and presenting specific plans and action strategies for operating UI self-help group classes in their communities.

4. Instruments

The questionnaire comprised 4 sections: (1) UI knowledge scale (UIKS); (2) UI attitudes scale (UIAS); (3) self-efficacy in operating a UI self-help group program, and (4) demographic characteristics including age, level of education, working experience, experience of UI continuing education, and experience of UI care.

The UIKS and the UIAS developed by Yuan and colleagues[17,18] were used to measure changes in nurses' knowledge and attitudes. The UIKS consisted of 30 items with dichotomous choices (1=correct; 0=false or do not know) and 6 subscales including risk factors (5 items), symptoms (5 items), impacts of UI (5 items), prevention (5 items), treatment (5 items), and management (5 items). Total score of the UIKS ranged from 0 to 30. Subscale scores were also calculated, and the range of scores for each subscale was 1 to 5. Higher knowledge scores indicated more knowledge about UI. The UIAS had 15 items and comprised 4 subscales including symptoms, prevention, treatment, and management. It was scored using a 4-point Likert scale, ranging from 1 (strongly disagree) to 4 (strongly agree). The mean value of the UIAS scores was calculated (1=the lowest and 4=the highest), and higher scores indicated more positive attitudes toward UI care. The internal consistency of the original instruments was .72 for the UIKS and .65 for the UIAS. In the current study, Cronbach's α was .62 for UIKS and .75 for UIAS.

The original English version of both scales was translated into Korean and then back-translated by bilingual-bicultural researchers. Permission to use and translate these two scales to Korean was obtained (H Yuan 2013, personal communication, 14 April). Finally, we modified sentences and phrases in the questionnaire through a pilot study on ten community health nurses.

Based on the literature review[19], the authors developed an instrument to measure self-efficacy of nurses in operating a UI self-help group program which consisted of 25 items representing essential components of implementing a UI self-help group program. The 5 subscales of the self-efficacy scale were assessment, plan, implementation, monitoring, and evaluation. Items re-

sponses were a 5-point Likert scale (1=not at all; 2=very little; 3=somewhat; 4=moderate; 5=very much). The self-efficacy score was calculated from the mean of the 25 items, and the score range was 1 to 5. Higher scores indicated a higher level of confidence in operating UI self-help group program. The Cronbach's α was .87 in this study.

5. Data Collection

Ethical approval for the study was obtained from the institutional review board of Gangneung-Wonju National university (GWNUIRB-2014-1). The workshop was held on February 22, 2014. Data were collected through self-report questionnaires before and after the workshop to assess changes in knowledge of and attitude toward UI and in confidence level on the operation of a self-help group program.

6. Data Analysis

Descriptive statistics were employed to describe the sociodemographic data. After examining a normal distribution of scores within the data set (Kolmogorov-Smirnov test: $p>.05$), a paired t test was used to compare the total score of UIKS and UIAS data obtained before and after the workshop. In the case of an abnormal distribution of scores within the data set, the Wilcoxon signed-rank test was used to measure the difference between before and after workshop scores. A two-tailed p-value of less than .05 was considered to be statistically significant. All the data were analyzed using SPSS statistics 21.0.

RESULTS

1. Participant Characteristics

Demographics and sample characteristics are presented in Table 2. The mean age of subjects was 48.6±6.18 years (range, 33~60). Regarding educational attainment, more than half (61.5%) obtained a graduate degree in nursing or in a related area, 23.1% in a 4-year college graduates, and 15.4% in a 3-year college graduates. The mean number of years of working experience as a nurse was 20.5±10.24 years. With regard to workplace, 16 participants (59.3%) were working at a primary health care post, which accounted for the largest percentage, three (11.1%) in a public health center, and eight (29.6%) in others. Of the 27 participants, half (50 %) had no experience in UI care and 66.7% had not received any UI-related continuing education. The average learning time for the participants in this study was 5.5 hours (range, 2~8).

2. Effects on Knowledge of and Attitudes Toward UI

A significant improvement in knowledge of and attitudes toward UI were found after attending the workshop. The total mean score of UIKS increased 1.4 points

Table 2. Participant Characteristics (*N*=27)

Characteristics	Categories	n (%) or M±SD	Range
Age (year)		48.6±6.18	33~60
Level of education†	3-year college 4-year university ≥Graduate school	4 (15.4) 6 (23.1) 16 (61.5)	
Total years of working experience as a RN		20.5±10.24	1~40
Experience of UI care†	Yes No	13 (50.0) 13 (50.0)	
Experience of a UI continuing education	Yes No	9 (33.3) 18 (66.7)	
Workplace	Public health center Primary health care post Others (nursing school etc.)	3 (11.1) 16 (59.3) 8 (29.6)	
Years of working experience at current employment (year)		15.3±10.23	0~30
Time spent for a UI online continuing education (hour)		5.5±1.53	2~8

UI=urinary incontinence; † Missing excluded.

after the workshop, showing a statistical significance (t=3.53, p=.002). Regarding changes in the subscales of UI knowledge, a statistically significant improvement was found in risk factors (Z=-3.28, p=.001) and management (Z=-2.62, p=.009). With regard to UI attitudes, the pre-workshop mean score was 2.6±0.19 while it increased to 3.1±0.41 after the workshop (t=2.83, p=.009). Of all subscales of attitudes toward UI, a statistically significant increase was found in management after the workshop (Z=-2.82, p=.005)(Table 3).

3. Effects on Self-efficacy in Planning a UI Self-help Group

The overall mean score of self-efficacy significantly increased from 4.1±0.63 to 4.4±0.44 after the workshop (Z=-2.64, p=.008)(Table 4). The mean value of all 5 subscales (assessment, plan, implementation, monitoring, and evaluation) showed a statistically significant increase after the workshop (Z=-2.99, p=.003; Z=-2.33, p=.020; Z=-2.25, p=.025; Z=-2.57, p=.010; Z=-2.56, p=.011, respectively). Among the items of self-efficacy in assessment, 'I can collect UI-related data before the program (e.g., knowledge, attitudes, etc.)' had significantly improved after the workshop (z=-2.81, p=.005), whereas there was no difference between pre- and post-test in 'I can identify older adults with UI'. Among the five items of self-efficacy in plan, 'I can organize a partnership to support each other in UI self-management group' showed the most significant improvement after the workshop (Z=-2.97, p=.003). On the other hand, 'I can utilize adequate resources for the program' showed no statistically significant improvement after the workshop. Among the 11 items of self-efficacy in implementation, the pre-workshop score of 4 items had increased after the workshop but not in a statistically significant way. These items were 'I can educate about the pelvic floor training'; 'I can educate about the definition, symptoms, types, and related factors of UI'; 'I can educate about the structure and function of the bladder'; and 'I can educate about proper diet to prevent UI'. Of the 4 items of self-efficacy in monitoring, only one item, 'I can monitor the attendance of participants', showed no statistically significant increase, but closely approached to a statistically significance level (Z=-1.89, p=.059). The scores of the 3 items of self-efficacy in evaluation showed a statistically significant increase after the workshop; they were, 'I can hold a graduation ceremony'; 'I can collect UI-related data after the program'; and 'I can evaluate the effects of the program on UI self-management' (Z=-2.39, p=.017; Z=-2.32, p=.020; Z=-2.29, p=.022, respectively).

DISCUSSION

In Korea, self-management programs for chronic diseases such as arthritis, diabetes, and hypertension have been mainly implemented through community health centers[7], however, UI self-management programs have been mostly operated by a few researchers for individuals with UI[14,20]. Moreover, there are few educational offerings aimed at strengthening nurses' abilities in operating UI self-management program for their clients. This study was carried out to enhance capabilities of nurses who would potentially take a role in operating UI self-help group programs for community-dwelling

Table 3. Changes in Knowledge and Attitudes after the UI Workshop (*N*=27)

Variables	Categories (range)	Pre-workshop M±SD	Post-workshop M±SD	t or Z (p)
UI knowledge	Risk factors (0~5)	4.2±0.96	4.9±0.32	-3.28 (.001) †
	Symptoms (0~5)	4.4±0.84	4.4±0.70	-0.45 (.655) †
	Impacts (0~5)	5.0±0.00	5.0±0.19	-1.00 (.317) †
	Prevention (0~5)	5.0±0.00	5.0±0.00	0.00 (1.000) †
	Treatment (0~5)	4.3±0.81	4.3±0.68	-0.50 (.614) †
	Management (0~5)	4.1±0.78	4.6±0.63	-2.62 (.009) †
	Total score (0~30)	26.9±2.04	28.3±1.48	3.53 (.002)
UI attitudes	Symptoms (1~4)	3.3±0.52	3.5±0.45	-1.58 (.113) †
	Prevention (1~4)	3.3±0.68	3.4±0.69	-0.49 (.627) †
	Treatment (1~4)	2.6±0.31	2.7±0.20	-1.74 (.082) †
	Management (1~4)	2.8±0.33	3.0±0.24	-2.82 (.005) †
	Total score (1~4)	2.6±0.19	3.1±0.41	2.83 (.009)

UI=urinary incontinence; † Wilcoxon signed ranks test.

Table 4. Changes in Self-efficacy after the UI Workshop (*N*=27)

Variables (range, 1~5)	Pre-workshop M±SD	Post-workshop M±SD	Z (*p*) †
Assessment	4.1±0.61	4.5±0.48	-2.99 (.003)
I can identify older adults with UI.	4.3±0.53	4.5±0.51	-1.73 (.083)
I can collect UI-related data before the program (e.g. knowledge, attitudes, etc.).	4.1±0.63	4.5±0.51	-2.81 (.005)
Plan	4.0±0.59	4.3±0.44	-2.33 (.020)
I can promote the program through different channels.	4.2±0.51	4.5±0.51	-2.31 (.021)
I can organize a UI self-management group.	3.9±0.63	4.3±0.55	-2.65 (.008)
I can organize a partnership to support each other in a UI self-management group.	3.8±0.69	4.4±0.50	-2.97 (.003)
I can utilize adequate resources for the program.	4.0±0.66	4.0±1.04	-0.45 (.650)
I can utilize UI-related websites.	4.1±0.77	4.4±0.58	-2.11 (.035)
Implementation	4.1±0.66	4.4±0.46	-2.25 (.025)
I can teach the principle of a UI self-management class to my clients.	4.0±0.82	4.5±0.58	-2.35 (.019)
I can educate about the pelvic floor training.	4.2±0.71	4.4±0.50	-1.16 (.248)
I can educate about the definition, symptoms, types, and related factors of UI.	4.2±0.63	4.4±0.50	-1.51 (.132)
I can educate about the structure and function of the bladder.	4.1±0.77	4.3±0.56	-1.39 (.166)
I can educate about the necessity and skills of self-management.	4.1±0.80	4.4±0.50	-2.00 (.046)
I can educate about proper diet to prevent UI.	4.1±0.77	4.4±0.50	-1.73 (.083)
I can educate about good bladder habits.	4.1±0.74	4.4±0.50	-2.31 (.021)
I can educate about daily life habits.	4.1±0.62	4.4±0.50	-2.31 (.021)
I can educate about personal hygiene.	4.2±0.62	4.5±0.51	-2.14 (.033)
I can educate about UI treatment resources.	3.9±0.68	4.3±0.54	-2.71 (.007)
I can provide a 5-week UI self-management program.	4.0±0.92	4.4±0.49	-1.81 (.071)
Monitoring	4.1±0.70	4.5±0.49	-2.57 (.010)
I can encourage my clients to have positive attitudes toward UI.	4.1±0.77	4.4±0.58	-2.67 (.008)
I can monitor their diet and bladder diary during the program.	4.1±0.83	4.5±0.51	-2.52 (.012)
I can monitor their follow-up appointments.	4.0±0.71	4.4±0.51	-2.14 (.033)
I can monitor the attendance of participants.	4.2±0.74	4.5±0.51	-1.89 (.059)
Evaluation	4.0±0.84	4.4±0.48	-2.56 (.011)
I can hold a graduation ceremony.	4.0±0.98	4.4±0.50	-2.39 (.017)
I can collect UI-related data after the program.	4.1±0.72	4.5±0.51	-2.32 (.020)
I can evaluate the effects of the program on UI self-management.	3.9±0.97	4.4±0.56	-2.29 (.022)
Total score	4.1±0.63	4.4±0.44	-2.64 (.008)

UI=urinary incontinence; † Wilcoxon signed ranks test.

women while examining the effectiveness of the workshop.

Findings of the this study suggest that the one-day workshop followed by the UI online continuing education was effective in improving community health nurses' knowledge of and attitudes toward UI. Our findings support that of other studies showing that short-term staff education programs were acceptable to develop nurses' competences. In a Japanese study investigating the effects of a one-day staff training workshop on suicide prevention, nurses' understanding of and willingness to care for suicidal patients positively changed [21]. Another study on a diabetes education program for nurses also revealed that a one-day education program had a positive effect on nurses' knowledge[22]. Likewise, our one-day workshop showed its feasibility and effectiveness in enhancing nurses' capabilities in UI self-management care. The participants in our study also demonstrated improvement after the workshop in most items of self-efficacy in implementing a UI self-management program.

It is worth noting that despite a 2-hour session of pelvic floor training and biofeedback device practice, confidence level on pelvic floor muscle training showed no difference between the pre- and post-workshop. As pelvic floor muscle training was an important component of UI self-management education[23], further study may be warranted to identify the problems of the pelvic floor

muscle training session from the nurses who participated in the workshop. Continuous modification of the workshop program could also improve the adherence of pelvic floor muscle training session.

Like the pelvic floor muscle training and biofeedback device practice, participants showed no improvement in confidence in the use of resources to implement a self-help group program after the workshop. Resource utilization refers to the auxiliary personnel and funding required for the program. In a Korean study about the current operating status of self-help group programs in public health centers nationwide, budget constraint was one of the most important challenges and the main barrier to implementation of self-help group programs[7]. Considering CHPs' working environment, there are potential challenges in mobilizing staff assistants and securing a budget. Therefore, more specific strategies for these issues need to be discussed among the public and educational institutions. As presented in other educational training workshops, studies indicating that a writing practice for a proposal for funding support was substantially helpful to receive funding support[19], a training session on how to write a proposal would be considered as content of the workshop program.

The study has some limitations in evaluating the effect of the workshop as it was a one group pre-test and post-test design. Further investigations are required to verify the results of the workshop through a study including the control group. Like the UIKS in this study, the internal reliability of the scale with dichotomous items had difficulties in reaching a high Cronbach's α value[24]. Although the Korean version of the UIKS was verified through back-translation by bilingual-bicultural researchers and piloted by volunteer community health nurses to identify unclear contents, the Cronbach's α was .62. Given the fact that the reliability of original English version of UIKS was also low at .72 (n=100), a Cronbach's α of .62 (n=27) in the present study is comparatively acceptable when considering a small sample size, but it would be necessary to modify and supplement this tool to be more suitable to Korean population. In addition, the authors newly developed the scale for measuring nurses' self-efficacy in planning a UI self-help group, and the validation of the scale is needed.

CONCLUSION

This study demonstrated that a one-day education program on UI self-management was effective in improving nurses' knowledge, attitudes, and self-efficacy in UI self-management. For further development and updates of this program, it is important to investigate patient outcomes, such as knowledge, attitudes, and UI symptoms, among community dwellers participating in a UI self-group program operated by nurses who were trained in this workshop. A qualitative study, such as focus group interviews, would also be helpful to identify the barriers and limitations in operating the program. To formulate implications for nursing practice, institutional support needs to be strengthened to operate the program on a regular basis by integrating interconnected and continuing education with related academies and institutions. In addition, distributing educational products via multimedia is encouraged for widespread implementation the program. Further studies on an analysis of long-term effects of program operation will be warranted to verify the current findings. Additionally, to improve the accessibility and sustainability of UI self-management programs among women with UI, efficient strategies need to be designed for smart device users by developing convenient mobile applications of UI self-management.

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