Original Article

The effect of implementation of family-centered empowerment model on the self-esteem of the old people with hypertension

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ABSTRACT

Introduction: Noncommunicable diseases are recognized as the major cause of old people's death. One of the models concerning the family health level is the family-centered empowerment model (FCEM) which has been designed with the aim of promoting the health level and self-esteem of the patients and their family members. **Purpose:** This study was carried out to investigate about the effect of implementation of FCEM on the self-esteem of old people with high blood pressure. **Settings and Design:** This was a clinical trial study which focused on 62 old adults with high blood pressure in 1392. After cluster sampling, samples were divided randomly into test group and control group. **Methods:** FCEM was used for the test group; whereas, for the control group, common health cares and one educational session were performed. Study materials were checklist of demographic information, and a researcher-made questioner to evaluate the level of self-esteem. Posttest was given 1-weak after the intervention and was followed-up 1½ months later. **Statistical Tests:** T-test, analysis of variance, and SPSS 20 were used to analyze the date. **Finding:** Before the intervention, the mean scores of self-esteem in both the test group and the control group were the same ($t = 0.55$) ($P > 0.05$). However, 1-week after the intervention ($t = 6.38$) and 1½ months later, meaningful differences were observed in the test group ($P < 0.001$). **Conclusion:** Implementation of FCEM has a positive effect on the high self-esteem of the old people with high blood pressure.

Key words: Ageing, family-centered empowerment model, high blood pressure, self-esteem

INTRODUCTION

Since 20th century, population of old adults remarkably has increased.[1] According to the United Nation's reports, in 1950, there were nearly 200 million old people in the world and in 1975, about 350 million. This number, in 2006, rose to 687,923,000 people² and is estimated to increase up to 1,100,000,000 in 2025 and 2 billion in 2050.[2,3]

In Iran, it is predicated that population of old adults increase to 19% of the total of population in 2030[2] and 23% in 2050.[4] Being involved with many health problems, old people are the most receiving health services group in the society.[2,5] Although this group consists only 12% of the total population, old people consume about 29% of health care expenses.[2]

Definitely, noncommunicable diseases, mainly high blood pressure, are of the common problems during this age and

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also are the main causes of death. High blood pressure, also, is a major risk factor for cardiovascular diseases (CVDs).[5]

In fact, such diseases are increasing day in day out among the old people with high blood pressure. It is not to say that recognizing and controlling such problems would remarkably effect on different dimensions of old people's life.[6]

Statistics show that 1/5 of Iranians are affected by high blood pressure, about 18.6% of people with 15 years of age and over and 22.2% of total population. High blood pressure also, in Iran, is a major cause of stroke and the third cause of death, after cancer and heart disease, which would, even, increase after 50.[7]

As a chronic disease, high blood pressure highly affects both the patient and the family. Once losing their mood as well as family support, old adults feel discontent and come to this conclusion that it is too late to think about their health.

There is no disguising the fact that with ageing, it is hard to reach to the high level of satisfaction, because the old are not as patient and energetic as the young and their time and facilities are, also, very limited. The significance of this point becomes more evident when true statistics about the population growth and aging and related issues are published.[8]

In various studies, different ways have been suggested for prevention and treatment of high blood pressure such as continues care model and pharmaceutical care.[9,10] However, based on the experimental studies in the last 15 years, it has been proven that self-esteem, as one of the important psychological factors, has a high effect on the health and life quality of people.

From Mazlo's point of view, these are the physical needs such as security, love, self-esteem, sense of belonging, and self-realization which are the fundamental needs for any individual; fulfillment of each and every one of them can be considered as total happiness.[8] As inner repertories, self-confidence and self-esteem are the key elements for having a good social relations and health.[11]

Commonly, self-esteem would be accessible through individual or family approaches such as paying attention to self-efficiency and self-respect as well as managing daily stresses. For old people with high blood pressure, also, it can be accessed while being mentally healthy.[12]

Narrating from Matteson and McConnell, Nia in his study said that ageing issues would lead to many problems like depression, stress, incompatible reactions, low self-esteem, and even death.[13] Family and social environment can considerably effect on nurturing talents, health, self-efficiency, and high self-esteem of the patients.[14]

As the most fundamental parts of the society, family is responsible for providing necessary health cares and services for the patients. To do so, they should have a true understanding about the disease. Not only should nurses provide necessary cares for patients, but also they should try to keep their family hopeful and self-confidant, too. It is when the family health and welfare would be promoted.[15]

To help people and families to have an active role in proving health cares, empowerment should be emphasized. Empowerment is the process of encouraging and developing the skills for individual, family, and social care.[12]

Community health nurses, who are the members of interdisciplinary teams, play an important role in preventing and controlling the chronic diseases. As the first people contacting with patients, these nurses can easily get some information about the patients' family Moreover, they are able to evaluate, to teach, to support, and to take continuous care of the patient's families.[16]

Since family care is known as one of the effective caring ways of the chronic diseases, the experiences of old people as well as their families' about the chronic diseases, generally, and high blood pressure, specifically, can be very useful for promoting the old adult's health level. Therefore, implementation of a family-centered empowerment plan seems to be very vital for having preventive behaviors.

With its four stages of understanding the threat, self-efficiency, self-esteem, and evaluations, family-centered empowerment model (FCEM) emphasizes on the effectiveness of individuals and family members in three dimensions of motivate, psychological, and self-issued characteristics. The chief aim of this model is to make the patients and their families empowered so as to promote the health level of the society.[17]

During the empowerment process, creating and boosting the self-esteem of the patients are the necessary stages, to the extent that if they are not fulfilled, no empowerment would happen. Focusing on its three stages, this model is to create a sense of self-realization and self-esteem among the patients. Therefore, it can be said that self-esteem stage is one of the most important elements in this model and achievement of which is one of the chief aim of this model.

Masoudi et al., in their interventional study about the impact of FCEM on the life quality in the elderly acknowledged that lack of necessary knowledge and skills lead to low self-esteem and motivation; hence, no suitable prevention would happen.[18]

In his study, Vikman showed that some factors like self-esteem, sense of identity, self-control, self-efficiency, and mental health had a direct relationship with the positive feeling of the people. He said that empowerment was associated with high self-esteem, ability of planning, sense of controlling the life, ability of changing the events, and the hopeful feeling about the future. What people experienced from empowerment was the combinations of feeling about self-acceptance,

self-confidence, and playing a beneficial role in controlling the resources and making decisions for the social life.[19]

What cause high self-esteem among the old adults is recognized as good relations, hospitality, family support, and their abilities in controlling the disease.[20]

Repeated reference of old adults with high blood pressure to the emergency room in hospitals show that information and educations given in this regard were not sufficient. In addition to the above-mentioned reason as well as dangerous side effects of high blood pressure on the body, high coasts of treatment, and also because of the fact that 92% of old people in Iran are taken a care by their families, this research was carried out to investigate about the effect of FCEM on the self-esteem of old people with high blood pressure.

This study aimed to introduce suitable health care plan and to empower the old to control their blood pressure while interacting with their families and health systems.

METHODS

This was a clinical trial study with an approved code of 392189 and clinical trial number of IRCT2014062413715N4, in two groups and three levels. Pre- and post-tests were given to 62 people, in Lenjon city in Isfahan, with 60 years of age and over for about 1-month, in 1392.

By using the Pocak formula and the result of the pilot study,[21-23] 25 people for both control and test groups were chosen that with 20% fall, eventually, 31 persons were selected for each group.

$$n = \frac{\left(Z_1 + Z_2\right)^2 2S^2)}{d^2}$$

Z_1 = Confidence coefficient: 95% (1.96)

Z_2 = Power coefficient: 80% (0.84)

S = Standard deviation scores of blood pressure and empowerment in the control and test groups

d = The minimum difference of mean scores of the variables in both control and test groups, showing a meaningful difference: S =0.8

Inclusion criteria were being 60 years old or older, having high blood pressure equal or more than 140/90 during the study being confirmed by doctors in health centers - having health record in health centers, being content to participate, being mentally healthy, being able to learn and answer the questioner, answering the empowerment evaluation questioner and getting the moderate or weak results, and being able to read, write, and understand. Those who were reluctant to participate and complete the study materials and those who were more than one session absent in the classes were excluded from the study. Furthermore, for taking part

in the active family member study, the inclusion criteria were being a fixed family member like wife or husband, child or grandchild who lived in a same house as the old did, being able to decide, being willing to participate in the study, and completing the empowerment evaluation questioner and getting the moderate or weak scores.

Those who were reluctant to participate and complete the study materials were excluded from the active family member study, too.

Data collecting materials consisted of a checklist of demographic information and self-esteem empowerment evaluation questioner. Considering the similar studies,[21-23] a researcher-made questioner consisting of 12 closed questions (based on the Kopere Smite's self-esteem questioner and guidance of the professors) with the scale of "yes" (1) and "I don't know" (0), and ranging the response from 0 to 100 was used. In order to make the materials validate, many books, articles, different researches, and experiences and advices of 10 faculty members of the nursing department were used.

The reliability also was confirmed by giving a second test to 20 old people during 10 days ($r = 0.747$) and, also, by Coronbach alpha as 0.753. Before the intervention, once the study protocol was approved by Isfahan Deputy Research of Nursing and Midwifery Departments and the consent form with the approved code of 322189 was signed, the researcher went to the health and treatment networks in Lenjan and, by mean of the cluster method, chose 4 networks randomly among the 4 towns of Lenjan city. Then, all the old adults with high blood pressure were recognized. To make sure about their disability, the empowerment questioners were given to them.

When dates were analyzed, 62 old people, by means of the table of random numbers, were categorized into the test and control groups.

After sampling, the old were informed about the importance, purpose, and method of the study, and then they signed the consent form, knowledgably. In the intervention step, which was performed only for the test group, different stages of FCEM were taken into consideration: Understanding the threat, self-efficiency, self-esteem, and evaluation.

First step: Understanding the threat
Family-centered empowerment model in its first step focuses on the importance of the problem that threatens the old people. So as to have a better information and understanding about their disease, the old adults were divided into groups with 7–8 members and took part in 3 educational sessions (45 min) the number and duration of sessions were based on the pilot study.[21-23]

The subjects being discussed in these sessions were as: (1) Physiotherapy, nature, signs. (2) Dangerous factors, disease classification. (3) Side effects, acute relapse,

preinformation. (4) Medical and nonmedical treatment. (5) Lifestyle.

Second step: Self-efficiency
To promote the self-efficiency level of the patients, practical presentation, and discussion group methods were used.

In this step, again, they were divided into groups with 7–8 members and received 4 sessions. Each 45 min of practical education about necessary skills as: Changing lifestyle, working with a sphygmomanometer, arranging medicine schedule, controlling stress, arranging daily walking and exercising plan. Exchanging their experiences with each-others, the old participated, actively, in such sessions.

Third step: Self-esteem
In this step, the old were asked to inform their family members about what being discussed (in group discussions), and taught (by educational cards or pamphlets). Then, to evaluate the knowledge level of the family members, once being informed by the old, some experts hold three sessions (each 45 min) to receive the feedback of the family members' learning.

Fourth step: Evaluation (process and final evaluation)
Process evaluation
Interventional sessions were performed for both old adults and their family members; during which the participants raised their questions and discussed in groups. Such sessions continued till all questions were answered. To make sure about the outcomes of the empowerment, 1-week after the intervention, the participants were interviewed and were given FCEM questioner. Then, posttest was performed and the participants were given the chance of performing FCEM.

Final evaluation (after intervention)
One and a half months after the intervention, during one session (45 min) the old adults were given empowerment evaluation questioner and their blood pressures were measured (final evaluation).

At the end of the third step, during one session (45 min) the old people and their family members in the control group, also, were informed about the subjects being discussed in the test group and 1½ months later, they answered to the posttest questioners and were interviewed by the researcher. Then, the inferential and descriptive statistic tests as well as SPSS V20 [IBM Corp: Armonk, NY.] were used to analyze the date.

Findings
Considering the demographic variables, the findings showed that no meaning difference was found between the test group and control group. That these two groups were not different in their demographic variables shows that random sampling was applied [Table 1].

According to the results of the independent t-test, it was found that before the intervention, no significant difference

Variables	Old adults			
	Mean	Frequency distribution		P
		Number	Percentage	
Age	5.5±66.9	-	-	0.938
Weight	12±66.2	-	-	0.943
Height	8.03±159.7	-	-	0.139
BMI	3.6±25.8	-	-	0.378
Affected ages	5.2±8.7	-	-	0.155
Educational levels	Comprehension	15	48.4	
	Writing and reading	13	41.9	
	Less than diploma	3	9.7	
	BA and over	0	0	
Income sources	Myself	10	32.3	0.246
	Wife/husband	19	61.3	
	Children	1	3.2	
	Relatives	0	0	
	Governmental institutes and, etc.	1	3.2	
Gender	Male	22	71	0.776
	Female	9	29	
Job	Self-employed	1	3.2	0.186
	Worker	1	3.2	
	Housewife	19	61.3	
	Employee	1	3.2	
	Retired	9	29	
Other diseases	Heart	3	9.7	0.124
	Kidney	1	3.2	
	Eye	3	9.6	
	Diabetes	10	22.3	
	Respiratory	10	32.3	
Using medicine	Yes	31	100	0.246
	No	0	0	
Kinship relationship with the old adult	Child	0	0	-
	Grand child	0	0	
	Wife/husband	0	0	
	Relatives	0	0	

BMI=Body mass index

was observed between the mean scores of self-esteem in the test and control groups ($P > 0.05$); whereas, 1-week after the intervention ($P < 0.001$) and, also, 1½ months after intervention ($P < 0.001$), the mean scores of the test group were significantly lower than those of the control groups.

The analysis of variance test with repeat observations showed that in the control group, during the three periods of time, the mean scores of self-esteem showed no meaningful difference; however, during these times, the mean scores of test group significantly differed ($P < 0.001$) [Table 2].

DISCUSSION

This research was conducted to study about the effect of implementation of FCEM on the self-esteem of the 62 old adults with high blood pressure in Lenjan city.

Table 2: Comparison of empowerment mean scores of old adults in self-esteem in the test and control groups, during different times					
Time	**Test group**		**Control group**		**Independent *t*-test**
	Mean	**SD**	**Mean**	**SD**	**t**	**P**
Before intervention	55.3	21.5	52.4	19.9	0.55	0.59
1-week after intervention	73.1	9.3	54.4	13.3	6.38	<0.001
1½ month after intervention	83.6	14.1	54.03	20.9	6.5	<0.0014
ANOVA test with reported observation						
F	18.3		0.09			
P	<0.001		0.9			

ANOVA=Analysis of variance, SD=Standard deviation

Before the intervention, the findings showed that, with respect to the old adults and their active family members in both the test and control groups, no meaningful differences were found in their self-esteem mean scores ($P > 0.05$). Because of the fact that random sampling was applied, such findings were expected.

One week after the intervention and 1½ months after the intervention, however, the results showed a significant difference between the mean scores of the test control groups ($P < 0.001$).

It is, therefore, concluded that implementing the empowerment model has a great impact on the self-efficiency, self-control, self-belief, and self-esteem of the old with high blood pressure.

Sung and Kim, in their study stated that old with high blood pressure and low-income showed the signs of depression and low self-esteem. However, when they were taught how to control their stress and they received family support, their level of self-protection increased.[24]

Biabangard, narrating form Meyd, says that family support has a great impact on the patient's self-esteem. Meyd considers the parents' and other people's outlook as an important factor in boosting self-esteem.[25]

In Rostami *et al.* research, it has been indicated that some factors such as social, family, and friend support possessed 15% of the self-esteem variance and family support had the highest coefficient correlation with self-esteem.[26]

Shahbazzadegan *et al.*, also, showed that old people with low income and education and less family support had a lower self-esteem.[27]

This very study indicated that implementation of FCEM led to the betterment of patients' self-esteem. It can be concluded,

therefore, that empowering both the old as well as their family members can considerably boost the patient's self-esteem.

Considering this disease, its signs, and its side effects, it can be said that giving practical treatment is one of the most important factors causing high self-esteem. Hence, implementation of FCEM in the elderly seems to be very vital since during this period, old people are exposed to many chronic diseases, mainly high blood pressure, and inevitably the family and health centers would be involved, too.

Because of the prevalence of this disease in the elderly, and in order to promote the health level of the old, it is suggested that FCE model be implemented in health centers.

Masoudi *et al.* narrating from Potter and Perry wrote that implementation of FCEM caused a positive feeling among the health care workers. While such considerations increase family participation and understanding and their caring of the patients, at the same time, they would decrease the family's tensions and anxieties.[15]

Hence, as to improve the knowledge level of the old adults, in the present study, through empowerment intervention, some information about the high blood pressure, its signs, and ways of prevention were given.

The findings showed that such intervention led to high self-esteem among the old patients.

From the researcher's point of view, implementing FCEM, increasing the knowledge level of the family, and promoting the old adults' self-efficiency and self-esteem can remarkably effect on the old self-care. FCE model seems to be the best model in helping the aged people to reach to a high level of self-care, self-efficiency, and self-esteem since this model has a simple, understandable, and cheap programs and empowers the old by giving them necessary education about caring principles.

Therefore, due to the high importance of the roles of the family-centered intervention and nurses in the health centers, conducting a research about the effect of implementing FCEM on the self-esteem of the old adults seemed to be very necessary. That is to say that this very study is the first study in this regard.

Limitations
Since every research findings should be evaluated alongside with its limitations, it is recommended, therefore, that in future studies, following limitations and suggestions be taken into considerations:
- Time limitation: Although in different studies between 1 and 3 months had been allotted for intervention, another 1–3 months is necessary for following-up, too
- Having two groups of old adults and their active family members and dividing them into separate test and control group

- Implementing FCEM for those of all adults who think that it is too late to think about their health
- Focusing on more health centers.

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Conflicts of interest

There are no conflicts of interest.

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