

RESEARCH ARTICLE (ORIGINAL) 

Determinants of Mental Health in Caregivers of Children and Adolescents under Roy's Adaptation Model

Determinantes da Saúde Mental em Cuidadores de Crianças e Adolescentes Segundo Modelo de Adaptação de Roy

Segundo Modelo de Adaptação de Roy

Determinantes de la Salud Mental de Cuidadores de Niños y Adolescentes Según el Modelo de Adaptación de Roy

el Modelo de Adaptación de Roy


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Abstract

Background: Caregivers of children and adolescents face conditions that may compromise their mental health. Nursing interventions can be guided by Callista Roy's Adaptation Model, which provides a framework for understanding human responses to environmental stimuli.

Objective: To assess the mental health of caregivers of children and adolescents and associated determinants according to the adaptive modes of Roy's model.

Methodology: A quantitative, cross-sectional, and descriptive study was conducted with 103 caregivers in health services. Data were analyzed in light of the adaptive modes of Roy's model.

Results: The prevalence of psychological distress was 32%, with higher levels identified in the physiological-physical and self-concept-group identity modes. No source of fixed income, having more than one child at home, taking regular medication, and the presence of a clinical diagnosis were associated with psychological distress.

Conclusion: The findings highlight the need for nursing interventions aimed at strengthening adaptation and ensuring comprehensive support for caregivers.

Keywords: nursing assessment; mental health; caregivers

Resumo

Enquadramento: Cuidadores de crianças e adolescentes enfrentam condições que afetam a sua saúde mental. A enfermagem pode atuar com base na Teoria de Callista Roy, que permite compreender respostas humanas aos estímulos ambientais.

Objetivo: Avaliar a saúde mental e os seus fatores associados de cuidadores de crianças e adolescentes, segundo os modos adaptativos da Teoria de Roy.

Metodologia: Estudo quantitativo, transversal e descritivo, com aplicação de um questionário a 103 cuidadores em serviços de saúde. Os dados foram analisados à luz dos modos adaptativos de Roy.

Resultados: A prevalência de sofrimento psíquico foi de 32%, com maior comprometimento nos modos fisiológico e autoconceito. Ausência de rendimento fixo, mais de uma criança no domicílio, uso de medicação de toma continuada e diagnóstico clínico apresentaram associação com sofrimento psíquico.

Conclusão: Os resultados indicam necessidade de intervenções de enfermagem focadas no fortalecimento adaptativo e no suporte integral ao cuidador.

Palavras-chave: avaliação em enfermagem; saúde mental; cuidadores

Resumen

Marco contextual: Los cuidadores de niños y adolescentes se enfrentan a condiciones que afectan a su salud mental. La enfermería puede actuar basándose en el Modelo de Adaptación de Callista Roy, que permite comprender las respuestas humanas a los estímulos ambientales.

Objetivo: Evaluar la salud mental y sus factores asociados de los cuidadores de niños y adolescentes, según los modos adaptativos del modelo de Roy.

Metodología: Estudio cuantitativo, transversal y descriptivo, con aplicación de un cuestionario a 103 cuidadores en servicios de salud. Los datos se analizaron según los modos adaptativos del modelo de Roy.

Resultados: La prevalencia del sufrimiento psíquico fue del 32 %, con mayor afectación en los modos fisiológico y de autoconceito. La ausencia de ingresos fijos, tener más de un hijo en el hogar, el uso continuado de medicación y el diagnóstico clínico se asociaron con el sufrimiento psíquico.

Conclusión: Los resultados indican la necesidad de intervenciones de enfermería centradas en el fortalecimiento adaptativo y el apoyo integral al cuidador.

Palabras clave: evaluación en enfermería; salud mental; cuidadores

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Introduction

Being a caregiver for children and adolescents brings significant challenges that can lead to mental burden, especially in the absence of family support and in the face of adverse environmental conditions (Daltro et al., 2018). Health services often neglect this role, and professionals fail to adequately assess the effects that the responsibility of caring for a child or adolescent can have on a caregiver's mental health (Dunn et al., 2022).

Caregivers' mental health directly impacts the quality of care they provide and the physical, emotional, and social development of the children in their care. Therefore, family-focused, caregiver-centered mental health approaches are essential to breaking the cycle of psychological distress and its intergenerational transmission (Stolper et al., 2022).

In this context, nurses play a crucial role in considering the internal and external factors that influence caregivers' mental health, including family, social, and political dimensions (Vives-Espelta et al., 2024). Nurses should collect and interpret data guided by a theoretical framework that supports clinical practice (Ren & Salvador, 2024). This study adopted Callista Roy's Adaptation Model.

This theory views individuals as adaptive systems who constantly interact with environmental stimuli and is particularly useful for analyzing the biopsychosocial responses of caregivers in contexts of vulnerability (Hanna & Roy, 2001; Souza et al., 2020).

Despite growing scientific evidence on the impact of caregiving on mental health (Löchner et al., 2024; Wu et al., 2025), few studies have investigated the relationship between sociodemographic and family determinants and the psychological distress experienced by caregivers of children and adolescents from the perspective of Roy's Adaptation Model.

Thus, this study aims to evaluate the mental health determinants of caregivers of children and adolescents based on Roy's adaptive modes.

Background

According to Callista Roy's Adaptation Model, individuals are adaptive, holistic beings whose response mechanisms are influenced by constant interactions with their environment (Souza et al., 2020). According to this model, healthcare providers must consider both internal and external factors to promote adaptive responses that favor physical, psychological, and social balance.

This conceptual model is structured around four fundamental adaptive modes: the physiologic-physical mode, which considers the body's responses to basic needs; the self-concept-group identity mode, which relates to the psychological and spiritual aspects of identity; the role function mode, which addresses the social roles played by the individual and how they position themselves in society; and the interdependence mode, which emphasizes relational integrity and the importance of support

networks in the adaptation process (Hanna & Roy, 2001; Medeiros et al., 2016).

Roy's model has been applied in different population contexts, with a particular focus on the analysis of mental health and quality of life. Recent studies highlight its usefulness in understanding the emotional and behavioral responses of individuals when adapting to clinical diagnoses and changes in health status (Chavez Retete et al., 2023; Monjezi et al., 2025; Proaño & Acurio, 2022). In the context of mental health, the model allows for the identification of maladaptive behavior patterns that may compromise the integrity of the adaptive modes, thus contributing to the planning of person-centered nursing interventions (Alidoost et al., 2021). This approach is particularly relevant for caregivers of children and adolescents, whose prolonged exposure to emotionally demanding situations can lead to psychological distress. In this regard, a recent study conducted in Northern Ireland with 2,815 parents and caregivers revealed a prevalence of mental health problems in 22% of the sample, highlighting the urgency of understanding the factors associated with the mental health of these individuals and the impact on their families (Grant et al., 2024). Analyzing these experiences in light of Roy's model establishes a robust theoretical foundation for creating more effective care practices that promote adaptation and caregiver mental health.

Research question

What determinants influence the mental health of caregivers of children and adolescents according to Roy's Adaptation Model?

Methodology

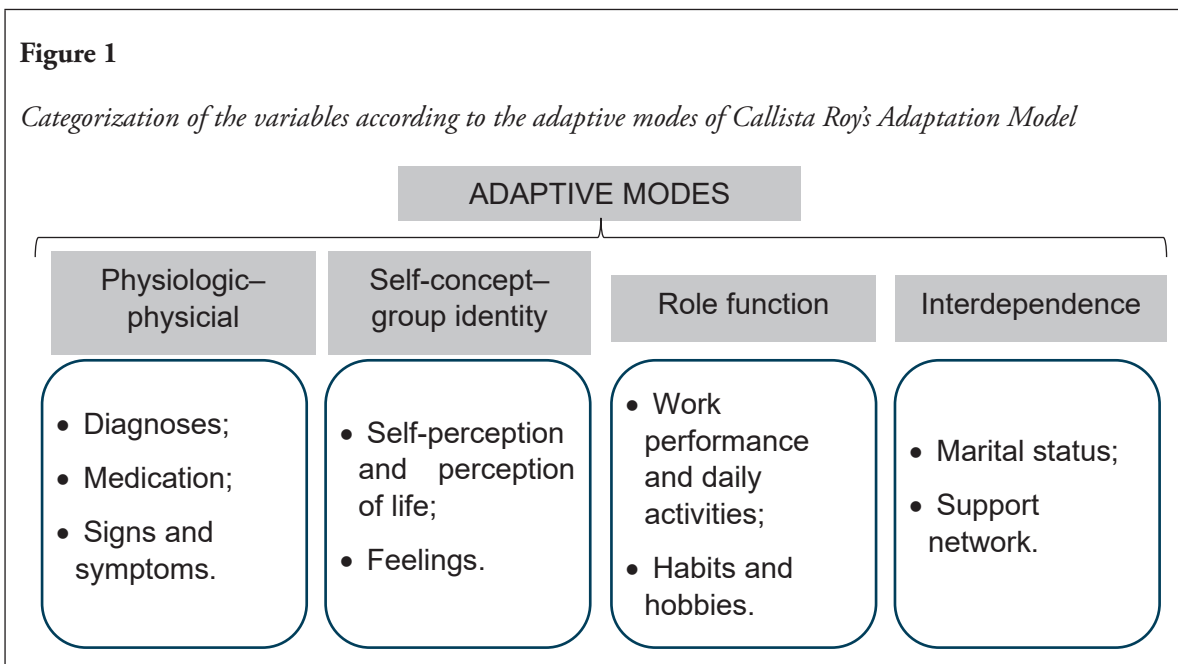
A quantitative, descriptive, cross-sectional study with complementary qualitative analysis was conducted in the municipality of Lagarto in the state of Sergipe in Brazil. The sample consisted of 103 primary caregivers of children and adolescents recruited from primary and secondary care services, including basic health units, a specialized rehabilitation center, a humanized center for women and children, and a psychosocial care center. These units were selected based on their accessibility and the diversity of the population served.

The study focused on primary caregivers of children and adolescents aged 4 to 16 years, which is an age group that aligns with the instrument used to assess the mental health of children and adolescents, as detailed in the study by Santos et al. (2024). Participants were included only if they signed the Free and Informed Consent Form, and those under 18 years of age were excluded.

Data were collected between November 2022 and March 2023 using a structured questionnaire that included sociodemographic and family variables, as well as mental health indicators. Mental health was assessed using the Self-Reporting Questionnaire (SRQ-20), an instrument validated in Brazil by Mari and Williams (1986) that

investigates non-psychotic symptoms. The cutoff points were ≥ 6 for men and ≥ 8 for women. The variables were categorized according to Roy's Adaptation Model. Quantitative analysis was carried out using

IBM SPSS Statistics software with descriptive and inferential statistics ($p < .05$). The objective of the qualitative analysis was to interpret the data according to the four adaptive modes (Figure 1).



The study was approved by the Research Ethics Committee of the Federal University of Sergipe under opinion no. 5,546,235. All participants signed the Free and Informed Consent Form.

Results

The sample was composed of 103 caregivers of children and adolescents. Most participants were women (89.3%) who were married or in a civil partnership (65%). The remaining caregivers were single (18.4%), separated/divorced (13.6%), or widowed (2.9%).

Regarding their relationship to the child, 84.5% of caregivers were mothers, 9.7% were fathers, and 1.9% were grandmothers. The remainder included grandfathers and aunts. Regarding educational attainment, 44.7% had completed secondary education (12th grade), 15.5% had pursued higher education, and 17.5% had only elementary education.

The predominant religion was Catholicism (73.8%). In terms of income, 55.3% of participants earned less than the national minimum wage, and only 45.6% had a family member with a fixed income. Additionally, 52.4% received some form of social benefit, while 47.6% did not have access to state support.

Table 1*Sociodemographic and economic profile of caregivers of children and adolescents*

Variables	<i>n</i> = 103	%
Gender		
Female	92	89.3
Male	11	10.7
Marital status		
Single	19	18.4
Separated/divorced	14	13.6
Married/civil partnership	67	65
Widowed	3	2.9
Educational attainment		
Illiterate	2	2
4 th grade	18	17.5
9 th grade	14	13.6
12 th grade	46	44.7
Higher education	16	15.5
Postgraduate degree	7	6.8
Religion		
Catholicism	76	73.8
Evangelicalism/Protestantism	13	12.6
Other	5	4.9
None	9	8.7
Monthly income		
< 1 MW	57	55.3
> 1 MW and < 2 MW	25	24.3
> 2 MW and < 3 MW	10	9.7
> 3 MW and < 4 MW	4	3.9
> 4 MW and < 5 MW	2	1.9
> 5 MW	5	4.9
Number of family members with fixed income		
None	21	20.4
One	47	45.6
Two	33	32
Three	2	1.9
Receiving social benefits		
Yes	54	52.4
No	49	47.6
Relationship to the child		
Mother	87	84.5
Father	10	9.7
Grandfather	2	1.9
Grandmother	2	1.9
Aunt	2	1.9

Note. MW = Minimum wage; *n* = Sample; % = Percentage.



Of the participants, approximately 32% (33) showed signs of psychological distress, with 32.6% (30) being women and 27.3% (3) being men. There was no statistically significant association ($p = 0.720$).

Among caregivers in a committed relationship, 30% (21) exhibited signs of psychological distress ($p = 0.417$). When categorized by marital status, the highest percentages of psychological distress were observed among those who were separated/divorced (50%), followed by those who were single (31.6%), and those who were married or in a

civil partnership (29.9%), with no statistical significance ($p = 0.303$).

In terms of educational attainment, 12.5% of caregivers who had received a higher education reported psychological distress, compared to 28.3% of those who had completed secondary education ($p = 0.183$).

In terms of religion, 36.1% of Catholics, 21.1% of Evangelists/Protestants, and 25% of nonreligious participants reported signs of psychological distress, with no significant association ($p = 0.092$).

Table 2*Association between the sociodemographic profile and signs of psychological distress among caregivers of children and adolescents*

	Signs of psychological distress			<i>p</i> -value
	Yes	No	Total	
Gender				
Female	30 (32.6%)	62 (67.4%)	92 (100%)	0.720
Male	3 (27.3%)	8 (72.7%)	11 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	
Relationship to the child				
Mother	27 (31%)	60 (69%)	87 (100%)	0.236
Father	3 (30%)	7 (70%)	10 (100)	
Grandfather	0 (0%)	2 (100%)	2 (100%)	
Grandmother	2 (100%)	0 (0%)	2 (100%)	
Aunt	1 (50%)	1 (50%)	2 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	
In a committed relationship?				
Yes	21 (30%)	49 (70%)	70 (100%)	0.518
No	12 (36.4%)	21 (63.6%)	33 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	
Marital status				
Single	6 (31.6%)	13 (68.4%)	19 (100%)	0.303
Separated/divorced	7 (50%)	7 (50%)	14 (100%)	
Married/civil partnership	20 (29.9%)	47 (70.1%)	67 (100%)	
Widowed	0 (0%)	3 (100%)	3 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	
Educational attainment				
Illiterate	2 (100%)	0 (0%)	2 (100%)	0.183
4 th grade	9 (50%)	9 (50%)	18 (100%)	
9 th grade	5 (35.7%)	9 (64.3%)	14 (100%)	
12 th grade	12 (28.3%)	34 (71.7%)	46 (100%)	
Higher education	2 (12.5%)	14 (87.5%)	16 (100%)	
Postgraduate degree	3 (42.9%)	4 (57.1%)	7 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	
Religion				
Catholic	26 (34.2%)	50 (65.8%)	76 (100%)	0.824
Evangelist/Protestant	4 (30.8%)	9 (69.2%)	13 (100%)	
Other	1 (20%)	4 (80%)	5 (100%)	
None	2 (22.2%)	7 (77.8%)	9 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	

According to Table 3, 32% (33) of caregivers showed signs of psychological distress. Of these, 54.5% had a medical diagnosis, which was found to have a statistically significant association with psychological distress ($p = 0.011$). Among those who took continuous medication, 58.8% (10) also showed signs of psychological distress, indicating a significant association ($p = 0.010$).

Regarding the health status of the children or adolescents under their care, 47.6% (10) of caregivers of individuals with a medical diagnosis reported psychological distress. However, this relationship was not statistically significant ($p = 0.116$), suggesting there is no direct link between the child's clinical status and the caregiver's distress.

Table 3

Association between caregiver diagnosis, caregiver medication use, and child and adolescent diagnoses and signs of psychological distress among caregivers

	Signs of psychological distress			<i>p</i> -value
	Yes	No	Total	
Has a diagnosis?				
Yes	12 (54.5%)	10 (45.5%)	22 (100%)	0.011*
No	21 (29.5%)	60 (84.5%)	71 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	
Takes regular medication?				
Yes	10 (58.8%)	7 (41.2%)	17 (100%)	0.010*
No	23 (26.7%)	63 (73.3%)	86 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	
Has the child/adolescent been diagnosed?				
Yes	10 (47.6%)	11 (52.4%)	21 (100%)	0.086
No	23 (28%)	59 (72%)	82 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	

Note: * = Statistical significance.

The analysis of family structure revealed a higher prevalence of psychological distress in households with four (44.4%), five (58.3%), and six residents (100%), with a statistically significant association ($p = 0.018$). Caregivers with more than one child or adolescent living at home also demonstrated a higher prevalence of psychological distress (51.4%; $p = 0.002$).

Regarding family income, 61.9% of caregivers with no fixed income showed signs of psychological distress, com-

pared to 29.8% of those with a single income provider ($p = .006$). Regarding monthly income, 42.1% of caregivers earning less than the minimum wage reported psychological distress, whereas no cases were identified among those earning more than five times the minimum wage ($p = 0.062$).

Finally, 44.4% of caregivers receiving social benefits reported psychological distress, with a statistically significant association ($p = 0.006$).

Table 4*Association between family variables and signs of psychological distress among caregivers*

	Signs of psychological distress			p-value
	Yes	No	Total	
Number of residents at home				
Two	4 (33.3%)	8 (66.7%)	12 (100%)	
Three	8 (16.3%)	41 (83.7%)	49 (100%)	
Four	12 (44.4%)	15 (55.6%)	27 (100%)	
Five	7 (58.3%)	5 (41.7%)	12 (100%)	0.018*
Six	1 (100%)	0 (0%)	1 (100%)	
Seven	1 (50%)	1 (50%)	2 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	
More than one child at home?				
Yes	19 (51.4%)	18 (48.6%)	37 (100%)	
No	14 (21.2%)	52 (78.8%)	66 (100%)	0.002*
Total	33 (32%)	70 (68%)	103 (100%)	
Number of family members with fixed income				
None	13 (61.9%)	8 (38.1%)	21 (100%)	
One	14 (29.8%)	33 (70.2%)	47 (100%)	
Two	6 (18.2%)	27 (81.8%)	33 (100%)	0.006*
Three	0 (0%)	2 (100%)	2 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	
Monthly income				
< 1 MW	24 (42.1%)	33 (57.9%)	57 (100%)	
> 1 MW and < 2 MW	3 (12%)	22 (88%)	25 (100%)	
> 2 MW and < 3 MW	3 (30%)	7 (70%)	10 (100%)	
> 3 MW and < 4 MW	2 (50%)	2 (50%)	4 (100%)	0.062
> 4 MW and < 5 MW	1 (50%)	1 (50%)	2 (100%)	
> 5 MW	0 (0%)	5 (100%)	5 (100%)	
Total	33 (32%)	70 (68%)	103 (100%)	
Receiving social benefits?				
Yes	24 (44.4%)	30 (55.6%)	54 (100%)	
No	9 (18.4%)	40 (81.6%)	49 (100%)	0.005*
Total	33 (32%)	70 (68%)	103 (100%)	

Note: * = Statistical significance; MW = Minimum wage.

The study analyzed the physical symptoms and psychoemotional disorders exhibited by caregivers over the past 30 days based on the items of the SRQ-20 and categorized them according to Roy's adaptive modes (Table 5). The most common physical symptoms were frequent headaches (43.7%), hand tremors (17.5%), poor digestion (22.3%), and easy fatigue (28.2%).

Feeling nervous, tense, or worried stood out among psychoemotional disorders (56.3%), followed by feeling unhappy (38.8%), crying more than usual (20.4%), and suicidal ideation (13.6%). Feeling worthless was reported

by 12.6% of participants, while 26.2% reported loss of interest in things.

Regarding symptoms related to routine and functionality, 35.9% reported poor sleep quality; 31.1%, difficulty thinking clearly; 32%, difficulty enjoying daily activities; and 31.1%, problems with daily work. Additionally, 9.7% reported an inability to play a useful part in life. Other symptoms included poor appetite (23.3%) and being easily frightened (36.9%). All of these signs and symptoms were associated with the presence of psychological distress.

Table 5

Signs and symptoms of psychological distress among caregivers of children and adolescents as measured by the Self-Reporting Questionnaire and categorized according to Roy's adaptive modes

Physical symptoms and psychoemotional disorders	Yes	No
Frequent headaches ♦	45 (43.7%)	58 (56.3%)
Poor appetite ♦	24 (23.3%)	79 (76.7%)
Poor sleep quality ♦	37 (35.9%)	66 (64.1%)
Easily frightened ♥	38 (36.9%)	65 (63.9%)
Hand tremors ♦	18 (17.5%)	85 (82.5%)
Feeling nervous, tense, or worried ♥	58 (56.3%)	45 (43.7%)
Poor digestion ♦	23 (22.3%)	80 (77.7%)
Trouble thinking clearly ▽	32 (31.1%)	71 (68.9%)
Feeling unhappy ♥	40 (38.8%)	63 (61.2%)
Crying more than usual ♥	21 (20.4%)	82 (77.7%)
Difficulty enjoying daily activities ▽	33 (32%)	70 (68%)
Difficulty making decisions ▽	32 (31.1%)	71 (68.9%)
Daily work problems ▽	21 (20.4%)	82 (77.7%)
Inability to play a useful part in life ▽	10 (9.7%)	93 (90.3%)
Lost interest in things ▽	27 (26.2%)	76 (73.8%)
Feeling worthless ♥	13 (12.6%)	90 (87.4%)
Thoughts of ending life ♥	14 (13.6%)	89 (86.4%)
Feeling tired all the time ♦	34 (33%)	69 (67%)
Uncomfortable feelings in stomach ♦	28 (27.2%)	75 (72.8%)
Easily fatigued ♦	29 (28.2%)	74 (71.8%)

Note. ♦ = Physiologic–physical mode; ♥ = Self-concept–group identity mode; ▽ = Role function mode.

According to the analysis of adaptive modes, there was greater impairment in the physiologic–physical mode, with 43.7% of caregivers reporting frequent headaches and 17.5% reporting hand tremors. The self-concept–group identity mode revealed symptoms including feeling nervous, tense, worried, and sad.

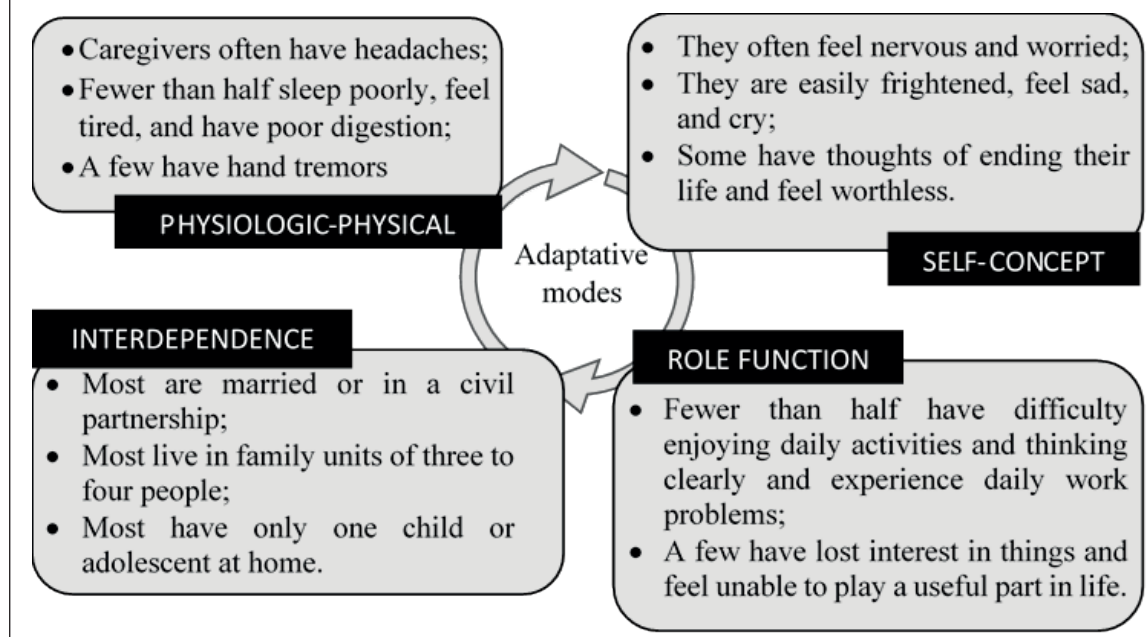
In the role function mode, many caregivers reported difficulty enjoying daily activities, experiencing daily work problems, and having trouble thinking clearly, indicating

impairments in performing daily activities. In the interdependence mode, most caregivers lived in family units of 3 to 4 people, in committed relationships, and with only one child or adolescent at home.

The adaptive profile of caregivers reveals an integrated response process to environmental stimuli, with the physiologic–physical and self-concept–group identity modes being the most affected. Figure 2 shows the main characteristics.

Figure 2

Adaptive profile of primary caregivers of children and/or adolescents in the light of Callista Roy's model



Discussion

The results of this study reveal a significant prevalence of psychological distress among caregivers of children and adolescents. In light of Callista Roy's Adaptation Model, the most compromised adaptive modes were found to be physiologic–physical and self-concept–group identity, indicating an impact on both the body and the emotional balance of the participants.

Individual, interpersonal, organizational, community, political, or cultural determinants can influence the mental health of caregivers of children and adolescents, contributing to caregiver burden (Ren et al., 2024).

This study indicates that caregivers with a medical diagnosis who take regular medication are more susceptible to psychological distress. International studies have demonstrated this association and identified diseases related to a higher incidence of mental health problems (Hughes et al., 2021; Ren et al., 2024). Experiencing illness and medical treatment can be challenging, requiring individuals to reframe their experience of the disease and adopt self-management strategies in the face of therapeutic demands (Lima et al., 2024).

Considering family structure, the number of household residents and the presence of more than one child or adolescent at home were also associated with mental health symptoms. This study found that families with fewer members were more likely to experience psychological distress, which can be attributed to the positive effects of social support from other family members or support networks, which contribute to reducing depressive and anxiety symptoms (Acoba, 2024).

Additionally, economic factors were shown to affect participants' mental health, particularly the existence of a fixed family income and access to social benefits. These elements are fundamental to assessing the caregiver's situation since adverse socioeconomic conditions tend to intensify stress and hinder emotional well-being, as pointed out by Löchner et al. (2024).

In this context, nurses play a crucial role in supporting caregivers by providing a welcoming environment, active listening, and guidance, with a view to improving their quality of life and promoting their social and family re-integration (Almeida et al., 2020; Marcelino, 2019). The implementation of practices based on a biopsychosocial approach promotes caregiver well-being and reduces the impact of mental burden.

Practices based on Roy's model make this possible by considering adaptive modes and promoting a holistic approach centered on the patient's needs (Chen, 2025). Thus, by identifying imbalanced adaptive modes, more effective interventions can be designed.

This study has some limitations. First, it was conducted with a regional sample and used structured questionnaires, which may not capture the complexity of the caregiving experience. The absence of a longitudinal design also prevented the assessment of the evolution of distress over time.

Future research should include samples from different geographical and socioeconomic contexts and analyze the impact of external factors, such as public policies and the effects of the COVID-19 pandemic on caregivers' mental health. Longitudinal studies are particularly relevant for assessing the long-term effectiveness of interventions.

Conclusion

This study identified a significant prevalence of psychological distress among caregivers of children and adolescents, with predominant impairment in the physiologic–physical and self-concept–group identity adaptive modes, according to Callista Roy’s Adaptation Model. The results revealed associations between psychological distress and various factors, including clinical diagnosis, use of regular medication, smaller family units, and adverse socioeconomic conditions.

Using Roy’s model enabled a systematic analysis of caregivers’ responses to the caregiving context, highlighting the importance of nursing in assessing and promoting adaptive balance. This evidence informs interventions that are more sensitive to the biopsychosocial needs of these individuals in primary health care.

Author contributions

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