




## Effectiveness of Psychoeducational Programs for Caregivers of Family Members with Chronic Disease: A Meta-Analysis

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# Effectiveness of Psychoeducational Programs for Caregivers of Family Members with Chronic Disease: A Meta-Analysis

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Article Info	Abstract
<p><b>Article History</b></p> <p>Received: 15 February 2024</p> <p>Accepted: 24 June 2024</p>	<p>This research aims to evaluate the effectiveness of psychoeducational programs in Turkey to reduce the stress of caring for people with chronic illnesses. The psychological, emotional, and physical demands on caregivers, often leading to stress and burnout, underscore the need for such programs. Nine papers were included in a meta-analysis, and statistical analysis was conducted using JASP 0.12.2.0 software. The results showed that psychoeducational therapies significantly reduced caregivers' perceived load, supporting their inclusion in routine treatment for chronic illnesses. The research emphasizes the role of psychoeducational interventions in improving the experience of providing care by providing vital information, coping skills, and emotional support mechanisms. This can lead to better health outcomes and a higher quality of life for those with chronic illnesses. The report also underscores the need for caregiver support policies and programs in healthcare, acknowledging their crucial role in the healthcare ecosystem. Further research is needed to improve the design and content of psychoeducational programs to meet caregivers' diverse needs in various settings. This meta-analysis provides strong evidence of the benefits of psychoeducational programs in reducing stress and laying the groundwork for future studies and policy formulation to support caregiver support in chronic disease treatment.</p>
<p><b>Keywords</b></p> <p>Meta-analysis Psychoeducation Caregiver support Chronic disease management Caregiving burden</p>	

## Introduction

### Background and Rationale

Advancements in technology and medicine have notably extended human lifespans, contributing to an increase in the prevalence of chronic diseases, particularly those associated with aging. This extension of life expectancy brings a concurrent rise in the necessity for continuous care for some individuals afflicted with chronic conditions. Informal caregiving, which involves care provided by family members, friends, or relatives without financial compensation, has become increasingly essential in this context (Colello, 2007). These caregivers play a pivotal role in managing chronic diseases, engaging in a wide range of responsibilities across various domains of health care, including biological, physical, psychological, and social aspects (Toledano-Toledano & Luna, 2020; Toledano-Toledano & Moral de la Rubia, 2018).

Given the critical role of family caregivers in managing chronic diseases, understanding the burden these caregivers face is imperative. The burden of caregiving encompasses physical, psychological, and emotional challenges, influenced by factors such as the progression of the disease and the level of care required. This burden can significantly impact the caregiver's quality of life and well-being, highlighting the importance of interventions to support them (Chang et al., 2010; Su et al., 2020; Swain et al., 2017).

### **Psychoeducational Programs for Caregivers**

In response to the challenges faced by caregivers, psychoeducational programs have emerged as effective interventions. These programs combine information, skill-building, and support to assist caregivers in managing the stresses of caregiving, ultimately aiming to improve the quality of life for caregivers and patients (Dixon et al., 2000; Murray-Swank & Dixon, 2004). Research has consistently shown that these interventions can reduce caregiver distress, improve symptomatic recovery of cared-for individuals, and enhance psychosocial outcomes (Chien, 2008; Martín-Carrasco et al., 2009; Rammohan et al., 2002).

Furthermore, the effectiveness of psychoeducational programs extends across various cultural backgrounds, indicating their broad applicability and potential for positive impact on caregiver burden, depression, and overall well-being (Au et al., 2015; Gex-Fabry et al., 2015). Notably, structured programs like Multiple Family Groups (MFGs) have demonstrated significant benefits in terms of treatment adherence, quality of life, and patient compliance, reinforcing the value of psychoeducation in supporting caregivers (Katsuki et al., 2018; López-Larrosa, 2013; Tawfik et al., 2021).

### **Role and Significance of Family Caregivers in Managing Chronic Diseases**

Family caregivers' indispensable role in managing chronic diseases cannot be overstated. Their involvement is crucial for maintaining health and well-being in individuals with chronic conditions, often managing daily life and healthcare needs (Raina et al., 2005; Whitehead et al., 2018). As chronic conditions progress, the multifaceted duties of caregivers may evolve, necessitating a dynamic approach to caregiving (Piran et al., 2017).

The research underscores the positive outcomes associated with caregiver participation in self-management treatments, such as improved health-related quality of life for patients with heart failure and chronic obstructive pulmonary disease (Noonan et al., 2019). The comprehensive role of caregivers, including symptom management, equipment care, transportation, and advocacy, is essential for effectively managing chronic diseases (Given et al., 2001).

### **Burden of Caregiving for Caregivers**

The burden experienced by caregivers of individuals with chronic diseases is multifaceted, impacting their physical, psychological, and emotional health. The demands of caregiving can lead to declining health among caregivers, emphasizing the need for practical support interventions (Chang et al., 2010). For instance, educational

and social media-based interventions have shown promise in reducing caregiver burden and enhancing caregiving ability (Duran Parra et al., 2019; Wan et al., 2020). Recognizing the impact of the caregiving burden is crucial for developing strategies to improve the well-being of caregivers and care recipients alike (Khair et al., 2019).

Psychoeducational programs serve as a critical support mechanism for family caregivers of individuals with chronic diseases. By offering education, skills training, and emotional support, these programs empower caregivers to navigate the complexities of caregiving more effectively, thereby improving their quality of life and that of the patients they care for. The body of research supporting the effectiveness of these interventions underscores their importance in the continuum of care for chronic diseases, highlighting the need for their continued development and implementation.

### **Problem Statement**

Psychoeducation designed for caregivers of family members with chronic diseases positively affects caregivers in various ways. However, based on the available literature, no meta-analysis study has examined the effectiveness of psychoeducation given to this segment in Turkey. This research aims to assess the effectiveness of psychoeducation programs for caregivers in Turkey, providing insights for future structured psychoeducation and the use of psychoeducation regarding the impact of chronic diseases on families. In this direction, the study focuses on the following research question:

When evaluated through meta-analysis results by effect size, do psychoeducational support programs create a significant difference in the caregiving burden of family members caring for a family member with a chronic illness?

### **Method**

#### **Research Model**

The method of the study is meta-analysis. Meta-analysis is a quantitative analysis that systematically collects quantitative results from numerous studies and makes inferences about the general effect across studies. This research uses the meta-analysis method to examine the effect of psychoeducational studies designed for caregivers of family members with chronic diseases on caregivers' caregiving burden.

The purpose of meta-analysis includes combining the results of small-sample studies to measure the parameters of the total sample size, evaluating inconsistencies among studies, and providing ideas for future research (Hedges & Olkin, 1985; Normand, 1999). In meta-analysis, calculations for effect size can be made based on the average values contained in the included studies, two categorical data, or correlation values (Borenstein et al., 2019). There are crucial points in meta-analysis that can threaten reliability and must be considered during analysis. One of these is publication bias, indicating that only published studies or studies with significant results are included in the analysis (Bakioğlu & Özcan, 2016). Researchers should conduct their analyses with these considerations in mind and consistently apply the test for publication bias.

## Literature Review and Inclusion Criteria

The study's literature review was conducted through the YÖK "National Thesis Center," Google Scholar, and ProQuest databases. Literature searches were made using the keywords "psychoeducation," "caregiver," "chronic disease," and "chronic illness." Research studies meeting the criteria mentioned below as a result of the search were included in the research.

Criteria for the study to be included in the meta-analysis are as follows:

- Conducted between January 1990 and December 2019,
- Written in Turkish and/or English,
- Conducted in Turkey,
- The research to be included in the meta-analysis contains relevant data (sample characteristics, mean and standard deviations),
- The method used in the research to be included in the meta-analysis is experimental or a single-group design,
- The research to be included in the meta-analysis measures the caregiving burden criterion,
- The research to be included in the meta-analysis uses the psychoeducation method,
- The research study group to be included in the meta-analysis consists of caregivers for family members with chronic diseases.

## Population and Sample

The research sample consists of 9 studies conducted in Turkey between 1990 and 2020, written, printed, and visually shared and included in the analyses according to the inclusion criteria.

## Data Analysis

After processing the research findings into a coding form (names of the studies, publication year, number of sessions, duration of the sessions, sample groups), effect size calculations were made over averages in the tool created by the Campbell Collaboration (Wilson, 2020). The correlation coefficient required for effect size calculations was obtained by accessing the study's raw data published by Baysan-Arabacı and others in 2018. Calculations for the general effect and necessary tests for publication bias were analyzed using the JASP 0.12.2.0 program.

Table 1. Classification of the Studies on the Psychoeducational Programs for Caregivers that Constitute the Research Sample

Researcher	Year	Type of Research	Target Group	Research Methods	Number of Sessions	Number of Participants	Data Collection Instrument
Arasan- Doğan, İ.	2018	Unpublished Master's Thesis	Caregivers for Alzheimer's	Pre-test, post-test single	8	45	Zarit Caregiving

Researcher	Year	Type of Research	Target Group	Research Methods	Number of Sessions	Number of Participants	Data Collection Instrument
			patients	group			Burden Scale
Uğur, Ö. and Fadiloğlu, Z.Ç.	2012	Published Electronic Journal Article	Caregivers for cancer patients	Pre-test, post-test, follow-up test single group	3	50	Caregiver Stress Scale
Durmaz, H.	2015	Unpublished Doctoral Dissertation	Caregiver for a schizophrenia patient	Pre-test, post-test, follow-up test, experimental	12	14	Zarit Caregiving Burden Scale
Baysan-Arabacı, L., Büyükbayram, A., Aktaş, Y., Taşkın Y.	2018	Published Electronic Journal Article	Caregiver for psychosis and bipolar patients	Pre-test, post-test experimental	8	40	Zarit Caregiving Burden Scale
Ersoy-Özcan, B.	2019	Unpublished Doctoral Dissertation	Caregivers for OCD (Obsessive-Compulsive Disorder) patients	Pre-test, post-test, follow-up test single group	8	250	Zarit Caregiving Burden Scale
Altan-Sarıkaya, N.	2017	Unpublished Doctoral Dissertation	Caregivers for those with mental disorders	Pre-test, post-test, follow-up test, experimental	9	61	Caregiver Burden Inventory
Ozkan, B., Erdem, E., Demirel Ozsoy, S., & Zararsiz, G	2013	Published Electronic Journal Article	Caregiver for a schizophrenia patient	Pre-test, post-test, follow-up test, experimental	8	62	Zarit Caregiving Burden Scale
Çabuk, M.	2014	Unpublished Master's Thesis	Caregiver for a schizophrenia patient	Pre-test, post-test, follow-up test, experimental	8	60	Perceived Family Burden
Tanrıverdi, D. and Ekinci, M.	2012	Published Electronic Journal Article	Caregiver for a schizophrenia patient	Pre-test, post-test single group	8	31	Zarit Caregiving Burden Scale

## Results and Discussion

### Findings Related to the Sample and Psychoeducation Groups

Table 1 provides the classification of psychoeducational studies applied to the caregivers in the research sample. When examining the distribution of studies based on their target groups, it is observed that psychoeducational studies focusing on caregivers of schizophrenia patients are the most common (N=4, 44.44%). 44.44% of the studies are experimental, while 55.56% follow a single-group design. The study's participant number varies, with a maximum of 250 (Ersoy-Özcan, 2019) and a minimum of 14 (Durmaz, 2015). In the reviewed psychoeducational studies, the "Zarit Caregiving Burden Scale" (1980) was used most frequently (N=6, 66.67%) to measure caregiving burden. A follow-up test was conducted in 66.67% (N=6) of the studies, while in 33.33%

(N=3), no follow-up test was applied.

There are a total of 403 caregivers in the included studies. 57.82% of the caregivers are female (n=233), and 42.18% are male (n=170) (See Table 2).

Table 2. Classification of Caregivers by Gender

Gender of Caregiver	N	%
Female	233	57.82
Male	170	42.18
Total	403	100.00

When examining the number of sessions in the included studies, it is observed that studies with eight sessions are the most common (N=6, 66.67%) (See Table 3). It has been determined that the duration of the psychoeducational studies is not standardized and that the total duration of the sessions varies.

Table 3. Psychoeducational Studies by Number of Sessions

Number of Sessions	N	%
3	1	11.11
8	6	66.67
9	1	11.11
12	1	11.11
Total	9	100.00

Table 4 identifies participants' kinship to the patients in the included psychoeducational studies. This data was found in seven of the included studies. Among the psychoeducational programs prepared for caregivers of individuals with chronic illnesses, parents (N=119, 35.62%) are the most frequent participants.

Table 4. Caregivers Based on Their Kinship to the Patients

Kinship	N	%
Spouse	89	26.33
Parent	119	35.62
Sibling	66	20.30
Child	51	14.68
Other	10	3.07
Total	325	100.00

### **Findings Related to the Caregiving Burden Criterion**

Table 5 shows data related to the meta-analysis examining the impact of psychoeducational programs on caregivers' caregiving burden. A total of 9 studies were included in the analysis. Upon examining the effect sizes

of the studies, the study with the smallest effect size (Baysan-Arabacı et al., 2018) has an effect size value of "0.07". This study placed caregivers of patients diagnosed with chronic mental disorders in experimental or control groups. The caregivers in the experimental group received psychoeducation, examining the changes in their caregiving burden.

Table 5. Effect Sizes for the Caregiving Burden Variable

Research Study	Effect Size	Standard Deviation	Variance	Confidence	Confidence	Mean Difference and 95% Confidence Interval	Weight
				Interval Lower Limit	Interval Upper Limit		
Arasan-Doğan (2018)	2.96	0.165	0.027	2.63	3.28		9.582
Uğur and Fadiloğlu (2012)	2.30	0.105	0.011	2.09	2.51		23.661
Durmaz (2015)	0.67	0.298	0.089	0.09	1.26		2.938
Baysan-Arabacı (2018)	0.07	0.160	0.026	-0.24	0.38		10.190
Ersoy-Özcan (2019)	0.78	0.110	0.012	0.57	1.00		21.559
Altan-Sarıkaya (2017)	0.10	0.256	0.066	-0.40	0.60		3.981
Ozkan et al. (2013)	1.45	0.286	0.082	0.89	2.01		3.189
Çabuk (2014)	0.12	0.131	0.017	-0.13	0.38		15.201
Tanrıverdi and İkinci (2012)	2.31	0.164	0.027	1.99	2.63		9.699

Study	Mean Difference	95% CI
Arasan-Doğan, I.	2.96	[2.63, 3.28]
Uğur, Ö.	2.30	[2.09, 2.51]
Durmaz, H.	0.68	[0.09, 1.26]
Baysan-Arabacı.	0.07	[-0.24, 0.38]
Ersoy-Özcan, B.	0.78	[0.57, 1.00]
Altan-Sarıkaya, N.	0.10	[-0.40, 0.60]
Özkan, B.	1.45	[0.89, 2.01]
Çabuk, M.	0.12	[-0.13, 0.38]
Tanrıverdi, D.	2.31	[1.99, 2.63]
FE Model	1.32	[1.22, 1.42]

The study's findings indicated that although there was no statistically significant difference in caregiving burden scores between the experimental and control groups after psychoeducation, the effect size value was small according to Cohen's (1988) classification and insignificant according to Thalheimer and Cook's (2002) classification. The researchers noted that, while they did not find a statistically significant difference, the caregiving burden scores decreased in the experimental group, with no change in the control group. The one-month interval between this study's pre-test and post-test applications seems to correlate with the findings of Yesufu-Udechuku et al. (2015), which suggested that the effectiveness of psychoeducation can only be measured after six months. The study with the largest effect size (Arasan-Doğan, 2018) has an effect size value of "2.96". This value is considerably large according to Cohen's (1988) classification and very large according to Thalheimer



and Cook's (2002) classification. Arasan-Doğan (2018) studied the impact of a well-being psychoeducation program designed for caregivers of Alzheimer's patients on the caregivers' burnout syndromes. Among the studies, the lowest lower limit (Altan-Sarıkaya, 2017) is "-0.40", while the highest upper limit (Arasan-Doğan, 2018) is "3.28". The filled squares on the error bubble graph in Table 3 indicate effect sizes, and the size of the squares indicates study weights. The study with the most significant impact on the analysis (Uğur & Fadiloğlu, 2012) has a value of "23.661%"; the study with the least impact (Durmaz, 2015) has a value of "2.938%". The weights of the studies are proportional to their sample sizes. The diamond shape in the table indicates the overall effect size of the studies (1.32).

Table 6. Overall Effect Size of the Caregiving Burden Criterion

Model	N	Effect Size	Homogeneity Coefficient (Q)	95% Confidence Interval		p
				Lower Limit (min.)	Upper Limit (max.)	
Random Effects Model	9	1.317	417.494	1.22	1.42	<.001

Table 6 provides values related to the overall effect size of the caregiving burden criterion. A random-effects model was used for the calculation of the overall effect size. According to the analysis results, the lower limit for the overall effect size of the studies related to the caregiving burden criterion is 1.22, the upper limit is 1.42, and the degree of effect size is 1.317. According to Cohen's (1988) classification, this value is considered 'large,' and in the classification by Thalheimer and Cook (2002), it is considered 'very extensive.' The results suggest that psychoeducational interventions for family members with chronic illnesses have a broadly positive effect on reducing the care burden levels of caregivers.

Table 7. Subgroup Analysis

	n	Effect Size	%95 Confidence Interval		p	Homogeneity Coefficient
			Lower Limit (min.)	Upper Limit (max.)		
Number of Sessions						
3	1	1.68	-0.30	3.66	0.147	5.36
8	6	0.64	0.52	0.76		
9	1	0.10	-0.40	0.60		
12	1	0.67	0.09	1.25		
Content						
Knowledge and Skill Based	7	1.47	0.93	2.01	0.002	10.00
Knowledge-Based	2	0.58	0.46	0.69		

Table 7 provides subgroup analyses related to the structure of psychoeducation studies. According to the analysis results, the homogeneity value related to session numbers is 5.36. No statistically significant difference exists

between groups formed according to session numbers ( $p=0.147$ ). In the literature review, psychoeducation groups were found to provide only information related to diseases ( $N=2$ ) and others ( $N=7$ ) aimed at developing caregivers' skills, such as emotional regulation, stress, and anger management. As presented in Table 7, subgroup analysis results indicate that session numbers do not significantly affect caregivers' caregiving burdens.

As can be seen in Table 5, the study that has the most significant influence on the analysis is by Uğur and Fadiloğlu (2012) at “23.661%”; the least influential study is by Durmaz (2015) at “2.938%”. The weight of the studies is proportional to the size of their samples. Psychoeducation for caregivers of family members with chronic illnesses reduces the caregivers' burden. It can be considered that this result stems from the content of psychoeducation. Hatfield's research in 1979 on the needs of families with a member with a psychiatric disorder emphasized that families most need information about symptoms, recommendations on dealing with the patient's behaviors, and contact with other families with similar experiences.

In Turkey, no other meta-analysis examining psychoeducation prepared for caregivers was encountered in the available literature, constituting a significant contribution to the literature in demonstrating the effectiveness of psychoeducation for caregivers. International literature includes meta-analysis studies examining interventions for caregivers, and factors such as the duration of the sessions and the ages of the participants are included in the analysis. One limitation of our study is that not all studies included in the analysis contained this data. Another limitation of our study is the absence of follow-up tests in every study.

When we examine the place of psychoeducation in family therapy, the aim of family therapy to increase family functionality coincides with the purpose of psychoeducation. In this regard, Psychoeducational Family Therapy shows effective results. Goldstein et al. (1978) conducted a structured 6-week therapy session with psychosis patients and their families with experimental and control groups. At the end of the sessions, while a 24% relapse was observed in families who did not receive therapy, no relapse was observed in families who received therapy.

## **Conclusion**

Within the scope of the Meta-Analysis, it has been determined that the number of sessions for psychoeducation studies is a maximum of 8 (see Table 3), and there is no standard in the durations of psychoeducation sessions, and the total duration of sessions varies. Sub-analysis results have not found a significant effect of session numbers on caregiving burden scores. Although it is customary for each group to vary due to its unique dynamics, future studies should examine the duration and the number of sessions to achieve objectives.

The meta-analysis results have revealed that psychoeducation aimed at family members with chronic illnesses has a broad positive effect on reducing caregivers' caregiving burden levels. Psychoeducation is usually applied to create a positive development in caregiving burden levels. According to this research, applied psychoeducation is beneficial for caregivers. The increasingly prevalent phenomenon of caregiving today will lead to more research.

More meta-analysis studies with research results can offer new contributions to the field. With the decrease in

caregiving burden, the caregiver can communicate more effectively with the patient. This situation increases family functionality (Hatfield, 1979). The goal of family therapies is also to increase functionality within the family. Using psychoeducational practices in family counseling will help achieve the objective of family therapy. In family counseling, meta-analysis studies related to family functionality can also be conducted in addition to psychoeducation.

## Note

This study titled "Effectiveness of Psychoeducational Programs for Caregivers of Family Members with Chronic Disease: A Meta-Analysis" was produced from the master's thesis of Ayca Ilgaz under the supervision of Hadiye Kucukkaragoz.

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