

## Research Paper

# The Effect of Cognitive-Behavioral Therapy-based Social Work Intervention on the Burden of Formal Caregivers Among Alborz City Nursing Home



Hakimeh Pashazadeh<sup>1</sup> , Yadollah Abolfathi Momtaz<sup>2,3</sup> , Ghoncheh Raheb<sup>1\*</sup>

1. Department of Social Work, University of Social Welfare and Rehabilitation Science, Tehran, Iran.

2. Iranian Research Center on Aging, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran.

3. Malaysian Research Institute on Ageing, Universiti Putra Malaysia, Malaysia.



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## ABSTRACT

**Objectives:** As the elderly population increases, the need for their care and establishing nursing homes and hiring formal caregivers becomes more significant. Caregivers are under the pressure and burden of care due to the provision of services. The current study investigates the effect of Cognitive-Behavioral Therapy (CBT)-based social work intervention on the extent of care burden among the formal caregivers of the elderly.

**Methods:** This research was a quasi-experimental study with a pretest-posttest-follow-up design. The study's statistical population comprised the formal caregivers of the elderly. The study sample consisted of 30 caregivers (15 men and 15 women), who were selected by convenience sampling method. The study participants received seven 90-min intervention sessions (CBT-based social work). The intervention protocol was validated by the Agree form using expert opinion evaluation. For data collection, the Zarit caregiver burden interview (short-form) was used. This scale has been validated by Rajabi Mashhadi et al. (2014) in Iran.

**Results:** The care burden score of the explored participants was 24.20, within the average level. The repeated-measures analysis of variance revealed that the presented intervention provided a significant difference between the two stages of pretest and posttest in physical ( $P=0.004$ ) and psychological ( $P=0.05$ ) dimensions. Also, the changes in the study variables remained constant until the follow-up stage.

**Discussion:** The obtained data indicate that the provided CBT-based social work intervention with the dimensions of identifying and accessing supportive resources, modifying attitude, and relaxation training can reduce the burden of care in physical, psychological, and general aspects among the study subjects. Therefore, more use of this intervention by specialists can affect the care burden of formal caregivers. The present research results also highlight the necessity for the attention of nursing home officials, social policymakers, and professionals active in the field of elderly care.

## \* Corresponding Author:

**Ghonche Raheb, PhD.**

**Address:** Department of Social Work, University of Social Welfare And Rehabilitation Science.

**Tel:** +98 (912) 1258334

**E-mail:** ghraheb@gmail.com

## Highlights

- The elderly need care, and some families may turn the responsibility for their elderly's care.
- The caregivers may be under pressure and burden during the care proces and may lose their motivation and ability.
- It is necessary to pay attention to the caregivers of the nursing home and take steps to reduce their burden.

## Plain Language Summary

The burden of care is common among formal caregivers for the elderly. Therefore, interventions by social workers seem necessary. Numerous studies have been conducted so far. In the present study, we tried to provide training to caregivers in 7 sessions to reduce their experienced stress. The results of the study show that these sessions can reduce the physical and psychological stress of caregivers, and this effect was stable three months after the sessions. By reducing the burden of care, in addition to caregivers, the elderly also benefit

### 1. Introduction

Considering the significant advances in medicine and technology, the elderly population is increasing worldwide; in 2017, the proportion of people over the age of 60 was 11% and is estimated to reach 16.5% by 2030 [1].

This group of people is exposed to potential threats such as chronic diseases, loneliness, isolation, and lack of social support [2]. As a result, aging people become more dependent on caregivers, which raises such challenges [3]. For example, further long-term support is required, which in turn could affect the importance of the health and social care needs of the elderly, as well as the creation of effective programs and establishments [4].

The elderly living in nursing homes are dependent on their formal caregivers and have biopsychological problems [5]. The United Nations recommends that care provision for the elderly go beyond medical care and address their entire biopsychosocial wellbeing [6].

Individuals who care for the elderly in a nursing home are considered formal caregivers. The term caregiver refers to someone who addresses the emotional and bio-social needs of others. The burden and responsibility of caregivers result from a permanent problem, stress, or negative experiences of the care provision, i.e., the care burden [7]. Defining the caregiver's burden as a criterion refers to various aspects of caregivers' emotional, physical, and social life [8].

Caregiving burden is a psychological condition, i.e., generated by work-induced stress and classified into

three dimensions: mental fatigue, as well as restricted emotional and physical resources; pessimism, negative and coherent attitude towards the job, and the lack of professional efficiency, feeling of professional success, and meaning of working with the subject [9]. This burden increases caregiver burnout [10], decreases physical health [11], and leads to quitting work and experiencing other problems [12].

Studies revealed that the employees of caregiving organizations who experience the burden of care provide lower-quality care for the elderly [8]. The quality of care could significantly impact the general wellbeing of the elderly [13]. The care burden intensity varies and depends on the severity of the cognitive and functional impairments of the care recipient, the relationship between the caregiver and the care recipient, and the type of provided care [14]. Previous studies suggest that caregivers experience a high level of care burden; accordingly, they are a group of vulnerable or invisible patients who require the attention or intervention of physicians and social workers [15].

Social workers' interactions with the elderly at three levels: individual, family and community, increase the opportunity for a positive life experience in a nursing home [16].

According to prior research, the individual's approach to the environment requires social workers to understand their clients and their behaviors in the context of different environments in which they are involved. This approach allows social workers in caregiving organizations to conceptualize different environments where the caregiver is involved [17]. The social work profession has shifted focus from psycho-

analytic models to operational approaches. Over the past three decades, the distinctive effect of cognitive-behavioral therapy (CBT) on the theory and practice of social work has highlighted that the number of social workers who employ this method is rising [18].

Social workers adopting the CBT approach believe that desirable changes in clients' behavior are possible by modifying their thinking patterns, beliefs, and attitudes [19]. According to cognitive-behavioral therapists, properly-trained individuals who recognize and correct their cognitive errors could experience a productive life and present appropriate behaviors [20]. CBT, psychodynamic approaches, crisis-based interventions, environment-based interventions, and treatment techniques could alleviate stress among patients, families, and caregivers [21]. CBT is one of the effective approaches to reducing the burden of care. Furthermore, various investigations have been conducted to reduce the burden of care; the relevant findings provided strategies to reduce the burden of care [22].

Therefore, the present study aims to investigate the effect of CBT-based social work intervention on the care burden among the formal caregivers of the elderly. For this purpose, the theories and approaches of social work in the field of CBT are employed.

## 2. Materials and Methods

The present quasi-experimental study was conducted to investigate the effect of CBT-based social work intervention on the care burden of the formal caregivers of the elderly living in Kahrizak Nursing Home in Alborz Province, Iran, in 2019. The relevant ethical code was obtained for this research project (IRUSWR.IPEC.1396.409).

The statistical population included male and female caregivers of Kahrizak Nursing Home in Alborz Province, with a test power of 90% and an effect size of 0.6 [23]. In total, 29 subjects were required to conduct the study; considering a 10% odds of sample dropout, 32 subjects were selected. With 2 people who stopped participating, 30 individuals (15 males and 15 females) participated in all stages of the study. The research subjects were selected by convenience sampling method.

The study inclusion criteria were having at least one year of work experience, literacy, and willingness to participate. The study exclusion criteria included unwillingness to attend the intervention sessions, not attending the first and last two sessions of the intervention, and more than two absences between the second and sixth sessions. Therefore, before the onset of the intervention, a briefing session was held on the objectives and process of the research, explaining the confidentiality of information and topics of the intervention sessions.

Initially, the ZBI was completed by the investigated caregivers. Then, CBT-based social work intervention sessions were separately provided to the female and male caregivers in seven 90-min sessions. Because the protocol is used for the first time in Iran, the agreement of the board of experts based on the Agree form was established to ensure the appropriateness of the duration, details, and fitness of the intervention package with the research objectives. For this purpose, the form was provided to 5 experts. The relevant results suggested a 99% agreement of experts on the appropriateness of the sessions. The summary of the intervention package is presented in Table 1. To perform the posttest after the last session, the caregivers completed the questionnaire, and

**Table 1.** Description of the Cognitive Behavioral Therapy(CBT)-based social work intervention package

Sessions	Contents	Purposes
1	Education and introduction to CBT	Communicating and building trust, familiarizing clients with CBT and the cognitive model, identifying the study subjects' problems and gathering further information, determining the goals of the meetings
2	Access to social support resources	Familiarity with family support resources, familiarity with resources, social support, familiarity with individual support resources
3	Plan fun activities	Familiarize caregivers with fun, accessible activities
4	Relaxation training, sleep improvement	Learn to perform relaxation assignments for a desirable sleep
5	Identify and challenge negative thoughts and feelings	The ability to distinguish between thoughts, feelings, and behaviors
6	Challenging maladaptive core beliefs	Identifying core beliefs and intermediate beliefs; understating the effects of core beliefs and intermediate beliefs on one's function
7	Review of sessions and plan for the future and a closure on the treatment sessions	Receiving feedback on the previous sessions

**Table 2.** Demographic characteristics of caregivers

Variables	No. (%)	Mean±SD
Age (y)	23-27	14(46.70)
	28-32	12(40)
	33-37	4(13.30)
Education	Diploma or Associate degree	22(73.30)
	Master's degree	8(26.70)
Marital status	Single	9(30)
	Married	21(70)
Income, Iranian Rial	Between 10 to 20 million	27(90)
	More than 20 million	3(10)

According to the normal distribution of data, the findings of this study are as follows.

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the follow-up stage was performed 3 months after the completion of the intervention.

The required research data were collected using a demographic information questionnaire and the Zarit caregiver burden interview (short-form). The ZBI-SF includes 12 questions, answered on a 5-point Likert-type scale from 0=never to 4=always. Besides, the total score ranges between 0 and 48. The questionnaire was validated by Rajabi Mashhadi et al. (2014) on the Iranian population. The mentioned questionnaire with the Cronbach  $\alpha$  coefficient of 0.78 has two subscales of physical burden and psychological burden [Table 2](#).

Central indices and statistical dispersion (Mean±SD, number of frequency, percentage) were applied to describe the data obtained from the study samples. Due to the normality of the data, the paired sample t test was implemented to compare the scores of caregivers' care burden at the pretest, posttest, and follow-up steps ([Table 3](#)). Besides, the repeated-measures analysis of variance (ANOVA) was used for performing additional assessments ([Table 4](#)). All obtained data were analyzed in SPSS.

### 3. Results

The participants' ages ranged from 23 to 37 years, with a Mean±SD of 28.13 (3.75) years. About 73.30% had a diploma and associate degree, and only 26.70% had a bachelor's degree. Regarding marital status, 9 people (30%) were single, and the rest were married. Also, 27 caregivers had an income between 1 to 20 million Iranian rials, and only 3 had an income of more than 20 million Iranian rials.

According to Mauchly's test of sphericity for the variables of psychological burden and care burden, because the P value is less than 0.05, the sphericity of the covariance matrix of variance is not met, so it is necessary to use the results of the Greenhouse-Geisser test.

According to the study of the sphericity test for physical burden, the P value is more than 0.05, so the assumption of sphericity of the variance matrix of covariance is met, and it is allowed to use the results of the sphericity assumed test.

**Table 3.** Test results of repetitive measurements related to care burden

Variables	Mauchly's W statistic	$\chi^2$	df	P
Psychological burden	0.96	0.94	2	0.62
Physical burden	0.58	18.08	2	0.001
Care burden	0.55	16.51	2	< 0.001

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**Table 4.** Results of analysis of variance (ANOVA) with repeated measures

Dependent Variable	df	Mean Square	F	P
Psychological burden	2	61.73	18.21	<0.001
Physical burden	1.41	13.52	2.05	0.15
Care burden	1.38	121.05	9.60	0.001

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**Psychological load:** Considering the significance of the sphericity assumed test, which is equal to 0.00, the test is significant, i.e., with an error of less than 5%, the mean score of psychological burden during the study was significantly different.

**Physical burden:** Considering the significance of the Greenhouse-Geisser test, which is equal to 0.15, the test is not significant, i.e., with an error of less than 5%, the mean score of physical burden during the study was not significantly different.

**Care burden:** Considering the significance of the Greenhouse-Geisser test, which is equal to 0.001, the test is significant, i.e., with an error of less than 5%, the average care burden during the study was significantly different.

#### 4. Discussion

Depending on the conditions of the elderly and the workplace, caregivers may experience a burden of care. Ronaldo, Adelman, et al. (2014) believed that working hours, depression, social isolation, financial stress, and the fact that caregivers do not have a choice affect the burden that the caregivers experience. The care burden can cause many problems for formal caregivers [24].

Previous studies have mainly focused on providing intervention for the group of informal caregivers. The present study tried to fill this gap, so formal caregivers were studied and participated in the intervention. The present quasi-experimental study was conducted to determine the effect of social work intervention with a cognitive-behavioral approach on the care burden of formal caregivers of the elderly in Kahrizak Nursing Home in Alborz Province, Iran.

Findings show that the social work intervention package with a cognitive-behavioral approach can positively reduce the care burden on formal caregivers. There was a significant difference between the pretest and posttest scores in terms of the care burden variable and psychological burden subscale, which indicates the effective-

ness of the intervention. In the follow-up stage, which took place three months after the intervention, the score of care burden in caregivers did not differ significantly from the pretest stage to the post-test stage, which indicates the stability of the intervention effect.

A study to evaluate the effect of the cognitive-behavioral intervention on the care burden in primary caregivers of the elderly showed that this therapeutic approach has positive effects on reducing the care burden and its dimensions [25]. In another study by Faqih et al. to identify the effect of the cognitive-behavioral intervention on reducing the care burden in caregivers of drug addicts, the results showed that this intervention effectively reduced the care burden and depression in caregivers [26]. Also, the results of research conducted by Nadika, Lopez, and Kim [27-29] showed that cognitive-behavioral intervention could effectively reduce the psychological burden and stress on caregivers. Bukhara, Greter, and Albiur [30-32] also sought to investigate the effect of the cognitive-behavioral intervention on the physical problems in caregivers; the results of the study showed that this type of intervention could make a significant difference in reducing physical burden and problems.

In the present study, to reduce the mental and physical burden, some sessions were dedicated to relaxation training and tips for better sleep so that caregivers can use this training to avoid some physical problems and have enough energy to provide care services. Stress theory states that individuals may experience stress due to a conflict of roles and responsibilities and thus experience the care burden. Therefore, in the intervention sessions, relaxation was taught to help manage the situations [33].

Power theory states that all people have positive characteristics that can help them overcome life's problems and challenges. Therefore, if people ignore themselves and make wrong judgments, they may perceive the pressure of working conditions more than what it is. Therefore, in the present study, the individuals' cognitive errors and core and intermediate beliefs were discussed and challenged [34].

Another issue that was discussed during the sessions was familiarity with and access to social resources, and an attempt was made to introduce the available support resources at the nursing home as well as community-based services to help them meet their educational, medical, and psychological needs. According to the systems theory and resource protection, if people cannot use their social, familial, and personal support resources to improve their living and working conditions, they may assume themselves alone and, as a result, perceive the burden and pressure of their working and living conditions more than what they are [35].

In general, the results of the present study show that cognitive-behavioral intervention can effectively reduce the care burden on caregivers by cognitive reconstruction, introducing support resources, providing information, and raising awareness. On the other hand, social work interventions with group approaches allow participants to experience positive emotions and outcomes by expressing themselves, brainstorming, and participating.

Any research has some limitations. In the study population, due to the caregivers' working conditions (4 shift groups of 9 to 10 people), it was impossible to form a control group, which was one of the most important limitations of the present study.

It is suggested that a control group be included in future research to compare the effectiveness of the intervention. The protocol of this intervention should also be applied to formal and informal caregivers in other fields.

## 5. Conclusion

The findings of this study show that social work intervention based on the cognitive-behavioral approach can reduce the care burden on formal caregivers of the elderly. Therefore, planning and providing such services for caregivers of people in need of care is essential. Planners and policymakers in the field of aging and care also should design services such as counseling services, social work services, transportation, treatment, and nutrition services that consider both the physical and psychological dimensions of caregivers' needs.

## Ethical Considerations

### Compliance with ethical guidelines

The required approval was obtained from the Ethics Committee of the [University of Social Welfare and Rehabilitation Sciences](#) prior to conducting the research

project (Code: IRUSWR.IPEC.1396.409). Moreover, participating in the study was voluntary, and the study results are available to the study samples upon request.

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### Authors' contributions

All authors equally contributed to preparing this article.

### Conflict of interest

The authors declared no conflict of interest.

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