Quality of Life of the Elderly Residents

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Abstract: Problem statement: A preliminary investigation of the Orem self-care training effects on the Quality Of Life (QOL) of the health care centers' elderly residents in the city of Masjed Solaiman, Iran. **Approach:** The Orem self-care training was administered to 349 elderly free of chronic disorders (aged 65 and older). The eligible participants were selected from 11 health centers. The training was administered by research assistants. The cumulative training time was four months. The training consisted of six 40 min sessions. The Short Form Health Survey (SF-36) was used to compare QOL scores before and after the training using a paired t-test. **Results:** The overall health survey scores improved significantly after the training ($p<0.001$, mean increase from 49.2-59.0). The physical role score increased from 48.7-57.4; physical functioning from 55.3-66.3; mental health from 52.1-62.2; social functioning from 57.4-68.5; body pain tolerance from 47.4-53.3; vitality from 47.0-57.6 and emotional role from 47.2-61.9. **Conclusion:** The Orem self-care training can improve the QOL scores in the elderly population. Additional studies including a random selected subjects and paired controls to are required to validate our preliminary findings. A significant statistical bias could have been introduced by the lack of controls and accounting for other variables such as sex and literacy.

Key words: Orem self-care model, quality of life, elderly, chronic disorders, isolation, social and economic challenges

INTRODUCTION

Aging individuals experience reduced physical stamina and mental sharpness. Elderly experience increased incidence of emotional disturbances resulting from loneliness, impaired sexual activity, chronic metabolic disorders and cancer. The number of Iranian elderly continues to grow (Farzianpour *et al.*, 2011). In 2006 United Nations (UN) reported that Iran is the home for 4,562,000 citizen aged 60 or older (6% of the total population). It is estimated that by 2050 this number will rise to 26,393,000, i.e., 26% of the total population (Bornardz, 1997; Kun, 2001). The elderly Quality Of Life (QOL) is also challenged by poor economic, cultural, educational and health care conditions. Inadequate social interactions and health literacy also contribute to QOL decline (Bornardz, 1997; Kun, 2001; Mellor *et al.*, 2008; Gureje *et al.*, 2006; Donmez *et al.*, 2005; Lawes, 2002; Bruce, 1999; Rao, 2000). For example patients with limited physical activity following strokes suffer from depression (Rao, 2000). There is a negative correlation between the elderly inability to perform daily activities and their cognitive functioning. Patients with limited ambulatory capacity, due to chronic respiratory problems, also exibit poor Quality Of Life (QOL) scores (Chan *et al.*, 1998; Paluska and Schwenk, 2000; Fassino *et al.*, 2002). One-fifth of the elderly population is unable to perform daily routine activities and require physical support (Hellstrom *et al.*, 2004).

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Several authors reported premature physical aging among some of the Iranian elderly (Aghamolaei *et al*., 2010; Bornardz, 1997; Kun, 2001; Mellor *et al*., 2008; Gureje *et al*., 2006). Preventive programs targeting the QOL of the Iranian elderly should be considered. A significant improvement in the overall elderly QOL following the Orem model and self-care training was reported (Klainin and Ounnapiruk, 2010; Ware *et al*., 1993). This study was undertaken to test the benefit of such training on the QOL of the elderly in Masjed Sulaiman.

MATERIALS AND METHODS

A preliminary intervention study on a "healthy" sample of elderly residents from 11 health centers in Masjed Solaiman, Iran was conducted. The study was approved by the Ethics Committee of Tehran University Medical Sciences (TUMS) IRB No. 88197-19/7/2007 and by the Ethics Committee of the Nursing College of Joundi Shapur Medical Science University, Ahvaz, Iran. The researchers described the purpose of the study and potential risks/benefits to the health centers' managers and all the prospective participants. All subjects were required to sign a consent form.

From 6,188 health center residents, 349 were found eligible for inclusion into the study (169 males and 180 females). The criteria for selecting participants were (a) a minimum age of 65, (b) no debilitating chronic disorders including mental disease, (c) living in Masjed Solaiman and (d) a consent to participate. Exclusion criteria were the presence of heart, lung, metabolic and musculoskeletal system diseases. No controls were included in the study.

The participants received a 4-month Orem self-training program. Behavior modifications to improve the QOL such as a balanced diet, low salt intake, weight adjustments, adherence to prescribed medications, physical activities (regular walking, climbing stairs and using exercise devices), smoking cessation and daily hygiene and self-care were included in the training. The training consisted of lectures and practical demonstration sessions. All sessions were handled by the research assistants. A total of six 40 min sessions thought to all participants over a four months period (2001-2008). The research assistants were trained under the authors' supervision a month before the beginning of the study. A standard training protocol, described previously, was used (Tajvar and Farzianpour, 2004).

The QOL was measured using the Medical Outcomes Study 36-Item Short Health Survey Form (SF-36) (Ware *et al*., 1994; Beddhu *et al*., 2000; Valderrabano *et al*., 2001). This instrument has been widely used in both Iran and other countries (Taghipoiur

et al., 2009). The validity of the Persian language translation of the SF-36 questionnaire has been reported in previous studies (Montazeri *et al*., 2005).

The Short health Survey (SF-36) contains 36 items and is divided into eight subscales that assess General Health (GH): Physical Function (PF), health problems resulting in limitations of physical activities; Physical Role (PR), physical disability resulting in limitations of usual role activities; Body Pain (BP), daily activities influenced by pain; General Health (GH), self-perception of overall health; Vitality (VT), overall energy level or lack thereof; Emotional Role (ER), emotional problems resulting in limitations of usual role activities, Mental Health (MH), psychological well-being and stress and Social Function (SF). The eight dimensions of the health survey were included either into mental or physical categories. Each subscale score was assigned a value between 0 and 100. QOL scores higher than 50 indicated a better and scores lower than 50 indicated a worse general health status.

Statistical analyses: The Cronbach alpha coefficient of reliability test score for the SF-36 survey was estimated at 0.85. Descriptive indices such as frequency, percentage, mean and Standard Deviations (SD) were used to present data. A paired *t*-test was used to analyze the data before and after the educational program. All analyses were carried out using SPSS software for Windows (Ver. 13.0).

The required number of participants for our study was computed using $n = \dfrac{(Z_{1-\alpha} + Z_{1-\beta})^2 \times \sigma\frac{2}{d}}{\overset{-2}{d}}$ (Kirkwood and Sterne, 2001) to detect a mean change of at least 5 units on the SF-36 score after educational intervention $(\bar{d} = 5)$. For $\alpha = \beta = 0.05$ and $\sigma\frac{2}{d} = 625$, the sample size was computed as 325. However, 349 (about 6%) elderly (aged ε65) who met the eligibility criteria were selected from all 11 health centers.

RESULTS

The demographic characteristics and smoking habits of the participants are presented in Table 1. The mean age of the participants was 74.51 (SD +/-6.81, range, 65-92). Total 169 (48.6%) of the participants were illiterate and most (241, 69.1%) were married and non-smokers (282, 80.8%).

Comparisons of the overall mean and its eight subscales of SF-36 are presented in Table 2. Significant improvements in all dimensions of the post-training QOL were measured (p<0.001).

Table 1: Selected demographic indicators of the participants

Indicators Age	Mean=74.5 (N)	SD = 6.8 (%)
Gender		
Male	169	48.4
Female	180	51.3
Marital status		
Married	241	69.1
Single	8	1.7
Separated	10	2.3
Widow	90	25.5
Education		
Illiterate	169	48.6
Primary school	102	29.3
Secondary school	54	15.5
Diploma	13	3.7
Higher than diploma	10	2.5
Residency status		
Sanatorium	1	0.3
Home	347	99.7
Occupation		
Staff	47	13.5
Worker	40	11.5
Farmer	25	7.2
Military	15	4.3
At home	140	40.1
Other	82	23.5
Income source		
Retirement salary	101	29.2
Insurance	64	18.5
Family	72	20.8
No income	90	25.7
Governmental charity	20	5.6
Smoking habits		
Non-smoker	282	80.8
<10	7	2.1
10–20	25	7.3
>20	34	9.7

Table 2: Mean and SD of the Health Survey categories before and after the training

Subscales	Before Mean (SD)	After Mean (SD)	p-value
General health	36.7 (17.8)	43.1 (17.9)	<0.001
Physical role	48.7 (26.7)	57.4 (31.4)	<0.001
Physical functioning	55.3 (18.0)	66.3 (40.4)	<0.001
Mental health	52.1 (17.5)	62.2 (16.7)	<0.001
Social functioning	57.4 (19.0)	68.5 (54.1)	<0.001
Body pain	47.4 (21.8)	53.3 (20.0)	<0.001
Vitality	47.0 (12.7)	57.6 (11.6)	<0.001
Emotional role	47.2 (18.3)	61.9 (40.6)	<0.001
Overall mean	49.2 (16.0)	59.0 (17.6)	<0.001

DISCUSSION

Our findings support the reported results of the positive counseling model outcomes on the QOL of the elderly in the cities of Zahedan and Shahinshar, Iran.

The mean QOL scores in other countries are much higher than the results obtained in Iran (Tasi *et al.*, 2004). QOL is influenced by many variables, including age, culture, physical, environmental and socio-economic status which is difficult to control. Patient and family education and cooperation are also major factors affecting the QOL. Therefore, raising elderly awareness and knowledge regarding positive behavioral modifications that affect QOL is important.

CONCLUSION

Elderly who have an active lifestyle exhibit better QOL, are less depressed, more satisfied and socially interactive. The elderly who are capable of performing their daily activities are also less likely to become depressed (Secondo *et al.*, 2002).

Programs addressing financial support systems, social security, treatment insurance, etc. should be considered important factors in promoting successful aging and QOL for the Iranian elderly. Outreach and educational training programs for family members caring for the elderly can benefit the overall wellbeing of this growing population (Darani *et al.*, 2010).

Additional studies using a larger segment of Iranian aging population and cross comparison among similar studies conducted in different regions of Iran, are required to develop the supporting evidence which could benefit the aging population.

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