

A cross-sectional study to assess the anxiety and coping mechanism among primary caregivers of children admitted in PICU

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ABSTRACT

Introduction: PICU admission of a child may cause anxiety and stress among the caregivers. The criteria for admission to a PICU are terrifying and may legitimately cause parents to fear that their child may pass away or suffer a serious disability. They may be overburdened with stress and anxiety of illness and compliment medical information while trying to maintain a balance with other family demands. They must learn coping mechanisms and use resources to stay stable when they face challenges. Evidence on the coping mechanisms used by primary caregivers to control their stress and anxiety is scarce so this study assessed the anxiety and coping mechanism among the primary caregivers of children admitted in PICU. **Materials and Methods:** A cross-sectional study was conducted among 143 primary caregivers by using convenience sampling technique at PICU, AIIMS, Jodhpur, from April 31, 2021, to January 20, 2022. The participants were enrolled after obtaining informed consent and were interviewed by the researcher. **Results:** Study findings revealed that primary caregivers had 38% severe anxiety, 54% moderate anxiety, and 8% mild anxiety. They used emotion-focused coping (43.5%) followed by problem focused coping (37.2%) and avoidant coping (19.3%). Also, there was a significant association found between anxiety of primary caregivers and gender of the child ($P = 0.012$). **Conclusion:** Anxiety and stress are one of the expected psychological problems faced by caregivers of children admitted in PICU. Healthcare workers must make concerted attempts to support caregivers adaptive coping mechanisms, so they can retain a sense of balance.

Keywords: Anxiety, caregivers, coping strategies, intensive care

Introduction

Pediatric intensive care unit (PICU) is a specific area of the hospital devoted to the treatment of children with life-threatening conditions. The process of admitting the child to the PICU is challenging and distressing for their caregivers. It can cause a

variety of emotional reactions, such as anxiety and considerable feeling of stress.^[1,2] The caregivers developed anxiety during initial time of admission.^[3] Unfamiliar PICU environment, inconsistent communication, alterations in a child's appearance and parental role, and uncertainty about a child's sickness, dread of unfavorable outcomes, and prognosis are all frequent sources of stress for parents.^[1,4] Numerous studies have looked at the long-term effects of a child being admitted to a PICU on the parents, reporting the symptoms of grief, anxiety, and depression that lingered for months despite hospital discharge.^[1,4,5] The caregivers are susceptible to get post-traumatic stress disorder later in their lives.^[5]

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Most reports of parental stress during PICU stays show that anxiety symptoms initially increase but then gradually reduce and stabilize.^[6] Acute phase reactions include feelings of shock, helplessness, inadequacy, and remorse. Parents frequently employ coping mechanisms to prevent themselves from losing control over their sense of parental competence and threats to their children, whether real or imagined. Both adaptive coping strategies, like enlisting social support, and nonadaptive ones, like expressing displeasure at hospital staff or abusing alcohol and other drugs, can be used. Studies have revealed that parental coping methods that focus avoidance and passive reaction techniques are more frequently associated with mental health issues such as anxiety, depression, and PTSD.^[1,5]

Despite the clinical and social importance of assessment of psychological status of primary caregivers of children admitted to PICU, research in this field is still scarce. There is a paucity of evidence on the coping strategies employed by primary caregivers to manage their stress and anxiety. Hence, the purpose of this study is to evaluate the level of anxiety and coping strategies as well as the relationship between anxiety and demographic variables among primary caregivers of children admitted in PICU.

Materials and Methods

A quantitative cross-sectional study carried out between May 1, 2021, and January 20, 2022, at the PICU of a tertiary care hospital, Jodhpur, Rajasthan. A convenience sampling technique was used to select 143 primary caregivers of children admitted in PICU. This study included primary caregivers of those children who were admitted in PICU for at least one week and able to understand Hindi and English language. The study excluded caregivers being diagnosed with any kind of illness that would prevent them from entering the PICU and those with any physical and mental disability.

Tools used for this study were socio-demographic data sheet, Hamilton anxiety scale and Brief COPE inventory. A 10 item socio-demographic data sheet consisted of age and gender of the child, relationship with primary caregivers, age, gender, educational status, occupation, family income, religion of the primary caregivers, and length of the hospital stay. Hamilton anxiety scale used to measure the severity of anxiety symptoms. The scale consisted of 14 items, each defined by a series of symptoms, and measures both psychic anxiety and somatic anxiety. Each item is scored on a scale of 0 (not present) to 4 (severe), with a total score range of 0-56, where <17 indicates mild severity, 18-24 mild-to-moderate severity, and 25-30 moderate to severe. Coding categories: 0 = Not present, 1 = Mild, 2 = Moderate, 3 = Severe, and 4 = Very severe. Scoring internal consistency of the scale is Y alpha = 0.77 to 0.92. The Brief COPE inventory consisted three type of items problem-focused (positive reframing, active coping, planning, use of instrumental support), emotion-focused (venting, self-blame, emotional support, humor, acceptance, religion), and avoidant coping (self-destruction, denial, substance abuse, behavioral

disengagement). Internal consistencies ranged from 0.25 to 1.00 and intraclass correlation coefficient (ICC) ranged from 0.05 to 1.00. Both of them were standard tools that were open for use.

Data were analyzed by using Statistical Package for the Social Sciences (SPSS) version 20 as per the study objectives. In descriptive statistics, frequency, percentage, mean, median, and standard deviation were used to describe demographic profile of primary caregivers. In inferential statistics, Chi-square test was used to determine the association of anxiety with demographic variable of primary caregivers.

Results

A total of 143 primary caregivers selected for the study. Almost half (46.9%) of the caregivers were belonging to the age group of more than 35 years. Most of the caregivers were male (63.6%) and belonging to Hindu religion (77.6%). It was observed that almost half (49.7%) of the caregivers had primary education. More than half of the caregivers had monthly income (57.3%) between 5,000 and 20,000 and almost half of them were laborer (44.1%) by occupation. As per the children concerned, many of them (26.0%) were belonging to age group of 1 to 3 years, majority of them were female and length of hospital stay noted as 1-2 weeks (97.4%) [Table 1].

The mean score of depressed and anxious mood as 3.27 ± 0.71 and 3.22 ± 0.82 , respectively, and somatic (muscular) symptoms have least mean score 0.71 ± 0.45 [Table 2]. 54% primary caregivers were moderately anxious, 38% were severe anxious, and 8% primary caregivers were mildly anxious [Figure 1].

Emotional support (6.38 ± 1.16) followed by religion (6.34 ± 0.98) was mostly reported, whereas substance abuse (2.12 ± 0.45) and humor (2.00 ± 0.00) were least used by the primary caregivers [Table 3]. Primary caregivers used mainly emotion-focused (44%), problem-focused (37%), and avoidant coping (19%) [Figure 2].

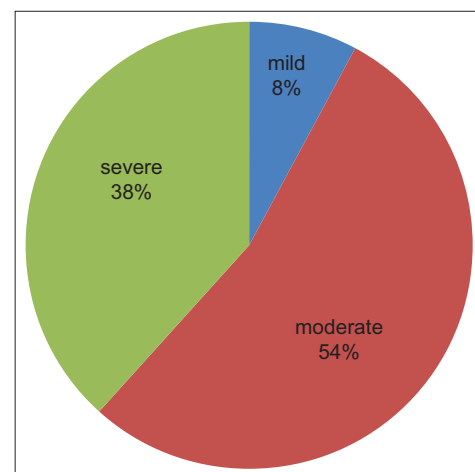


Figure 1: Level of anxiety in primary caregivers of children admitted in PICU

Table 1: Description of subjects' demographics n=143

Demographical profile	Frequency (%)
Age of child (year)	
• <1	34 (23.8)
• 1-3	37 (25.9)
• 4-6	17 (11.9)
• 7-12	24 (16.7)
• 13-18	31 (21.7)
Gender	
• Male	40 (28.0)
• Female	103 (72.0)
Relationship with primary caregiver	
• Father	21 (14.7)
• Mother	6 (4.2)
• Guardian	116 (81.1)
Age of primary caregiver (year)	
• 18-25	36 (25.2)
• 26-35	40 (28.0)
• Above 35	67 (46.8)
Gender of primary caregiver	
• Male	91 (63.6)
• Female	52 (36.4)
Educational status of primary caregiver	
• Illiterate	48 (33.6)
• Primary	71 (49.7)
• Secondary	8 (5.5)
• Graduate	16 (11.2)
Occupation of primary caregiver	
• Private employee	62 (43.3)
• Govt. Servant	18 (12.6)
• Others	63 (44.1)
Family income	
• Less than 5,000	28 (19.6)
• 5,000-20,000	82 (57.3)
• 20,000-40,000	15 (10.5)
• More than 40,000	18 (12.6)
Religion of primary caregiver	
• Hindu	111 (77.6)
• Muslim	32 (22.4)
Length of hospital stay	
• 1-2 weeks	138 (97.4)
• More than 2 weeks	5 (2.6)

Table 2: Item-wise mean and standard deviation (SD) of anxiety among primary caregivers n=143

Items	Mean±SD
• Anxious mood	3.22±0.82
• Tension	1.07±0.80
• Fear	0.83±0.60
• Insomnia	3.08±1.14
• Intellectual	1.31±0.49
• Depressed mood	3.27±0.71
• Somatic (muscular)	0.71±0.45
• Somatic (sensory)	0.76±0.57
• Cardiovascular symptoms	2.47±1.23
• Respiratory symptoms	0.83±0.68
• Gastrointestinal symptoms	1.70±1.40
• Genitourinary symptoms	1.94±1.13
• Autonomic symptoms	1.70±1.56
• Behavior interview	0.99±0.63

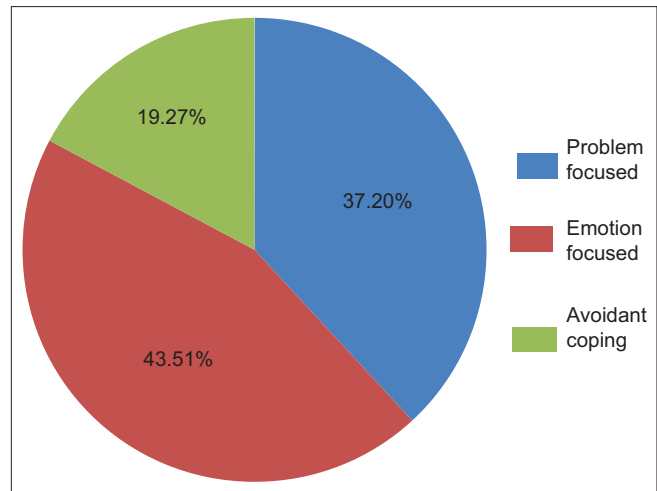


Figure 2: Coping level used by primary caregivers of children admitted in PICU

A significant association found between anxiety of primary caregivers and gender of the child ($P = 0.012$). No other demographic variables were significantly associated with anxiety of primary caregivers [Table 4].

Discussion

This study aimed to assess the anxiety and coping mechanism of primary caregivers of children admitted in PICU. In addition, this research sought to find out the association of anxiety with selected demographic variables among primary caregivers. A total of 143 primary caregivers participated in this study. The age range of the caregivers includes those who are older than 35 (46.9%). The majority of the caregivers (63.6%) were men of Hindu religion (77.6%). Almost half (49.7%) of the caregivers had only completed their primary education, it was found. Nearly half of the caregivers (44.1%) were laborer by occupation, and more than half (57.3%) of them made 5,000-20,000 monthly. A possible reason for this that all of them were resident of rural areas and doing labor work to earn bread for their families as they are only had primary education. As per the children concerned, many of them (26.0%) were belonging to age group of 1 to 3 years, majority of them were female and length of hospital stay noted as 1-2 weeks (97.4%). Stremler R *et al.*^[2] showed the average patient age was 66 months, and PICU stay noted for 1-2 days (range 1-13 days).

Following the admission of their child to a PICU, parents are likely to exhibit some behavioral responses like stress and anxiety. The findings of this study indicated that primary caregivers depressed (3.27 ± 0.71) and anxious (3.22 ± 0.82) moods were caused by the hospitalization of their child in the PICU. In the primary caregivers moderate (54%) to severe (38%) level of anxiety noted within a week of PICU hospitalization. Stremler R *et al.*^[2] noted moderate and severe level of anxiety among the mothers and fathers of child in PICU. Toledano Toledano F *et al.*^[7] noted 14.48% as the average anxiety

Table 3: Item-wise mean and standard deviation (SD) of coping strategies adapted by primary caregivers n=143

Items	Mean±SD
• Self-destruction	5.29±1.68
• Denial	2.97±1.09
• Substance use	2.12±0.45
• Behavioral disengagement	2.08±0.49
• Venting	6.18±1.37
• Self-blame	2.08±0.27
• Active coping	6.16±1.17
• Emotional support	6.38±1.16
• Use of instrumental support	5.96±0.96
• Positive reframing	6.15±0.91
• Planning	6.29±1.18
• Acceptance	6.01±1.03
• Humor	2.00±0.000
• Religion	6.34±0.98

score among the family caregivers. Akmes PP *et al.*^[8] also found that mothers of children with more complex intellectual disability had highest anxiety scores. An Indian study revealed that 80% of parents had moderate level of stress.^[9]

The present study noted a statistically significant association between anxiety and gender of child ($P = 0.012$). In contrast, Toledano Toledano F *et al.*^[7] found that anxiety was independent of age (0.108) and gender (0.425) of child.

Furthermore, this study evaluated the coping strategies adopted by the primary caregivers to manage their anxiety and stress. The caregivers used mainly emotion focused (44%) coping followed by problem focused (37%) coping and avoidant (19%) coping. This study showed that religion (6.34 ± 0.98) was the mostly reported coping strategy, whereas substance abuse and humor (2.00±0.000) were least used coping strategies by primary caregivers. An Indian study showed that 36% parents used ineffective coping

Table 4: Association between anxiety and demographic variables of primary caregivers

Variables	Anxiety level			X ² /Fisher	df	P
	Mild (f)	Moderate (f)	Severe (f)			
Age of child (year)				4.19	8	0.84
<1	6	24	7			
1-6	12	32	5			
7-18	14	33	6			
Gender of child				5.25	2	0.012*
Male	13	19	8			
Female	19	70	14			
Relationship with child				8.28	4	0.82
Father/Mother	9	13	5			
Guardian	23	74	19			
Age of primary givers				3.29	4	0.51
18-25	11	18	7			
26-35	7	27	6			
Above 35	14	44	9			
Gender of primary caregivers				2.15	2	0.70
Male	21	56	14			
Female	11	33	8			
Educational status of primary caregivers				2.94	6	0.82
Illiterate	9	32	7			
Primary	17	43	11			
Secondary/Graduate	6	14	4			
Occupation of primary caregivers				2.80	4	0.59
Private employee	12	42	9			
Govt. Servant	7	6	5			
Others	17	34	11			
Family income of primary caregivers				4.76	6	0.58
Less than 5,000	9	14	5			
5,000-20,000	16	52	14			
20,000 and above	7	19	7			
Religion of primary caregivers				2.75	2	0.25
Hindu	22	73	16			
Muslim	10	16	6			
Length of hospital stay				0.20	2	0.97
≥1 weeks	32	89	22			

Level of significance $P \leq 0.05$, * - significant

strategies.^[9] Carotenuto M *et al.*^[10] showed that mothers of children used higher rate of emotion-oriented ($P < 0.001$) and avoidance-oriented ($P < 0.001$) coping styles than mothers of typical developing children. Abdallah HM *et al.*^[11] revealed that 59.70% parents had ineffective coping strategies. Shaw RJ *et al.*^[12] found that parents of neonates used dysfunctional coping strategies to manage their stress in neonatal intensive care unit (NICU).

This study has one limitation. Since the sample was drawn from a single hospital in a single geographic area, it might not be representative of all primary caregivers across the country. Furthermore, research should identify the impact of hospitalization on long-term parental psychological outcomes. When a child is admitted to the PICU, it should be taken into consideration to routinely screen for anxiety and depression symptoms and refer them to the appropriate supportive treatment. This is because parents experience high levels of significant stress and anxiety. Furthermore, nurses and other medical personnel should speak with parents how informed, ready, and supported they feel when making decisions for their child.

Conclusion

This study will help healthcare professionals to timely provide psychological support to the caregivers because anxiety and stress are frequently anticipated problems in PICU. Most of the caregivers were moderately anxious and used emotion focused coping followed by problem focused coping. So, healthcare physicians must make concerned attempts to alleviate caregivers' anxiety and help them to retain a sense of balance in life.

Ethical considerations

The study was ethically approved by Institutional Ethics Committee of All India Institute of Medical Sciences, Jodhpur [Dated: 30.04.2021]

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Conflicts of interest

There are no conflicts of interest.

References

1. Colville G, Darkins J, Hesketh J, Bennett V, Alcock J, Noyes J. The impact on parents of a child's admission to intensive care: Integration of qualitative findings from a cross-sectional study. *Intensive Crit Care Nurs* 2009;25:72-9.
2. Stremmler R, Haddad S, Pullenayegum E, Parshuram C. Psychological outcomes in parents of critically ill hospitalized children. *J Pediatr Nurs* 2017;34:36-43.
3. Oxley R. Parents' experiences of their child's admission to paediatric intensive care. *Nurs Child Young People* 2015;27:16-21.
4. Board R, Ryan-Wenger N. State of the science on parental stress and family functioning in pediatric intensive care units. *Am J Crit Care* 2000;9:106-22.
5. Rees G, Gledhill J, Garralda ME, Nadel S. Psychiatric outcome following paediatric intensive care unit (PICU) admission: A cohort study. *Intensive Care Med* 2004;30:1607-14.
6. Needle JS, O'Riordan M, Smith PG. Parental anxiety and medical comprehension within 24 hrs of a child's admission to the pediatric intensive care unit*. *Pediatr Crit Care Med* 2009;10:668-74.
7. Toledano-Toledano F, Moral de la Rubia J. Factors associated with anxiety in family caregivers of children with chronic diseases. *Biopsychosoc Med* 2018;12:20.
8. Akmeşe PP, Kayhan N. An investigation of the effect of the communication skills of the children with intellectual disability to the anxiety level of their mothers. *Univ Res Educ Res* 2016;4:2423-31.
9. Rasekar P, Lokhande S. Study to assess stress and coping strategies used by the parents of critically ill children admitted in PICU. *Glob J Res Anal* 2018;7:114-5.
10. Carotenuto M, Messina A, Monda V, Precenzano F, Iacono D, Verrotti A, *et al.* Maternal stress and coping strategies in developmental dyslexia: An Italian multicenter study. *Front Psychiatry* 2017;8:295.
11. Abdallah HM, Mourad GM, Ata F. Stress and coping styles among parents of children undergoing heart surgery. *Egypt J Health Care* 2022;13:498-514.
12. Shaw RJ, Bernard RS, Storfer-Isser A, Rhine W, Horwitz SM. Parental coping in the neonatal intensive care unit. *J Clin Psychol Med Settings* 2013;20:135-42.