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The effect of communication skills training on caregiver burden of elderly with Alzheimer's disease caregivers

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Abstract

Providing good care for Alzheimer's patients is requires suitable communication with them. Incorrect communication between the caregivers and patients is one of the causes that lead to considerable caregiver burden (CB) in caregivers. The aim of this study was to determine the effect of a communication skills training on CB among elderly with Alzheimer's disease (AD) caregivers. This study was a quasi-intervention type. In this study, 91 caregivers of Alzheimer's patients referred to the Iranian Alzheimer Association, Tehran, Iran were allocated in the two groups (intervention and control). Then, two groups were completed two questionnaires of demographic variables and caregiver burden before intervention. Educational program was developed according of pre-test results and performed to the intervention group. Two groups were followed-up one-month after the intervention. Statistical analysis of data was performed with SPSS and independent sample T-test, Student's paired-samples t test, Analysis of Covariance test. Significant reduction in CB was observed in intervention group (from a mean of 35.32 (± 8.7) to 32.9 (± 8.3) after the intervention compared to the control group. Finally, it is concluded that communication skills training is one of the appropriate strategies for reducing CB of caregivers of elderly patients with AD.

Keywords: Alzheimer's Disease, Elderly, Caregiver, Communication

Introduction

The high prevalence of dementia, as one of the expected consequences of aging [1], becomes a major public health concern in the world [2]. According to the World Alzheimer's Association, more than 35 million people globally suffer from dementia. This statistics will increase to 115.4 million people in 2050 [3]. Alzheimer's disease (AD), as the most common cause of dementia [3,4], is a chronic, progressive and debilitating brain disorder which affect on memory, intelligence and self -care ability of the affected seniors [5,6]. There is no exact statistics about the number of people living with AD in Iran. According to Iranian Alzheimer's Association report,

about 212.000 persons have AD in Iran [7].
Since, patients with AD have more problems to meet their needs due to cognitive and behavioral disorders; family members perform most of their caring responsibilities (over 80%) [8,9]. Caregivers spend considerable amount of their time and energy on care of patients with AD [10]. AD caregiving is a stressful experience that can lead to caregivers' physical and psychological problems [10-13]. Caregivers suffer from high level of caregiver burden (CB) [14]. CB is associated with poor outcomes for caregivers [15] and affects physical, psychological, emotional, social and financial condition of them [9, 16-18]. Also, CB decrease caregivers' quality of life [19]. The heavy burden of caregivers is usually associated to patient's severe symptoms, such as cognitive deficits, disorientation and modifies in personality and behavior. It is also influenced by other variables such as psychological or emotional condition and physical morbidity, social life, ethnicity and financial of the caregivers [20].
One of the factors influencing CB and stress of AD caregivers is patient's progressive communication problems [4,21]. AD damages one side of the brain the control communication [22] and gradually [4, 23] and progressively reduces patient's ability to communicate [4,24]. The effect of AD on everyone's communication ability is unique and each patient often experiences particular communication problems [22]. People with AD have more difficulty expressing their thoughts and emotions; they also have more trouble understanding others. They may have difficulties in finding the right words or repeating questions or thoughts over and over. They may quickly forget what they did understand in the beginning of a conversation. These patients able to focus only on one thought at a time [22, 23, 24]. The results of a study by Khatooni et al. showed that 74% caregivers stated that they faced variety problems for communicate with patients with AD [8]. Also, Rosa et al. showed that learning communication skills was one of the most needs of patients with AD caregivers [25]. Communication problems between the caregiver and patients with AD can lead to reduce care of patient by caregivers. Given the high level of CB among caregivers and the negative effects of communication problems with AD on CB caregivers,, conducting interventions to increasing communication skills of caregivers is essential [8]. Several studies have shown the effectiveness of communication skills training in increasing caregivers, and patients' health. Therefore, this strategy should be considered as one of the most important components of caring of persons with dementia [26, 27]. In Iran, positive effects of communication skills training have been investigated among various groups such as health care staffs, students and so on [28, 29, 30]. To our knowledge, there is not research regarding the effects of communication skills training on reducing CB among elderly patients with AD caregivers. In the world, Krause et al. [26], Franzmann et al. [31], and Nancy et al. [32] reported that training caregivers regarding communication methods is a suitable approach to reduce CB of this group and also increase the quality of life of persons living with AD. The study results of Ripich et al. showed that communication skills training has positive effects on reduce caregivers' communication problems [33]. Given the mentioned above, it seems that communication skills training to caregivers may help reduce their CB. Therefore, the current research was conducted to determine the effect of a communication skills training on CB of elderly with AD caregivers.

Method

The research was a quasi-experimental study with a control group which implemented in 2012. The study samples were selected from caregivers who referred to the Iranian Alzheimer Association who had met inclusion criteria. These criteria included caregivers who were relative to the elderly with AD, caregivers who cared of the patient at home, caregivers who had the responsibility for caring of the patient. Also the other inclusion criteria were lack of physical and psychological diseases,

lack of caring for patients with another chronic condition, having the ability to read and write to Persian, and finally not having a critical or severe stressful event such as the death of dear ones, divorce, illness, and immigration and so on in the last 3 months. If caregivers could not continue the cooperation until the end of the intervention for any reason (including death, chronic disease diagnosis in the caregivers themselves etc.), they were excluded from the study. Before conducting the study, a constant agreement was obtained from caregivers. The questionnaires were completed by caregivers. In this study, the demographic characteristics and Robinson's caregiver strain index (CSI) were used [34]. CSI is one of the validated questionnaires regarding CB which included 13 items with 5 sub-scales including: financial, employment, physical, social and time. Items score ranges from 0="No" to 1="Yes". In the present study, Content validity of CSI was used qualitatively. For this purpose, an expert panel of 10 specialists in psychiatric nursing and health education reviewed the items of the instruments. Finally, based on their comments, the vague questions and minor wording errors were clarified. Experts believed that scoring No (0) or Yes (1) of items was not appropriate. According to their comments, items of scale were calculated on a 4-point Likert-type scale anchoring from 1= "Non" to 4 = "Very much". In this study, internal consistency of CSI was estimated through Cronbach's Alpha. In this study, Cronbach's α for this scale was 0.87. In this study, 91 caregivers who met the inclusion criteria were selected from the list of patients registered in the Iranian Alzheimer Association and randomly assigned to intervention (n=42) and control (n=49) groups. Both groups completed the questionnaires before the intervention. Then, training intervention program was designed based on the pre-test results and implemented for the intervention group. Training was held in two sessions. In the first session, the general principles of communication, familiarity with AD, Alzheimer's effects on the patients' communication and strategies for improving communication with AD elderly patients were explained to caregivers. In the second session, a panel discussion was held regarding caregivers' problems about caring elderly with AD and how to communicate with the patient. At the end of the training sessions, caregivers were given a pamphlet regarding ways to communicate with AD patients. One month after intervention, both groups completed the questionnaires again.

The data was analyzed by SPSS-16. The Student's paired-samples t test was used to compare the mean of caregiver burden in each group before and after the intervention. The independent-samples t test was used to compare the mean of caregiver burden between intervention and control groups before the intervention. The analysis of covariance (ANCOVA) was used to compare the mean of these variables between the two groups after the intervention (by adjusting the effect of confounding variables such caregiver's age and gender and the number of hours care of patient per day). Correlations of caregiver burden and demographic quantitative variables were analyzed through Pearson correlation coefficient. The One-way ANOVA test was used to determine the significant difference between the mean of caregiver burden in terms of nominal qualitative variables. In the current study, the significance level of $P<0.05$ was considered.

Results

The findings showed that the mean age of caregivers was 23.52 years (±11) and 26.52 years (±13) in the intervention and control group, respectively. Table 1, 2 describes descriptive statistics (means (SD) and percentages) of participant's demographic characteristics of the two groups.

No significant differences were found for any of the demographics characteristics and caregiver burden between the two groups before the intervention ($P>0.05$). Following the intervention, the mean score of caregiver burden after adjusting confounders' variables including age, gender and spent time for

caring of the patient with AD was significantly lower in the intervention group compared to the control group (Table 3). The results showed that caregiver burden of housekeeper-caregivers was significantly higher than retired or self-employed caregivers (P>0.05) in the two groups before and after the intervention.

Finding showed that there was a significant direct correlation between CB and duration of

Table 1 *Qualitative demographic characteristics of caregivers in the two groups (mean ± SD)*

	Intervention group (n=42)	**Control group (n=49)**
1. Age of patient	80.2±7.8	76.6±9.5
2. Duration of Alzheimer disease	4±1.9	4.1±2.9
3. Duration of live of caregiver with patient before illness	19.8±14.8	21.4±22.7
4. Duration of live of caregiver with patient after illness	2.8±2.3	3.6±2.1
5. Number of children	2.2±1.2	2.6±1.5
6. The number of hours care of patient per day	13.5±4.2	14.1±4.3

Table 2 *Quantitative demographic characteristics of caregivers in the two groups*

	Intervention group (n=42)	Control group (n=49)
	N(%)	N(%)
1. Sex of patient		
Male	18 (42.9%)	16 (32.7%)
Women	24 (57.1%)	33 (67.3%)
2. Live with patients due to having Alzheimer disease		
Yes	20 (48.8%)	24 (49%)
No	21 (51.2%)	25 (51%)
3. Sex of caregiver		
Male	6 (14.3%)	9 (18.4%)
Women	36 (85.7%)	40 (81.6%)
4. Marital status		
Marital	35 (83.3%)	37 (75.5%)
Single or divorced	7 (16.7%)	12 (24.5%)
5. Relative of the patient		
Wife	10 (23.8%)	14 (28.6%)
Children	26 (61.9%)	28 (58.1%)
Other	6 (14.3%)	7 (14.3%)
6. Knowledge level		
Primary school	3 (7.1%)	13 (26.5%)
Middle school	5 (11.9%)	7 (14.3%)
High school	20 (47.6%)	17 (34.7%)
Academic degree	14 (33.3%)	12 (24.5%)
7. Occupation status		
Self-employed	12 (28.6%)	16 (32.7%)
Employee	3 (7.1%)	4 (8.2%)
Housewife	27 (64.3%)	29 (59.2%)
8. Income status		
≤5000000 Rials per month	9 (21.4%)	10 (20.4%)
Between 5000000 to 7000000 Rials per month	27 (64.3%)	35 (71.4%)
>7000000 Rials per month	6 (14.3%)	4 (8.2%)

Table 3 *Comparison of caregiver burden of caregivers in the two groups before and after the intervention*

	Pre intervention (mean ± SD)	1 month after intervention (mean ± SD)
Intervention group (n=42)	35.23±8.78	¶*32.09±8.33
Control group (n=49)	36.59±8.61	37.07±8.04

Student's paired-samples t test; * within groups comparison

Table 4 *Correlation between demographic characteristics and caregiver burden of caregivers score in the two groups before and after the intervention*

	Intervention group (n=42)		Control group (n=49)	
	Pre-intervention	1 month after intervention	Pre-intervention	1 month after intervention
1. Age of patient	0.35	0.36*	-0.08	-0.01
2. Duration of Alzheimer disease	0.25	0.22	0.26	0.26
3. Duration of live of caregiver with patient before illness	0.08	0.12	-0.002	0.04
4. Duration of live of caregiver with patient after illness	0.04	0.39*	0.28	0.31*
5. Age of caregiver	-0.13	-0.09	0.12	0.08
6. Number of children	-0.06	-0.11	0.34	0.25
7. The number of hours care of patient per day	0.59	0.60*	0.64	0.62*

*P<0.05

live of caregiver with patient after illness or the number of hours care of patient per day in the two groups before and after the intervention (P>0.05). Correlation between the mean of CB and quantitative variables in the two groups before and after the intervention is presented in Table 4.

Discussion

The results of the current study showed that communication skills training significantly reduced CB of caregivers in the intervention group compared to the control group after the intervention. These findings are consistent with such studies [19, 31, 26]. For example, Franzmann et al. showed that communication skills training can reduce CB and increase quality of life among patients and enhance caregivers' communication abilities [31]. Krause et al. reported that communication skills training may reduce CB of nurses and family caregivers, and increase caregivers' health and ability to communicate with the patient [26]. The study of Savundranayagam et al. also showed the there was a clear relationship between the progression of the disease, behavioral problems and decreased patients' communication skills and caregivers, pressure. They reported that communication problems through behavioral problems indirectly affect CB. The results of their study not only have confirmed previous studies on CB predictors, but also have emphasized communication improvement strategies as a means of reduction of CB methods [19]. Although in most previous studies, the effectiveness of training communication skills in CB is shown. Haberstroh et al. reported that training communication skills was effective on increase caregivers' knowledge about the relationship with the patient and improve quality of life, but is not effective on decreasing CB of them [35]. This contradiction may be due to the difference in Assessment tools for measuring effects of intervention or used strategies and training methods. In general,

design and conducting training interventions to improve communication skills of patients with AD caregivers by Alzheimer's Associations and health care system is essential.

In this study, there was a significant relationship between caregivers' job and their CB. The mean of CB was higher in housekeepers' caregivers compared to the other occupations. The results of similar studies indicated that the majority of caregivers of different patients including Alzheimer's patients are housewives [36, 37]. In our society and culture, women and girls who are unemployed or have quit studying were responsible of care of children, patients, the elderly and individuals with disability. Considering that this their responsibility considered as a part of housekeeping duties of them [37]. Higher CB among housekeepers' caregivers can be explained due to this their responsibility.

In this study, a significant positive correlation was observed between CB and the number of hours care of patient per day or duration of lives of caregiver with patient after illness in the two groups before and after the intervention, which is confirmed by other similar studies [2, 16, 36, 38]. By increasing hours care of patient, CB of caregivers increased.

A caregiver approximately spends 70 hours per week for caring of the patients with AD. The needed time to take care of the patient will reduce the time that caregiver can spent on taking a break, social interaction, employment and self-care. Arai also showed that if caregivers can take a break for at least 3 hours per day, their CB will be significantly reduced [16]. In this regard, Abbasiquoting Chang et al. stated that caregivers who consider more hours per day to take care of their patients, suffer further CB and have less mental health [38]. Also Liuexplains et al. showed that reduced time of care is a way to reduce CB among caregivers [20]. Previous studies also show that caregiver's living with the patient has a significant effect on caregivers' CB [16, 36]. Kaufer et al. reported that over 70% of people with AD live at home and the family and friends often provide 75% of necessary care to these patients. Caring for a person with AD at home and by family members will make significant savings in the health care system expenditures, but experienced physical and emotional stress can significantly negative on health outcomes of caregivers [16].

We observed a significant relationship between patient's age and CB of caregivers in the intervention group before and after the intervention. Navidian et al. reported that increase age of AD patients was associated with more stress and CB among their caregivers [37].

The main strength of the present study is that it is the first study to be conducted on communication skills training on a sample of caregivers of patients with AD. Three limitations in this study must be addressed. One of these limitations was the difficult sampling and conducted few training sessions due to limited access to the caregivers. Second limitation of the study was that it has been performed on a relatively homogenous of a sample of the caregivers referred to Iranian Alzheimer's Association, Tehran, Iran. This homogeneity may limit the extent to which findings can be generalized. Similar studies while focusing on other caregivers groups, such as those living in other areas of Iran is strongly suggested. Third limitation of this study was training was only used trategy to reduce the caregivers, CB. While providing combination of only communication skill training with counseling services, supportive services, family therapy and so on can more effect on reduce CB than only communication skill training.

Conclusion

The results of the current research show the effect of communication skills training in reducing CB of elderly with caregivers AD. Designing training interventions aimed to learning communication skills among caregivers of patients with AD can reduce CB, improve quality of life and finally promote health outcomes among caregivers and patients.

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Contributions

Study design: TM, TD
Data collection and analysis: TM, TD, NS, MG
Manuscript preparation: TM, TD

Conflict of interest

"The authors declare that they have no competing interests."

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