Original Article

A Comparative Study on the Effects of Self-Care Program Education Run by Health Volunteers and Health Care Staff on the Elderly's Quality of Life

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A B S T R A C T

Introduction: The diseases and problems due to ageing can affect the quality of life (QoL) in the elderly. The aim of this study was to compare the effects of self-care program education run by health volunteers and healthcare staff on the QoL in the elderly.

Methods: In this experimental, field trial study, 150 elderly people living in Mashhad were enrolled by multistage sampling in 2014. The participants were randomly assigned to three groups of 50 individuals in each; group A was educated by healthcare staff at healthcare centers, group B by health volunteers at the elderly's homes, and group C was control. The intervention groups (A and B) attended two independent self-care education programs for one month. The data were gathered by the SF-36 questionnaire administered before and one month after the completion of the program. Data analysis was done by descriptive statistics [mean (standard deviation)] and analytical statistics (independent samples t-test and Kruskal-Wallis H-test).

Results: QoL score of the groups A, B, and C was derived 45.44 ± 23.87, 45.36 ± 23.81, and 45.38 ± 23.83 before the intervention and 48.79 ± 22.09, 63.15 ± 19.03, and 46.08 ± 22.67 after the intervention, respectively. The QoL score of the group B was significantly higher than the other two groups ($p < 0.05$) after the intervention. Besides that, after the intervention, the mean scores of QoL and physical function, role-physical, role-emotional, social function, bodily pain, and general health increased significantly more markedly in the group B compared with the other two groups.

Conclusion: Self-care education by the health volunteers was much more effective than that by healthcare staff. In addition, implementing the self-care education program contributed to improving QoL and therefore life satisfaction in the elderly.

Keywords: Quality of Life, Self- Care, Aging, Education

Introduction

The elderly over the age of 65 years have the lowest level of health knowledge of all age groups. Declined literacy may be an important reason for adverse outcomes of many chronic diseases (1). According to the World Health Organization report, older people need healthcare facilities and services more frequently than other age groups, but unfortunately, most measures to assist older people have so far been taken

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after the incidence of problems and preventive measures have been taken less frequently.

Overall, the healthcare services for older people comprise a disproportionately small contribution to the healthcare services offered to all age groups (2). Consequently, many of the personality and mental dimensions of older people have remained unknown and many of their mental and physical problems are still unresolved despite current scientific and technological achievements and emergence of many sub disciplines of gerontology (3).

Recently, in the light of improved longevity indices and life expectancy, quality of life (QoL), considered to be a more important issue, has been raised. In fact, QoL has attracted the attention of many experts on gerontology (4). It is therefore necessary to study QoL in older people. QoL refers to the people's perceptions of their achievements in life with reference to the cultural background and value systems in which they live and also purposes, expectations, standards, and concerns. QoL includes physical health, psychological status, autonomy level, social relationships, and personal beliefs (5).

Addressing QoL and the effects of different psychological considerations and improving lifestyle can considerably enhance efficiency and autonomy in older people and help them manage several complications due to old age and associated treatments (6).

About 1/5 of people with disabilities, and 58% of the people aged over 65 years, need help to perform daily activities (7). The older people who seek out relatives' and caregivers' assistance to do their daily activities have a lower level of QoL than other people (8). Some studies conducted in Iran demonstrate that the QoL of the elderly, particularly women, is not acceptable. Albokordi's study showed that approximately 40% of the older people in Shahinshahr, Isfahan had moderate to low QoL (9).Besides that, Ahmadi's research represented the low levels of the eight domains of QoL among older people in Zahedan (10).

Education is considered a main determinant of health. It has been clearly established that unhealthy and ill people are not necessarily poor but they have the lowest level of knowledge (11). Health promoting behaviors have been demonstrated to lead to healthy old age and improved QoL in older people. To improve the elderly's QoL, it is essential to provide learning opportunities and to bring about personal satisfaction and active social life among them (12).Moreover, different studies have confirmed that self-care education programs are effective on the QoL and help to reduce the problems of older people (13-17).

Despite the significance of self-care for older people, this issue has not yet been investigated adequately. The aim of this study is to compare the effects of self-care education program run by health volunteers and healthcare staff on QoL in older people in Mashhad, Iran.

Methods

Procedures

In this experimental, field trial study, 150 elderly living in Mashhad participated. According to a similar study (18), mean difference of 55.3 and 75.5 and standard deviation of 15.4 and 17.6 respectively, based on a relevant formula, for two independent groups, 95% confidence interval (CI), and a test power of 90%, a sample size of 50 people was determined for each group. As we had two intervention groups (A and B) and one control group, 150 people were enrolled into the study.

The sampling was multistage random. Accordingly, first, 10 healthcare centers were selected from Mashhad urban districts and then one health house from each healthcare center. Therefore, 10 health houses were selected. Afterwards, 15 referred people were randomly enrolled from each health house according to the medical records. Of these people, five were assigned randomly to the group A, five to the group B, and five to the control group.

In this study, two education methods were used as follow:

1. Education run by healthcare staff at healthcare centers (group A): Initially, the letters of invitation were sent to the elderly's homes and a pretest was administered at the beginning of the session. In each educational group discussion, lasting for 90 min, five people participated. First, the participants were asked to reply to a number of questions about the subject of interest and their statements were written on a board. Then, further details on the subject were given and another issue was raised. This process continued until all the subjects were raised for group discussions among the participants. Exercises were taught by role playing and then relevant further details were offered to the participants. The sessions were held once a week for three weeks. Post-test was administered one month after the completion of the education at the participants' homes.

2. Education run by health volunteers at the participants' homes (group B): First, the health volunteers referred to the participants' homes and administered pretest after the participants provided the consent to participate in the study. Then, the first training session was held. The training materials were taught within three 1-h sessions. The health volunteers referred to the participants' homes, once a week, with previously made appointment. Post-test was administered one month after the completion of the education. For education, question-answer, demonstration, and lecturing were used.

For the control group, the health volunteers referred to the participants' homes and filled out the pretest questionnaires followed by a post-test one month later. To observe research ethics, this group was invited to healthcare center at completion of the study to attend a training session.

The inclusion criteria were being over 60 years, not suffering from cancer and advanced diseases, living in Mashhad, and referring to the determined health

houses conveniently to attend the training sessions; and the exclusion criteria were not attending the training sessions of education program, acute diseases and disorders such as respiratory and gastrointestinal infections, and cancer.

Measures

The data were gathered by a questionnaire including demographic characteristics and Short Form Health Survey 36 (SF-36) questionnaire to measure QoL. SF-36 is one of the most reliable available instruments to measure health-related QoL with already confirmed validity and reliability in Iran (19). It has been shown to be suitable for use in elderly populations (20). It measures eight domains of health status: physical functioning, role physical, bodily pain, general health perception, vitality, social functioning, role emotional and mental health. For each domain a score from 0 to 100 is calculated, with higher scores indicating better health.

Statistical analysis

The data were analyzed by descriptive [mean (standard deviation)] and analytical (independent samples t-test and Kruskal-Wallis H-test) statistics in SPSS 18.

Ethical considerations

Prior to enrollment, the participants provided a written consent for participation in the study. Moreover, they were ensured that the questionnaires would be kept anonymous and the data confidential. As well, the principles of self-care for older people were briefly taught to the participants in the control group within one session after posttest.

Results

The mean age of the participants was 71.92 ± 7, 70.69 ± 6.14, and 62.48 ± 7.87 years in the groups A and B and the control group, respectively. Sixty per cent (n: 30) of the participants in the group A, 54% (n: 27) in the group B, and 44% (n: 22) in the control group were female. Regarding educational level, 48% (n: 24) of the participants in the group A, 44% (n: 22) in the group B, and 46% (n: 23) in the control group were illiterate. Table 1 shows the demographic characteristics of the participants. There was no significant difference in the frequency distributions of gender, educational level, children number, the number of people living with the participant, health insurance enrollment, and diseases among the studied groups (p > 0.05).

Comparison of the mean QoL total score and subscales before and after the intervention are shown in Table 2. As is shown in Table 3, the mean difference in the QoL total score and subscales was statistically significant among the three groups under study (p < 0.001).

Discussion

This study was conducted to compare the effects of the self-care education program run by health volunteers and healthcare staff on the QoL in older people. According to the findings, the QoL of the participants improved after the implementation of the program. Consistently, Rostami (14), Heidari (17), Dicson, John, Tung, and Rayyani (21-24) reported that self-care education program was effective in improving the QoL in the elderly.

In this study, the self-care education program run by the health volunteers was more effective on the participants' QoL compared with that run by the healthcare staff. This can be due to the health volunteers ' presence at the participants' homes, and because the materials were taught in a real-life setting through an informal, simple, and plain language, they are more likely to be understood and accepted efficiently and to lead to change the attitudes and finally the behavior, enabling the participants to practice self-care and ultimately improving their QoL.

In this study, in the group A, except the scores of mental health and role-physical, other subscales' scores had a statistically significant difference between before and after the interventions, while in the group B, all the subscales' scores were derived to have a statistically significant difference between before and after the intervention. The program run by the health volunteers can be therefore more effective than that run by the healthcare staff. The health volunteers-run program has helped people change their attitude toward their potentials and take action to improve life circumstances. This program was also found to improve self-esteem and self-reliance among both male and female health volunteers and the enrolled families. The evaluation of this program from 1997 to 2005 demonstrated that the involvement of health volunteers caused 20-25% improvement of health indices (23).

The studies conducted by Rostami (14), Masoudi, Horner, and Gamal (26-28), reporting all the subscales of QoL to improve significantly after intervention, are in agreement with the present study. Torrens study (29) found that none of the subscales improved significantly, inconsistent with the present study.

In the group A, bodily pain score increased most and role-physical score least markedly, which is consistent with the studies by Alboukordi and Hamidizadeh (9, 30). It can be argued that since the group A were educated by the healthcare staff, and physical problems increase in old age, the participants paid attention mostly to this subscale so as to be able to relieve their bodily problems and pains.

In group B, role-emotional score increased most and general health score least markedly. In old age, people usually live alone and are therefore more likely to look for companions than other age groups. As the group B were educated by the health volunteers, the increased score of role-emotional can be attributed to the fact that health volunteers deal more frequently with others in community and are familiar with people's problems and needs, and since they taught the material at the participants' homes, then they can be

considered to be companions for the elderly and improve their mental problems to some extent. Some studies have demonstrated that social support plays an intermediate role in the process of psychological pressure and the people who enjoy more social

Table 1. Frequency distributions of demographic characteristics of the participants among the studied groups

Variable	Groups	Intervention group A		Intervention group B		Control group		p
		N	%	N	%	N	%	
Sex	Male	20	40	23	46	28	56	0.27
	Female	30	60	27	54	22	44	
Education level	Illiterate	24	48	22	44	23	46	0.99
	Primary	15	30	16	32	15	30	
	Secondary	11	22	12	24	12	24	
Insurance	Yes	45	90	44	88	46	86	0.83
	No	5	10	6	12	7	14	
Having diseases	Yes	12	24	15	30	17	34	0.54
	No	38	76	35	70	33	66	

Table 2. Distribution of mean QoL total score and subscales before and after the intervention in studied groups

QoL components	Stage	Group A Mean(SD)	Group B Mean(SD)	Control Mean(SD)
Physical function	Before	42.62(32.57)	42.90(33)	42.84(32.62)
	After	47(32.55)	61.20(29.11)	45.40(33.53)
	p-value	<0.001	<0.001	0.07
Role-physical	Before	34.50(34.95)	39(35.77)	33(34.79)
	After	37(37.88)	66(31.84)	36(37.17)
	p-value	0.13	<0.001	0.08
Role-emotional	Before	42.67(38.71)	43.33(38.83)	42.67(40.43)
	After	54.67(39.13)	73.33(30.12)	42.67(41.51)
	p-value	0.003	<0.001	0.09
Vitality	Before	47.30(17)	47.20(15.71)	47.60(16.69)
	After	50(16.48)	59(13.92)	48(17.61)
	p-value	<0.001	<0.001	0.52
Mental health	Before	53.76(18.54)	53.52(18.43)	54.20(18.68)
	After	51.92(12.24)	63(13.57)	49.88(13.32)
	p-value	0.31	<0.001	0.7
Social function	Before	48.02(25.69)	47.74(25.09)	47.85(26.09)
	After	55(24.74)	71(23.61)	49(25.73)
	p-value	<0.001	<0.001	0.22
Bodily pain	Before	55(31.02)	55.30(31.70)	54.55(30.23)
	After	59(29.72)	67.70(25.41)	55.30(32.08)
	p-value	<0.001	<0.001	0.39
General health	Before	42.80(20.61)	42.40(20.26)	42.60(19.33)
	After	47(18.57)	58.80(16.86)	43.80(19.91)
	p-value	<0.001	<0.001	0.04
Total QoL	Before	45.44(23.87)	45.36(23.81)	45.38(23.83)
	After	48.79(22.09)	63.15(19.03)	46.08(22.67)
	p-value	<0.001	<0.001	0.05

Table 3. Distribution of mean difference in the QoL total score and subscales before and after the intervention in studied groups

QoL components	Group A Mean (SD)	Group B Mean (SD)	Control Mean (SD)	p
Physical function	4.38 (3.58)	18.30 (13.40)	2.56 (3.52)	< 0.001
Role-physical	2.50 (4.94)	27 (21.43)	3 (1.50)	< 0.001
Role-emotional	12 (20.69)	30 (25.77)	0 (0)	< 0.001
Vitality	3 (4.07)	11.80 (9.32)	0.4 (3.17)	< 0.001
Mental health	-1.84 (12.62)	9.48 (16.02)	-4.32 (10.29)	< 0.001
Social function	6.69 (12.41)	23.23 (15.84)	1.15 (4.94)	< 0.001
Bodily pain	4 (6.55)	12.40 (11.87)	0.75 (1.80)	< 0.001
General health	4.20 (6.36)	16.40 (15.09)	1.20 (2.68)	< 0.001
Total QoL	3.35 (3.84)	17.79 (10.08)	0.70 (2.42)	< 0.001

support suffer from fewer diseases (31). In addition, the most increased score among the QoL subscales was reported for social function in the studies by Tamari (26) and Dai (32), for vitality in Torrens study (29), and for role-emotional in Gazibara study (33). The least increased score was reported for general health in the studies by Tamari (26) and Dai (32), for physical function in Torrens study (29), and for role-physical in the studies by Gamal (28) and Gazibara (33). The differences in the findings could be attributed to education methods, cultural differences and different socioeconomic status among the participants in the studies.

Conclusion

Self-care education program run by the health volunteers is more effective than that run by the healthcare staff. More clearly, the materials taught by the health volunteers improve knowledge and attitude of the elderly. This led the elderly paying more attention to their own health and taking self-care more seriously, and therefore reducing the problems due to old age and preventing the acquisition of preventable diseases. Besides that, the QoL is associated with health, i.e, people with satisfactory levels of mental and physical health are highly likely to have higher levels of QoL. Self-care program is one of the factors that can greatly affect health especially in old age. Self-care refers to the actions that people take to promote their own health. Self-care can therefore result in improved QoL. Although occasionally disregarded, adopting suitable teaching methods is particularly important to increase the efficiency of education programs. To develop a fruitful education program, we require the best available approach to implement it. Taken together, we should pay further attention to self-care in all age groups especially older people and conduct further studies with different education methods in the future

Study limitations

In this study, the questionnaires were filled out with the information obtained from the participants' self-

reports. Moreover, the participants' own statements were relied on and no clinical examinations were conducted to decide on their health. As a result, the findings should be interpreted cautiously.

Conflict of interest

The authors declare that there is no conflict of interests.

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