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The Effect of Care Plan Application Based On Roy Adaptation Model on the Self-Efficacy in Elderly People in Urmia Nursing Homes.

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ABSTRACT

Due to the dramatic rise in the aging population and the problems and complications of this period, it is necessary to cause positive adaptation during this important period of life. In this regard, nursing theories and especially Roy's adaptation model can be applied in order to convert unhealthy and maladaptive behaviors into healthy and adaptive ones so that complications and problems of the old age can decrease and consequently self-efficacy can rise in the elderly. The present study was conducted in order to determine the effect(s) of implementing a care program on self-efficacy in the elderly of nursing homes of Urmia based on Roy's adaptation model. The present research is a before-and-after experimental study. Convenience sampling was utilized to select sixty elderly who had the conditions of entering the study. They were randomly divided into a control group (30 subjects) and an intervention group (30 subjects). Data collection instrument was the standard questionnaire of self-efficacy that was filled out by the two groups before and after the intervention. The care program was designed based on the results of Roy's form of knowledge and examination and implemented during two public sessions and four individual sessions to manipulate the main motivations over a period of 1.5 months and followed up for one month. Data analysis was carried out through descriptive and inferential tests using SPSS 16.0. The results of the study indicated that after the intervention there was a significant difference between the two groups in regard with the mean score of their self-efficacy ($P<0.001$). The mean score of self-efficacy of the elderly in the intervention group increased and the results of the paired samples T-test proved this increase to be significant ($P<0.001$). Implementing the care program that was based on Roy's adaptation model had a positive effect on enhancing the self-efficacy of the elderly. Therefore, healthcare providers and nurses are highly recommended to enhance the self-efficacy among the elderly of the nursing homes by raising adaptation among them through nursing theories and care programs.

Keywords: Roy's adaptation model; self-efficacy; the elderly; nursing home

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INTRODUCTION

One of the challenges that healthcare systems all over the world are nowadays facing with is the aging trend if the population. According to WHO, old age refers to the age of 60 and more and is a natural trend in human lifetime that causes physical, mental, and social changes in the elderly [1]. Advances in the field of healthcare play an important role in enhancing human lifetime and the population of the elderly all over the world [2]. Statistics indicates an annual increase of 1.7% in the world population 2.5% in the aging population. According to the latest statistics by the Ministry of Health and Medical Education (2011), the elderly account for 8.2% of Iran's population. According to the increasing trend of elderly population, it is estimated that this figure will reach 10.5% by 2025 and 21.7% by 2050 [3].

As a result of aging trend, the aging problems and complications mostly appear as physical dysfunction which in turn leads to reduction in maintaining independence and increase in need for help [4]. The results of the previous studies indicated that 58% of over-65 elderly need help with their daily activities [5, 6]. There should be focus on changing the attitudes and beliefs among the elderly in order to enhance their independence, decrease aging complications, and enhance positive attitudes among them so that their lifestyle can be changed. Increasing the number of healthy behaviors can change the lifestyle of the elderly and support the concept of dynamic elderly, which means enhancing the quality of life along with its quantity [5, 7]. One of the factors that has a close relation with life quality especially in the elderly is self-efficacy [8]. Self-efficacy is the individual's mastery over carrying out the required functions. In other words, it means the certainty based on which the individual conducts a specific behavior in a specific occasion and expects the required outcome [8, 9].

In fact, attitudes and beliefs about self-efficacy determine the time spent by the individual to conduct a task, resistance duration when the individual faces with difficulties, and flexibility in various situations [10]. Studies have indicated that self-efficacy in the elderly is highly important because it has a positive relation with increase in quality of life, physical activities, and self-care ability [8, 11]. Self-efficacy leads to an increase in social communications and contributions and affects all aspects of life. Patients who know their abilities take active participation in healthcare programs [12]. By creating this attitude that the individual has the ability to conduct tasks and deal with daily life problems easily, self-efficacy can improve the conduction of daily activities and self-care, which finally enhances the individual's health and life quality [13]. Inappropriate self-efficacy reduces the ability of self-care and independence and enhances physical and mental complications of old age. Inappropriate self-efficacy causes the problems and complications of the old age to appear as unhealthy and maladaptive behaviors and consequently leads to reduction in adaptation among the elderly [14]. Nursing scholars have proposed different theories and patterns among which Roy's adaptation model is a practical and effective model which has been proposed in the field of adaptation [15, 16].

According to this model, the individual can achieve adaptation by reaching adaptation in physical aspect (physiological dimension) and psychological aspects (self-concept, role play, independence, and dependence) [16-18]. Based on this model, three types of main, contextual, and remaining motivations affect adaptation and manipulating these motivations during care program results in an increase in adaptation [16, 19]. In this model, the individual can be precisely examined in four dimensions of physiology, self-concept, independence, and dependence and based on its results, the unknown causes (main, contextual, and remaining motivations) of the patient's maladaptive behavior can be determined and a precise program can be designed to create adaptive and health behaviors in the patient [20, 21]. By creating positive and effective adaptation in physiological and psychological dimensions in the elderly, it is likely that self-efficacy rise in them, which in turn results in an increase in health, a reduction in diminishing complications, and improvement of life quality among the elderly [14, 22, 23]. Therefore, benefiting from standard models of adaptation like Roy's adaptation model which is a safe, noninvasive, nonmedical, inexpensive, and easily teachable method to enhance the individual's physical and psychological adaptation seems necessary [22]. Bearing in mind the abovementioned points, the present study was aimed at determining the effect of implementing the care program on self-efficacy in the elderly of nursing homes of Urmia based on Roy's adaptation model.

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MATERIALS AND METHOD

The present research is a pre-test post-test experimental study. All of the elderly who resided in Urmia nursing homes of Alzahra, Khane-e Sabz, Ara, and Ferdows and had the conditions of entering the study including the age of 60 and more, having no hearing and speaking problems, being aware of the location, having no physical diseases like thyroid that are effective in mentality, and having no cognitive problems were selected for the study through convenience sampling. The number of the participant was 60. After the informed written consent was gained from the elderly, they were randomly divided into an intervention group (30 individuals) and a control group (30 individuals) through random allocation software.

The questionnaire of demographic information and the General Self-efficacy Scale (GSE-10) were completed through interviewing the elderly. GSE-10 is a valid and reliable questionnaire that consists of 10 items which are answered with options from "it is not true at all" to "it is quite true" and scores of 1 to 4. The minimum and maximum scores are respectively 10 and 40. This questionnaire was translated into Persian by Nezami et al in 1996 and its reliability was calculated to be 0.81 and 0.82 in Moini's study and Rajabi's study [24, 25].

To design the care program in the intervention group in each nursing home, the forms of Roy's adaptation model (the form of maladaptive behaviors in four dimensions of physiology, self-concept, role play, and dependence and independence of the patient and the main, contextual, and remaining motivations of these maladaptive behaviors) were utilized. Afterwards, maladaptive and main and their contextual, and remaining motivations were determined for each sample based on the completed forms. Then, the intervention, which was designed based on the previous studies and resources and Roy's adaptation forms, was implemented.

The intervention lasted 6 sessions. Two sessions was allotted to public instruction of 4 dimensions including physiology, self-concept, mutual interaction, and role play. For instance, physiological instruction included trainings on appropriate diet, proper physical activities, effective factors in sleep, and other physiological dimensions that had been determined in Roy's adaptation forms. In the dimension of self-concept, trainings were on positive change of mental image and self-ideal. In the aspect of mutual interaction, the trainings were devoted to communication with peers, participation in discussions and religious rituals, and other fields that affect mutual interactions that had been determined in the form. In the dimension of role play, the instructions were allotted to assigning some affairs of the nursing homes to the elderly, participation in their birthday parties and weddings, formation of sports teams, and other related factors.

The rest four sessions were allotted to individual instruction for each participant of the intervention group. During these sessions, main, contextual, and remaining motivations of maladaptive behaviors retrieved from Roy's adaptation forms were manipulated. The researcher personally attended all of the abovementioned centers and practically worked with all of the participants in the intervention group and helped them to resolve their maladaptive behavioral motivations. For instance, a participant who had muscle weakness and lack of activity was provided with walking exercises by the healthcare provider and at least was encouraged to walk. Or a participant was given useful exercises in the gym. An elderly who had constipation problem was offered to consume fruit, vegetables, and liquids and do physical activities. The elderly who were maladaptive in regard with self-concept, mutual interaction, and role play were provided with consultation by a psychological counselor who was in attendance with the researcher in the nursing centers so that the proposed recommendations were implemented in order to modify psychologically maladaptive behaviors.

After the instructional sessions and the researcher's one-month intervention, the implementation of the care program in the nursing homes was followed up by attending the centers. After this period, the researcher distributed the GSE-10 among the participants once more. The collected data were analyzed through descriptive and inferential tests using SPSS 16.0.

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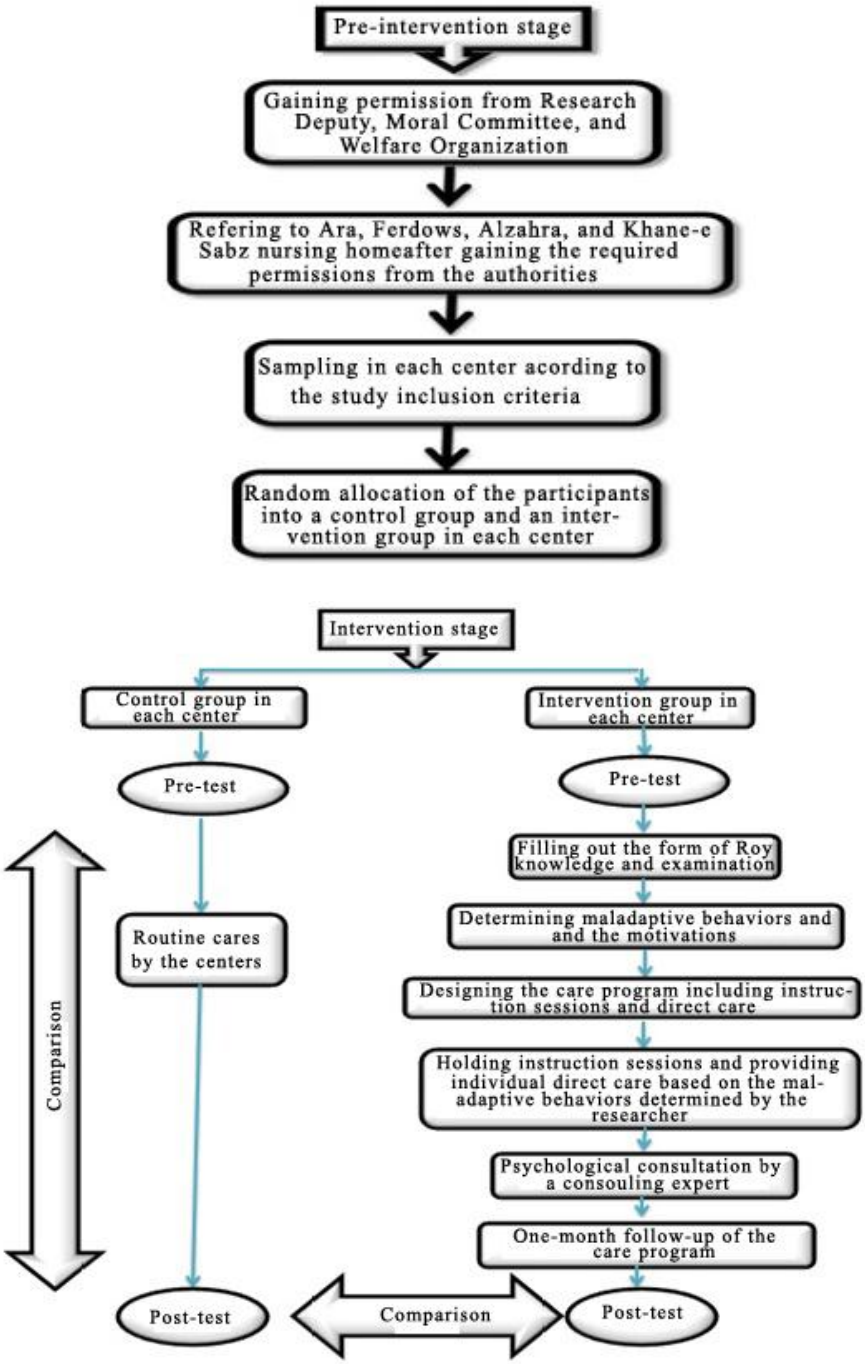

Figure 1: Implementation diagram of the program

RESULTS

One of the participants of the intervention group died and was excluded from the study. Therefore, the size of the intervention group deceased to 29 participants. The results of the study indicated that women accounted for 93.34% of the control group and 96.55% of the intervention group. The average age of the participants was 70.10±4.95 in the control group and 69.58±7.03 in the intervention group. The results of the independent T-test and chi-square indicated that there was no significant difference between the two groups in terms of their age, duration of residence in the center, number of children, gender, marital status, education, income source, and insurance status (See Table 1).

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Table 1: Comparing the demographic characteristics of the two groups

variable		control group		intervention group		independent t-test results
		mean	SD	mean	SD	
age		70.1	4.95	69.58	7.03	P= 0.778
duration of residence		5.5	2.35	5.79	2.11	P= 0.617
number of children		3.83	1.53	3.62	1.98	P= 0.647
variable		n.	%	n.	%	chi-square results
gender	female	28	93.3	28	96.55	X^2= 0.316 d.f= 1 P= 0.57
	male	2	6.66	1	3.45	
marital status*	married	6	20	8	27.5	X^2=3.65 d.f= 1 P=0.302
	single	0	0	2	6.9	
	divorced	1	3.34	0	0	
	spouse died	23	76.6	19	65.5	
centers	Khane-e Sabz	16	53.3	16	55.16	X^2= 0.126 d.f= 3 P= 0.989
	Alzahra	7	23.34	7	24.16	
	Ferdows	4	13.32	3	10.34	
	Ara	3	10	3	10.34	
education	illiterate	18	60	19	65.5	X^2= 0.269 d.f= 2 P= 0.874
	under diploma	9	30	8	27.6	
	diploma and more	3	10	2	6.9	
income source	Relief Committee and people	5	16.6	6	20.6	X^2=3.3 d.f= 4 P= 0.418
	family	8	26.7	8	27.6	
	himself/herself	17	56.7	15	51.8	
insurance	has	26	86.7	23	79.3	X^2= 0.576 d.f= 1 P= 0.451
	does not have	4	13.3	6	20.7	

* To conduct the chi-square test for this variable, the four subgroups were combined and compared in married and single subgroups.

The results of the study showed that there was no significant difference between the mean scores of the two groups' self-efficacy before the intervention (P=0.918). The results of the independent samples T-test indicated that there was a significant difference between the mean scores of the two groups' self-efficacy after the intervention (P<0.001) (See Table 2).

Table 2: Comparing the mean scores of self-efficacy in the two groups before and after the intervention based on Roy's adaptation model

self-efficacy	control group	intervention group	the difference between control and intervention groups	independent t-test result
	mean and SD	mean and SD		
before the intervention	21.42 ± 3.13	21.56 ± 3.22	0.23 ± 0.27	P= 0.918
after the intervention	21.78 ± 3.58	27.41 ± 3.36	5.63 ± 0.35	P< 0.001
the difference between before and after the intervention	0.36 ± 3.31	5.76 ± 3.25	5.40 ± 0.41	P < 0.001

The results of the study indicated that the mean scores of the self-efficacy in the control group before the intervention was 21.42 with a standard deviation of 3.13, after the intervention this figure increased to 21.78 with a standard deviation of 3.58. The results of the paired samples T-test showed that there was no significant difference between the general self-efficacy of the control group before and after the intervention (P=0.256). The mean score of the general self-efficacy before the study was 21.65 with a standard deviation of 3.22 which increased to 27.41 with a standard deviation of 3.36 after the study. The results of the paired samples T-test indicated this increase to be significant (P<0.001) (See Table 3).

Table 3: Comparing the mean scores of general self-efficacy in the two groups before and after the program designed based on Roy's adaptation model

general self-efficacy	before the intervention	after the intervention	the difference between before and after the intervention	paired samples t-test result
	mean and SD	mean and SD		
control group	21.42 ± 3.13	21.78 ± 3.58	0.36 ± 3.31	P= 0.256
intervention group	21.56 ± 3.22	27.41 ± 3.36	5.76 ± 3.25	P< 0.001

DISCUSSION

The results of the present study showed that there was no significant difference between the two groups regarding their age, residence duration in the nursing home, number of children, gender, education, occupation, insurance status, and income source. Therefore, the significant difference between the dependent variable in the intervention group after the intervention was due to the positive effect of implementing the care program that was designed based on Roy's adaptation model. One of the challenges in the 21st Century is to enhance the individuals' adaptation to new life occasions and to achieve independence and appropriate self-control, which can be attained through designing and implementing a regular care program based on adaptation models [22].

As the number of the elderly rises, the number of complications among them especially those reside nursing homes and need more long-term healthcare programs increases as well. On the other hand, since general self-efficacy is closely and constantly correlated with different aspects of human life like independency in daily activities, self-care tasks, self-esteem, anxiety, depression, and life quality, it is necessary to highly focus on self-efficacy before old age [8, 13].

The results of the present study indicated that implementing the care program that had been designed based on Roy's adaptation model had a positive effect on the self-efficacy of the elderly. The results of the present study are in agreement with those of the study conducted by Fletcher (1999) who concluded that regular exercise could improve self-efficacy in the individuals with unhealthy behaviors like stress, unhealthy diet, and inappropriate fitness and those who smoke [12]. The results of a study entitled, "Coping strategies and self-efficacy for diabetes management in older Mexican adults" conducted by Hattori-Hara (2013) showed that there was a significant relation between the old adults' adaptation and self-efficacy in diabetes management [23]. Anderson (2008) concluded that general self-efficacy in the well-adapted elderly residing in nursing homes had a positive relation with participation in planned programs [11]. The results of the study conducted by Bhupinder (2009) indicated that the elderly who had undergone self-efficacy improving programs had better physical performance and higher satisfaction with life [13]. Moreover, the results of the study carried out by Rogers (2012) on investigating the effect of Roy's adaptation model on improving physical activities of the elderly showed that performing regular exercises like yoga based on Roy's adaptation model could result in positive changes in different aspects of the elderly like improvement of physiological conditions, self-concept, independence, and self-efficacy [14]. Baljani (2011) concluded that nursing interventions would improve self-efficacy and reduce risk factors like cardiovascular diseases in the patients [26]. In a study entitled, "The effect of Orem's self-care model application on self-efficacy level in patients with hemodialysis in the hospital of Urmia Universiy of Medical Sciences", Habibzadeh (2010) concluded that there was a difference between the self-efficacy of the participants after the intervention; however, this difference was not significant. Inadequate dialysis was distinguished as the effective factor in anxiety, stress, and fatigue and consequently lack of remarkable change in self-efficacy [27]. These results are different from 0those of the present study.

It seems that the interventions that were aimed at improving general self-efficacy, enhancing abilities and positive attitude toward them, improving the self-concept in the elderly can cause adaptation and healthy behaviors among them [10, 28]. Moreover, adaptation with a new period of life like old age and appearance of healthy and adaptive behaviors can create a positive attitude toward individual abilities and improvement of self-concept and finally general self-efficacy. Improving self-esteem and abilities, creating positive attitude, and mentally supporting the individual can improve self-efficacy. General self-efficacy will create a strong internal power that helps the individual to face with life problems more effectively [23, 29].

CONCLUSION

According to the results of the present study, since implementing care programs that are based on nursing theories can lead to positive and effective results in the individual's mental and physical aspects, applying the care program that was designed based on Roy's adaptation model had a positive effect of general self-efficacy among the elderly. Therefore, it seems that the positive effects of this adaptation model can be benefited from in better controlling of the life conditions of the elderly. As a result, utilizing Roy's adaptation model to design care programs and encouraging the healthcare providers and nurses to improve self-efficacy in the elderly based on nursing theories and care programs enhance general self-efficacy, ability, and independence in the elderly residing in nursing homes.

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