

**A cross sectional study of Parental stress in pediatric intensive care unit: at a tertiary centre, Mangalore.**

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Correspondence Author: Dr.Bhaskar Reddy, From Department of Paediatrics, Yenepoya Medical College Hospital, Mangalore, Karnataka, India**Type of Publication:** Original Research Paper**Conflicts of Interest:** Nil**Abstract****Objective:** To study the stress levels in parents of admitted patients as per clinical and Sociodemographic factors.**Methods:** Parents of 100 children admitted in pediatric intensive unit were selected randomly. The parental stress score in PICU (PSS: PICU) developed by Carter and Miles was used. The PSS: PICU scale covers three broad areas: personal- family, situational and environmental stressors**Results:** A total of 100 parents were interviewed. The age of the parents varied from 20 to 44 years. Age distributions of patients were as follows: 17 infants, 54 from 1 to 5 years, 11 from 5 to 10 years and 18 patients between 10-15 years of age. Among the 100 cases, 15 had acute encephalopathy, 12 had meningitis, 12 had seizure disorder, 11 had dengue, 8 had febrile seizure, and others had other miscellaneous causes. During the PICU stay, 73 children were on IV fluids. Parents of children who got admitted in PICU for the first time were more stressed ($P < 0.001$).**Conclusion:** There is significant stress among parents of children admitted to PICU. The stress levels of parents don't depend were independent of socioeconomic status.**Key words:** Parental stress, Pediatric intensive care unit, Demographic factors.**Introduction**

Stress has been defined as “psychological and physical strain or tension generated by physical, emotional, social, economic or occupational circumstances, events and experiences that are difficult to manage or endure”. This definition highlights the different components of stress, including the psychological component which is the focus of this study.

Pediatric intensive care unit (PICU) is a highly stressful environment to most parents. Pediatric Intensive Care Unit (PICU) environment has the potential to exacerbate stress for parents of children admitted. The majority of pediatric critical care admissions are unplanned, caused by life threatening illnesses or accidents, and evoke feelings of fear and helplessness in parents who have to face many factors of stress in the PICU, which are like machine alarms, staff noises, noises from monitors, frequent invasive procedures and deterioration of their child or other children. When combined with worry about ongoing procedures and medical treatment, parental distress is common and understandable¹.

Knowledge of stress allows us to plan counselling strategies for the suffering parents.

Methods

This was a prospective study done in the PICU of Yenepoya Medical College hospital, a tertiary care centre in Mangalore for a period of 3 months from October 2017.

Parents (either father or mother) of children admitted in PICU for at least 24 hours were included in the study. Parents of children who had any chronic disorder like depression or any psychological problem as per history, parents of children who was suffering from chronic and critical sickness, parents age <18 yr of age, parents of terminally ill with chronic disease patients admitted to PICU e.g chronic renal failure were excluded. All the participants were provided Parental Stress Scale (PSS) in the local language as per comfort of parents and were helped by person other than investigator to avoid interviewer bias.

In this study the parental stress score in PICU (PSS: PICU) developed by Carter and Miles was used². The PSS: PICU scale covers three broad areas: personal Family, situational and environmental stressors. The PSS: PICU is a 37-item instrument . Each item is scored from 1 (not stressful) to 5 (extremely stressful). The stressors are grouped under seven dimensions. Apart from the above Stressors, scores were also taken in 22 items belonging to three categories, 8 items each in the category where stress is due to the experiences in PICU and where parents felt stressed by the way their baby looked to them and 6 items in the category where stress was related to things they see or hear. Maximum score for any parent was 110, and minimum was 22. Statistical analysis was done. Individual parent was assigned average stressor score. Parents were categorised into two groups with stress score <3 and >3. Mean and standard deviation were computed, and the data were analysed by using SPSS 16.0 software.

Results

100 parents were interviewed in total. The age of the parents varied from 20 to 44 years. Age distributions of patients were as follows: 17 infants, 54 from 1 to 5 years, 11 from 5 to

10 years and 18 patients between 10-15 years of age. Among the 100 cases, 15 had acute encephalopathy, 12 had meningitis,, 12 had seizure disorder, 11 had dengue, 8 had febrile seizure, and others had other miscellaneous causes. During the PICU stay, 73 children were on iv fluids. Parents of children who got admitted in PICU for the first time were more stressed (P <0.001). Younger parents were more stressed than older parents, irrespective of illness and clinical status.

Table 1: Mean scores in various stressors among parents.

Mean Item score	No. of parents		
	1-2	3	4-5
A. How stressful are the following experiences? { 3.21}			
1. Being separated from your baby 2.14	79	16	05
2. Not being able to regularly care for your baby 3.28	23	38	39
3. Not having a chance to be alone with your baby 2.40	56	34	10
4. Not being able to share your baby with family and friends 4.25	04	10	86
5. Not being able to protect your baby from pain and painful procedures 4.26	02	11	87
6. Not being able to comfort/help your baby 4.11	04	14	82
7. The nurses and other staff seeming closer to the baby than you are 2.20	60	32	08
8. Not being able to hold your baby 3.02	18	29	53
B. How stressed are you by the way your baby looks to you? {3.53}			
9. Seeing your baby with tubes or IV lines on him/her 3.56	03	47	50
10. Seeing your child in pain 3.80	04	28	68
11. Having your child look afraid, be upset or cry a lot 3.22	03	56	41
12. Seeing your baby look sad 3.32	06	44	50
13. Seeing a needle or tube put in your baby 3.23	02	48	52
14. Seeing your baby have problems breathing 3.28	08	34	58
15. Seeing your baby surrounded by machinery and having medical treatments 3.28	06	47	46
16. When your baby cannot respond to you 4.46	04	19	77
C. How stressful are the things you might see or hear? {3.71}			
17. Monitors and equipment in the room 4.26	06	03	91
18. The sudden sound of monitor alarms 3.65	02	38	60
19. The other sick children in the room 4.23	00	10	90
20. Large number of nurses, doctors and other staff who work with your child 2.36	58	08	34
21. When other children in the hospital have a crisis? 4.21	10	23	67
22. The needs of other parents in the hospital 3.58	04	66	30

Table 2: Parental stress score correlation with various factors.

Factor	Total	Stress score		P value
		<3	≥3	
<25	06	02	04	0.347
Age of parents (years)	26-30	34	01 33	
	31-35	47	04 43	
	36-40	12	02 10	
	>40	01	01 00	
Gender of parents	Male	33	0 33	0.193
	Female	67	2 65	
Socio-economic status	Class 1	01	0 01	0.189
	Class 2	32	0 32	
	Class 3	64	14 50	
	Class 4	03	02 01	
Area	Urban	30	0 30	0.083
	Rural	70	10 60	
Number of children	1	06	01 05	0.639
	2 - 3	77	05 72	
	4 - 5	17	10 07	
Age of patient (years)	<	18	03 15	0.393
	1-5	53	02 51	
	6-10	11	01 10	
	11-15	18	01 17	
Gender of child	Male	52	04 48	0.628
	Female	48	02 46	
PICU admission	1st	80	05 85	<0.001*
	>1	20	11 09	
*Statistically significant				

Conclusion

There is significant stress among parents of children admitted to PICU. Future research should focus on factors affecting the stress level and improvement in stress level after modification of factors. Many PICU of western countries have special counsellors during parent counselling and more time is allotted for parent counseling.

Discussion

Uncertainty regarding the child's condition and his/her potential outcomes is a major stress at the time of diagnosis. The purpose of this study was to examine stress amongst parents whose children in a group of families experiencing hospitalization of their child in a PICU. Similar kind of study by Pooni PA et al.³ found significant stress among parents of children admitted in PICU due to procedures, lights and sounds of monitors. They also found that the stress level was more in maternal group and in younger parents but could not establish significant relation with socioeconomic status and age of children. Another similar study by Gaurav et al⁴ found that there is significant stress among parents of children admitted to PICU as compared to ward patients. But there was no significant difference in stress levels amongst parents based on education or socioeconomic status of parents or sex of child. In our study, parents of children who got admitted in PICU for the first time are more stressed (score>3) compared to parents whose children had a previous PICU admission. Few studies have shown that there is difference between the stress level of mother and father⁵, In the present study, it is observed that the sight of their child being unresponsive, other sick children in PICU, crises in other children in the PICU contributed maximum to parental stress. Socioeconomic status is not statistically significant in relation to parental stress, as parents belonging to all class had significant

stress similar to the study done by Kumar BS et al⁶ In a recent Indian study done in Vadodhara, Gujarat where parental stress of children admitted in PICU was compared with NICU, it was found that significant stress is more in parents of children admitted in PICU than NICU⁷. A recent study indicates that parents have experiences in four categories facing boundaries, attempting to understand. Coping with uncertainty, and seeking reassurance from caregivers⁸.

Declarations

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Conflict of interest: None stated

Ethical approval: Approved by Ethical Committee of Yenepoya Medical College

References

1. Youngblut J & Shiao S. Characteristics of a child's critical illness & parents' reactions: Preliminary report of a pilot study. *Am J Crit Care* 1992; 1: 80-4.
2. Carter MC, Miles MS. The parental stressor scale: pediatric intensive care unit. *Matern Child Nurs J.* 1989;18:187-98.
3. Pooni PA, Singh D et al. Parental stress in a paediatric intensive care unit in Punjab, India. *J Paediatr Child Health.* 2013 Mar;49(3):204-9. doi: 10.1111/jpc.12127. Epub 2013 Feb 26
4. Dr. Gaurav I. Patel, Dr. Prasad Muley et al. stress level amongst lower socioeconomic status parents of children admitted in pediatric ward and pediatric intensive care unit at tertiary level rural health care center, *European Journal of Biomedical AND Pharmaceutical sciences, ejbps,* 2015, Volume 2, Issue 4, 1006-1010
5. Jee RA, Shepherd JR, Boyles CE, et al. Evaluation and comparison of parental needs, stressors, and coping strategies in a pediatric intensive care unit. *Pediatr Crit Care Med* 2012; 13(3): 166-72

6. Kumar BS, Shreedhara Avabratha K. Parental stress - a study from a pediatric intensive care unit in Mangalore. *Int J Contemp Pediatr* 2015;2:401-05.
7. Parthavi Patel*, Prasad Muley**, Maitray patel*, Stress Level amongst Parents of Neonatal Intensive Care Unit (NICU) Graduates Vs Parents of Pediatric Intensive Care Unit (PICU) Graduates in Rural Teaching Hospital – A comparative study, *Journal of Pediatric Critical Care* 2015 | Volume : 2 | Issue : 4 | Page : 45-47
8. Kyle T Essentials of Pediatric Nursing. China, Library of Congress Cataloging-in-Publication Data: lippincott williams and wilkins; 2008