Journal homepage: <a href="www.jphasc.com">www.jphasc.com</a>
ISSN ONLINE: 3006-8800/PRINT: 3006-8797

## Caregiver Functioning in Addiction Treatment Scale: Development and Establishment of Psychometric Properties

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## Abstract

Current study was conducted with purpose to establish a scale for measuring functioning of caregivers in addiction treatment of drug addicts. Also this research aimed in devising psychometric properties for scale named as Caregiver Functioning in Addiction Treatment. This study was conducted in Islamabad from Sept 2024 to January 2025. This research was divided into two phases. In first phase scale was developed in three steps while in second phase psychometric properties were established. Initially pool of 60 items generated and at the end 35 items were retained and rated on 5 point Likert type. This scale is in Urdu language. Sample consists of 115 (N=115) individuals who were caregivers of drug addicts taking treatment, both men and women of age above 18 years. In pilot study 25 individuals participated while in main study 95 individuals were subjected. Demographic sheet and informed consent has been filled by caregivers. The scale showed one-dimensional component structures and the internal consistency was significantly high ( $\alpha$ = 0.85) resulting in a final 35-item scale with 3 subscales. The findings of the study confirmed that it was a valid and reliable scale that has potential utility to evaluate functioning of caregivers in addiction treatment.

Keywords: Caregiver, Functioning, Addiction Treatment, Scale.

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Pages 77-82 /Received, May 22, 2025, Revision Received June 18 2025, Accepted June 23 2025,

Journal homepage: <a href="https://www.jphasc.com">www.jphasc.com</a>
ISSN ONLINE: 3006-8800/PRINT: 3006-8797

## 1. Introduction

The challenges faced by parents, grandparents, foster parents, and other caregivers of adolescents with alcohol and/or drug problems are numerous and include high levels of emotional stress, hopelessness and depression, guilt and fear, desperation, social alienation and loneliness, health issues, and marital distress (Harpin, 2005). Addiction is a multifaceted psychological issue that profoundly impacts family members. Acheson, Richard, Mathias, and Dougherty (2018) define alcohol or substance addiction as a condition marked by a strong desire to use an addictive substance, increasing use to achieve a particular effect, experiencing deprivation when abstained, continuing to use the substance despite experiencing physical, mental, or social problems, and becoming unable to quit using it. In addition to endangering the abuser's bodily and emotional well-being, alcohol and drug addiction often shatters social interactions, family ties, and workplace harmony. The illness of addiction impacts not just the addict but also their family.

One of the most significant public health concerns is drug use disorders, and substance addiction has been increasing globally, including in Pakistan. It's often recognized as a complex biopsychosocial phenomena and is called a "family disease." According to estimates, 246 million people, or one in twenty individuals between the ages of 15 and 64, used illegal substances in 2013 (World Drug Report, UNODC, 2015). One research at Ganga Ram Hospital in Lahore found that caregivers of patients with substance use disorders had a greater prevalence of depression and that early intervention is necessary to improve their mental health (Ali, Baig, Saad, Saima, Sohail, Zahra & Khalid 2022).

The intricate role that families play in substance abuse must be remembered. They offer a variety of services, such as direct care, financial support, symptom management, and direct aid in getting and keeping their family members enrolled in treatment. Although they can aid in the healing process, they also have to deal with the fallout from the addicted behavior. Family members have their own issues, but they are also worried about the person's substance misuse behavior. Complementary or mirroring problems can sometimes transform the connection into a codependent dimension, in which the 'non-ill' member becomes unduly preoccupied with the other's challenges and abandons his or her own goals and needs. Of course, this approach raises the possibility of pathologizing otherwise normal caring activities, particularly those involving empathy and self-sacrifice. In order to adjust with the unpredictable, unreliable, and sometimes demanding behavior of the substance abuser, members of a potentially extremely unstable 'role play' must frequently modify their normal family duties or add new, sometimes unsuitable tasks. The individual spends the most of his or her time seeking for or using substances and is frequently debilitated by the effects of alcohol or drugs, rendering him or her unable to perform any familial responsibilities. Vacant jobs may be reassigned, and certain family members, particularly youngsters, may face excessive duties. Caregivers and other stressed family members sometimes may not know how to ask for aid or refuse to do so out of shame and fear of social stigma that make matters worse (Brown, Biegel, & Tracy, 2011).

The burden's repercussions often transcend beyond the nuclear family. Extended family members may express worry, anxiety, anger, shame, or guilt; they may choose to ignore or protect the person taking drugs. Furthermore, the consequences on families may persist beyond generations. Trans-generational effects of substance abuse may have a

negative impact on role modeling and normative behavior, causing harm to relationships between generations and influencing family functioning long after the life of the 'sick' member, particularly in cultures where the extended family is an important reference point. Thus, providing services to the entire family can improve treatment effectiveness while also contributing to social prevention and cost containment, as single members of families with alcohol or substance abuse are frequently connected not only to one another but also to a variety of public agencies such as social services, criminal justice, or child protective services (Leventhal, Pettit, & Lewinsohn, 2011).

Over the last two decades, the emphasis in mental health care has switched from institutionalization to community-based services and shorter hospitalization. This shift implies that caregivers, mostly family members, will play an increasingly important role in the treatment of patients suffering from mental illnesses. Although data supports the benefits of deinstitutionalization, caregivers face a significant burden (Addo, Agyemang, Ozan, & Nonvignon, 2018).

In the early 20th century, family involvement with the disease of addiction was self-evident to social workers who did their work in clients' homes and can see directly how families function, but has only received proper scientific attention recently. Psychiatric research on caregiving has recognized increase in the price paid by families of individuals with mental health problems and their contribution to the care process (Schulze & Rossler, 2005).

The well-being of the person with an addiction disorder found to be improved with contribution of family caregivers to treatment engagement and adherence, reducing substance abuse and relapse. However, it was found that caregiving is also associated with negative emotional and physical health outcomes for caregivers (Tyo & McCurry, 2020). Substance abuse is a multifaceted problem, it negatively alters the quality of life of not only substance abusers but also the members of family who live with them. Caregiving to an individual suffering from substance addiction has physical, mental, social and emotional challenges. These caregivers are most burdened as the assistance they provide is multidimensional. Family members are not all equally affected by a member's substance abuse, but the disorder has negative effects throughout the family (Kaur, Mahaja, Deepti, & Singh, 2018).

Caregivers are worried about matters like the lack of quick access to treatment when their loved one acknowledges that he or she needs help and limited professional long-term care support after rehabilitation programs as well as the lack of services when their loved one is receiving treatment, denies having a problem or declines treatment. The amount, type and frequency, methods of administration, severity, duration of substance usage, demeanour of the substance addict and the presence of mental and medical disorders has an impact on caregivers (Daley, Smith & Balogh, 2018).

The individual suffering from substance addiction is often the focus of the family and family cohesion and communication and behavior of family members are affected. Caregivers feel insecure as they are being lied to and manipulated. Emotional burdens felt by caregivers are high and these caregivers may need professional help for clinical depression or an anxiety disorder. Acrimony, annoyance and helplessness add to conflict and misunderstandings between partners, among siblings, and the caregiver- substance addict relationship (Young, 2015).

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ISSN ONLINE: 3006-8800/PRINT: 3006-8797

In view of above mentioned literature and recommendation, it was identified that caregiver functioning plays significant role in addiction treatment and it requires a cultural understanding of caregiver functioning and since no indigenous scale is available to measure functioning of caregiver in treatment of addiction in Pakistan so it provides direction to develop a scale in light of cultural expression of caregiver functioning.

The objectives of the study, First, the study aims to develop an assessment tool specifically designed to measure caregivers' functioning within the context of addiction treatment. Second, it seeks to establish the psychometric properties—such as reliability and validity—of this newly developed scale to ensure it effectively captures the intended construct of caregiver functioning in addiction treatment settings.

#### 2. Method

The current study was conducted in two phases. In Phase I, Caregiver Functioning in Addiction Treatment scale was developed. In Phase II, psychometric properties of the newly developed scale were established. Following are details of the phases:

## Step I: Item Generation

The aim of this step was to explore the phenomenon of caregiver functioning in addiction treatment to generate item pool. The phenomenology was explored from caregivers of drug addicts who were under treatment. In the initial stage data was taken from 10 individuals including men and women. Data for initial state was collected inform of open-ended questions during interview. The verbatim was noted word to word. Then it was aligned with core of caregiver functioning like his drug use behaviors is affecting whole family, we are in a lot crises due to his addiction, whole family is suffering due to addiction, individuals in family are worried for patient, addiction treatment is creating financial burden, people in society are not considering families nobel because of his addiction etc. After that list of items was generated through item pool. Slang and duplicated words or statements were removed from the raw list. At the end final list of 60 items was generated.

## Step II: Expert Validation

The aim was to develop content validity of this measure from experts for further administration. Five experts were approached for expert validation based on their qualification, field, exposure and relevance. Final list of items generated in last phase was used here. A form was designed for every expert with instructions of rating each item on 5-point Likert scale including 1=Strongly agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Strongly Disagree. After this phase, 46 items were retained.

## Step III: Tryout

The purpose of this phase is to look at quality, nature and wording of items. So, 25 individuals were included in pilot study. Observations were made during this phase that results in modification of instructions and font of the scale. Overall, no difficulty has been reported by subjects.

# Phase II: Establishing Psychometric Properties of Caregiver Functioning in Addiction Treatment Scale

This phase is based on establishment of psychometric properties for scale including reliability and validity. The internal consistency and alpha reliability were measured through SPSS. Results were satisfactory.

## 2.1 Participants

The subjects (N=115) were selected through purposive sampling technique. In pilot study 25 caregivers participated and main study was conducted on 95 individuals. Both men and women of age 18 to 65 were

included in study. Caregivers participated in this study whose any relative is under indoor treatment of drug addiction. Both married and unmarried people from any socioeconomic background participated in this study.

## 2.2 Measures

- **2.2.1 Demographic Form:** The demographic form comprised of the demographic variables of age, gender, relationship with patient, duration of treatment, qualification and socioeconomic status.
- **2.2.2** *Informed Consent:* Informed consent has been taken from all the participants who showed willingness to participate in current study.
- **2.2.3** Caregiver Functioning in Addiction Treatment Scale: The Caregiver Functioning in Addiction Treatment Scale refined in phase II which was utilized to measure caregiver functioning in treatment of drug addiction in Pakistan. At the end 35 items were finalized which has to be rated on 5-point Likert Scale to measure responses. In this scale four Items that are 36, 43, 45 & 46 has reverse coding.

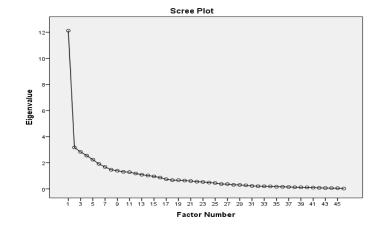
## 2.3 Procedure

The approval for conducting current study has been taken from Institutional Review Board. Inclusion and exclusion criteria were decided. Study was conducted in two parts. Pilot phase and main study was conducted for development of Caregiver Functioning in Addiction Treatment Scale. Informed consent has been taken from all participants. 115 Caregivers took part in study. 5-point Likert scale of 35 items was finalized. After data collection, statistical analysis was conducted through using SPSS.

## 3. Result

Frequencies and percentages of different demographic variables were obtained. The factors of the newly developed scale were identified through exploratory factor analysis. Before Exploratory Factor Analysis, sampling adequacy test was also run. Kaiser-Meyer Olkin (KMO) measure indicated sample adequacy for 35 items which were retained after deleting the items having correlation .3 and below. For EFA only those 35 items were retained which have total item correlation from .4 and above. The KMO value was .69 (Kaiser, 1970) indicating mediocre sampling adequacy. Bartlett's test of sphericity indicated  $\chi$  2 value of 3625.810 (p < .001). R-matrix was found suitable for factor analysis and EBPS data set is suitable for exploratory factor analysis. Figure 1

Scree Plot



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ISSN ONLINE: 3006-8800/PRINT: 3006-8797

After careful consideration, the 3 factors were retained, and each factor was observed and read in detail. A name was assigned to each factor grounded on the collective theme of each factor.

#### **Factor 1: Caregiver Involvement**

It can be described as the involvement and engagement of caregivers in addiction treatment. 24 items were retained in this factor. A high score on this subscale refers increase involvement and concern of caregivers to addiction treatment of their relative

## **Factor 2: Caregiver Problems**

This factors focuses on the problems and sufferings of caregivers of drug addiction treatment. A total of 07 items were retained in this factor. A high score on this subscale refers increase in problems of caregivers due to drug abuse of their relative.

## Factor 3: Caregiver Negative Attitude

This factor emphasis on the negative attitude of caregivers while dealing drug addiction patients. It further involves the absence of contacts, links, familial relationships, and friends. This subscale has 04 items and a high score on this subscale refers to the negative attitudes of caregivers.

Table 1

Demographic variables of Caregiver Functioning in Addiction Treatment Scale(N=115)

Demographics	Variables	F	%
Gender	Men	62	53.9
	Women	53	46.1
Marital Status	Married	92	80.0
	Unmarried	21	18.3
	Seperated	2	1.7
Education	Matric	12	10.4
	Intermediate	44	38.3
	Graduate	49	42.6
	Masters	5	4.3
	Above	5	4.4
Relationship	Parent	1	0.86
г	Spouse	4	3.47
	Sibling	26	22.6
	Friend	34	29.56
	Relative	40	34.78
	Other	10	8.69
Employment status	Employed	12	10.43
1 ,	Unemployed	35	30.43
	Business	18	15.65
	Government	1	0.86
	employee	46	40
	Student	3	2.6
	Housewife		
Socioeconomic	Upper class	4	3.5
status	Upper middle class	31	27
	Middle class	74	64.3
	Lower middle class	5	4.3
	Lower class	1	0.9
Care giving period	0 - 2 years	96	83.47
	3 - 5 years	14	12.17
	6 - 8 years	5	4.34

Table 2 shows a factor analysis of 35 items into three factors ensued after exploratory analysis with varimax rotation is conducted. The analysis reflects that 35 items show high factor loading, that is above >.30 which were retained. Items in each factor are different in number as factor 1

contains 24 items, Factor 2 consists of 7 items and factor 3 included 4 items.

Exploratory Factor Analysis with Varimay Potation (N-115)

Table 2

Exploratory Factor Analysis with Varimax Rotation (N=115)							
Sr. no.	Items	Factor 1					
1	44	.74					
2 3	11	.73					
	21	.72					
4	01	.72					
5	25	.71					
6	09	.71					
7	08	.69					
8	33	.68					
9	10	.66					
10	28	.64					
11	17	.63					
12	23	.62					
13	39	.62					
14	31	.60					
15	16	.59					
16	34		.56				
17	41	.56					
18	05	.55					
19	20	.54					
20	35	.53					
21	42	.52					
22	24	.50					
23	03	.37					
24	38	.45					
25	18		.60				
26	12		.57				
27	14		.57				
28	19		.44				
29	07		.42				
30	13		.39				
31	46		.33				
32	45			.59			
33	36			.56			
34	43			.37			
35	15			.35			
	Eigen Values	12.12	3.17	2.55			
	% Variance	26.35	6.89	5.54			
	Cumulative %	26.35	33.25	44.94			

Note. Items loaded above 0.4 have retained and boldface items belonging to the factor

Table 3
Intra-scale Correlation of Subscales of Caregiver Functioning in Addiction
Treatment Scale (N=115)

	Variables	1	2	3
1	Caregiver involvement		.37**	07
2	Caregiver problems			.01
3	Caregiver negative attitude			
	M	41.10	16.83	11.84
	SD	10.14	3.28	2.21
0. > q	0.			

Table 3 indicates correlation, mean, standard deviation and Cronbach alphas of 3 factors. There exists statistically significant positive correlation between Caregiver involvement and caregivers problems but non-significant correlation exist among other factors of Caregiver

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ISSN ONLINE: 3006-8800/PRINT: 3006-8797

Functioning in Addiction Treatment Scale. Value of correlation ranged from .01 to .37 with p < .01.

Table 4

Intra-scale Correlation of Subscales of Caregiver Functioning in Addiction

Treatment Scale (N-115)

Scales	Item	α	M	SD
CFAT (Total)	35	.85	2.01	.68
Caregiver involvement	24	.92	1.74	.52
Caregiver problems	7	.52	2.40	.85
Caregiver negative attitude	4	.29	2.93	1.30

p < .00.

Table 4 shows that the reliability of all three factors was in the range of .29 to .92, which is significantly high except for caregiver negative attitude. The reliability of total score of Caregiver Functioning in Addiction Treatment Scale was .85 which is high which shows that the internal consistency and reliability of the scale are high.

## 4. Discussion

Caregivers are also found to be worried or concerned about the treatment of their relatives who are involved in drug addiction. And as it is evident that substance or alcohol abuse is complex problem and even relapse is more common issue associated with its treatment. The present study was conducted with purpose to develop an instrument which can measure the functioning of caregivers in addiction treatment. Also to establish the psychometric properties of this scale. The Caregiver Functioning in Addiction Treatment (CFAT) Scale represents a significant step forward in understanding and addressing the challenges faced by caregivers of individuals undergoing addiction treatment. The study highlights several key findings and contributions, with implications for both research and clinical practice.

The CFAT Scale was meticulously developed through a multistep process, ensuring its cultural relevance and psychometric robustness. By involving caregivers in the item generation phase and obtaining expert validation, the scale aligns closely with the lived experiences of caregivers in the context of addiction treatment in Pakistan. The final scale, comprising 35 items grouped into three distinct factors. Caregiver Involvement, Caregiver Problems, and Caregiver Negative Attitude provides a comprehensive framework for assessing caregiver functioning.

The demographic characteristics of the sample, as shown in Table 1, provide valuable context for interpreting the data. A nearly balanced representation of men (53.9%) and women (46.1%) highlights the inclusion of diverse caregiving experiences, capturing the roles of both genders in addiction caregiving within the cultural setting of Pakistan. The relationships of caregivers to the patients, predominantly relatives (34.78%) and siblings (29.56%), underscore the familial nature of caregiving in addiction treatment, reflecting societal norms where family members bear the primary responsibility for care. Additionally, the socioeconomic diversity of the sample, with 64.3% from middle-class backgrounds and a significant proportion of housewives (40%), illustrates the varied economic and occupational dynamics influencing caregiving roles.

The factor structure of the Caregiver Functioning in Addiction Treatment Scale (CFAT), detailed in Table 2, reveals three distinct dimensions of caregiver functioning: Caregiver Involvement, Caregiver Problems, and Caregiver Negative Attitude. These factors emerged from an exploratory factor analysis with varimax rotation, demonstrating a clear and interpretable structure with high loadings  $(\geq 0.40)$  across retained items. Factor 1, Caregiver Involvement, encompasses 24 items and represents the extensive participation of caregivers in treatment processes, emphasizing their crucial role in supporting the recovery of their loved ones. This dimension aligns with literature that underscores the significance of family engagement in addiction treatment, where caregivers facilitate adherence to treatment regimens and provide emotional and logistical support. Factor 2, Caregiver Problems, includes 7 items that encapsulate the emotional, financial, and social burdens experienced by caregivers. The identification of this factor echoes existing research highlighting the multifaceted stressors faced by those supporting individuals with substance use disorders. Factor 3, Caregiver Negative Attitude, comprises 4 items that reflect relational strains and adverse emotional responses, such as frustration and resentment, which are often reported in caregiving dynamics involving addiction.

The reliability and correlations among the subscales, as shown in Tables 3 and 4, further validate the robustness of the CFAT Scale. The total scale demonstrated high internal consistency ( $\alpha=0.85$ ), signifying its reliability as a comprehensive measure of caregiver functioning. Among the subscales, Caregiver Involvement exhibited excellent reliability ( $\alpha=0.92$ ), reinforcing its cohesive representation of caregiver engagement activities. Although the reliability of Caregiver Problems was moderate ( $\alpha=0.52$ ), it adequately reflects the complex and variable nature of the burdens experienced by caregivers, which may differ widely depending on individual and situational factors. The low reliability of Caregiver Negative Attitude ( $\alpha=0.29$ ) suggests that this subscale may require further refinement, possibly through the addition of more items to capture this dimension comprehensively.

## **Implications**

The CFAT Scale carries significant implications for both clinical practice and policy in the field of addiction treatment. It equips clinicians and policymakers with a reliable and culturally sensitive tool for assessing caregiver functioning, enabling the identification of specific areas in need of support and the development of targeted interventions. By reflecting culturally embedded expressions of caregiver burden, the CFAT Scale enhances its relevance and applicability within the Pakistani context. The findings also highlight the necessity for comprehensive, family-based approaches in addiction treatment, emphasizing the value of counseling, education, and resource provision to support caregivers effectively. Moreover, the study draws attention to the critical issue of caregiver burnout, advocating for preventive strategies and well-being initiatives tailored to those providing care.

#### Limitations

Despite its strengths, the study has some limitations. The relatively small sample size (N=115) restricts the broader applicability of the findings, underscoring the need for future research involving larger, more diverse populations. Additionally, while the scale has been designed for cultural relevance in Pakistan, cross-cultural validation is essential to confirm its effectiveness and adaptability in different cultural settings.

## The Future Scope of the Work

Young people are using more drugs. In many countries in Africa and South and Central America, the largest proportion of people in treatment for drug use disorders are there primarily for cannabis use disorders. In Eastern and South-Eastern Europe and in Central Asia,

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ISSN ONLINE: 3006-8800/PRINT: 3006-8797

people are most often in treatment for opioid use disorders. In the United States and Canada, there is an epidemic of the non-medical use of fentanyl, which continues to break records.

In the future, this will become an even bigger issue globally, as it shows rapid growth. We must prepare ourselves for the time to come by enhancing health education, organizing specific training and screening of people for psychological morbidity and applying early interventions if needed.

Future research could also explore the longitudinal application of the CFAT Scale to track changes in caregiver functioning over the course of treatment. Additionally, integrating the scale into intervention studies can provide valuable insights into its predictive validity and the effectiveness of caregiver-focused interventions. This scale can be helpful for mental health experts to work on caregiver's role in treatment process.

## Conclusion

Family members struggle to maintain familial integrity, despite the addicted individual's loss of control, and in doing so often deny the reality of such loss of control. This is a mission on its own. The family of the affected individual often tries to overcome this difficult situation by systematically eliminating certain perceptions regarding awareness, forming alternative explanations to the perceived situation, or else reversing or mixing the cause and effect relationship. For this reason, the needs, requests, and feelings of family members remain in the background when compared with those of the addicted individuals (Schmid, 2008).

In the literature, care burden studies have generally been conducted with the relatives of the patients followed-up with chronic mental illnesses, such as schizophrenia, bipolar disorder, Alzheimer's, dementia, and obsessive—compulsive disorder (Yıldırım, Yalçıner & Güler 2017). Few studies have been conducted on this subject that consider the physical, emotional, and economic burden of an alcohol/substance abuser on caregivers. In a study conducted with female substance abusers, Biegel, Ishler, Katz & Johnson (2007) emphasize the burden of the caregiver, and state that the number of studies on this subject is inadequate.

In the above mentioned context it is concluded that a reliable and valid instrument is required to assess and measure the functioning of caregivers in substance abuse treatment. The development of scale in this study will be helpful for evaluating caregiver functioning in treatment of addiction among drug addicts as this is reliable and valid scale.

## **Funding**

This research received no external funding.

## **Data Availability Statement**

Not applicable.

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