Original Article

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Stress and Coping Strategies among Parents of Hospitalized Children in Selected Tertiary Hospitals, Kathmandu

Uma Devi Ranjitkar[1], Sushila Adhikari[2], Apsara Pandey[1*]

[1] Department of Pediatric Nursing , Maharajgunj Nursing Campus, IOM, TU, Kathmandu

[2] Pediatric Ward, Tribhuvan University Teaching Hospital, Maharajgunj, Kathmandu

***Corresponding Author:** pkapsara@gmail.com

ABSTRACT

Introduction: Hospitalization for a child can lead to anxiety, depression, and stress for parents, impacting their psychological health and treatment adherence, ultimately affecting the child's health outcomes. This study aimed to find out stress and coping strategies among parents of hospitalized children in selected tertiary hospitals in Kathmandu.

Methods: A cross-sectional descriptive study was conducted among 200 parents of hospitalized children in two tertiary hospitals in Kathmandu. Non-probability purposive sampling technique was used. Data were collected using Depression, Anxiety, and Stress Scale and the Coping Health Inventory for Parents. In-person interview method was used to collect data. Data analysis was done using SPSS Version 20.0. Ethical approval was obtained from the Ethical Review Board, Nepal Health Research Council.

Results: Among the parents studied, 53.0% were mothers of hospitalized children. Regarding parental stress, 71.5% had a normal level of stress; 12.0%, 9.0%, 5.0%, and 2.5% of the parents had mild, moderate, severe, and extremely severe level of symptoms of stress respectively. There is a significant association of parental stress with their education level (p = 0.029), family income (p=0.032), adequate number of toilets and bathrooms (p=0.27), supply of medicine (p=0.040), and the crowded and noisy environment of the hospital (p = 0.009). Parents used various coping strategies to reduce stress: maintaining family unity, cooperation, and optimism (mean score± SD 23.94± 4.60); seeking social support and emotional stability (mean score± SD: 25.80± 5.38); and understanding their child's medical situation through communication with other parents and healthcare professionals (mean score± SD 12.65±2.95).

Conclusions: Parents experience stress during hospitalizations, influenced by education, income, toilet availability, medicine supply, and noise. They employ various coping strategies. Hospitals should enhance their facilities and communication, reduce environmental stressors, and promote coping strategies for parents of children in the hospital, especially for those with lower education or income.

Keywords: Hospitalized children, CHIP, DASS 21, stress, coping strategy

INTRODUCTION

Stress, a non-specific response to stimuli, can lead to adverse health and psychological consequences, particularly for parents during a child's hospitalization.[1,2] Parents play a significant role in their children's health, providing direct care, facilitating access to health services, and molding attitudes and behaviors.[3] Parental psychological health is crucial for a child's care, treatment adherence, and overall health, especially during hospitalization.[4] Studies show that parents with children with health

problems are twice as likely to report chronic health conditions, depressive symptoms, and poorer general health that parents of healthy children.[5-9] Parental stress and anxiety can negatively impact a child, affecting the mother's ability to care for the child.[5] Screening for high-risk individuals and implementing interventions to reduce maladaptive coping strategies may be beneficial.[10-11] Coping is a conscious effort to reduce physical, psychological, or social harm and facilitate interaction with the ill child.[12] Despite the recognition of the importance of support for parental mental health during pediatric hospitalization, very few studies can be found particularly related to parental stress and coping strategies during the hospitalization of their children in Kathmandu. Therefore, understanding parental stress and coping during pediatric hospitalization is important to develop targeted interventions and improve parental mental health well-being, benefiting child health and well-being, and the ability to care. This study aimed to find out stress and coping strategies among parents of hospitalized children in selected tertiary hospitals in Kathmandu.

METHODS

A descriptive, cross-sectional study design was conducted in two tertiary level, referral hospitals in Kathmandu. The study was conducted among parents of children admitted to the Paediatric and Neonatal wards of Tribhuvan University Teaching Hospital (TUTH); and the medical, surgical, and oncology wards of Kanti Children Hospital (KCH). These settings were purposively selected. The duration of the study was from January to September 2020. Ethical approval for this study was obtained from the Institutional Review Committee (IRC) of IOM, TU; IRC of KCH, and the Ethical Review Board (ERB) of NHRC. Prior to starting the survey, informed consent was obtained from all the parents. Parents were informed about the purpose of the study and no identifying information was asked from any of the parents. They were informed that they could withdraw from the study at any time if they did not wish to participate. Either the father or mother of a child hospitalized for at least seven days and present at the time of data collection were included.The sample size of this study was 200, calculated using the Cochrane formula[14]: $n=Z^2pq/ e,^2$ with a 47.1% prevalence (p) of stress level,[8] 7.0% allowable error (e), and a 5.0% non-response rate. Among those, 115 were from TUTH and 85 from KCH. Non-probability purposive sampling technique was used.

A structured interview schedule was used as an instrument to collect data. The instruments consisted of three parts. Part one included the socio-demographic information of parents and children, information on the hospital environment, and hospital personnel related to communication and behavior. This part was developed by the researchers. Part two included the Depression, Anxiety, and Stress Scale (DASS-21) [15] to assess the stress perceived by parents of hospitalized children. The DASS-21 has been validated and used in the Nepalese population to identify the symptoms of Depression, Anxiety, and Stress.[16-18] Cronbach's alpha coefficient for DASS-21 has been found to range from 0.78 to 0.91.[17-20] Scores for depression, anxiety, and stress were calculated by summing the scores for the relevant items.[21]

Part three included the Coping Health Inventory for Parents (CHIP) to assess parental coping. The CHIP categorization has three sub-scales developed through factor analysis: (1) Maintaining family integration, cooperation, and an optimistic definition of the situation; (2) Maintaining social support, self-esteem, and psychological stability; and (3) Understanding the medical situation through communication with other parents and consultation with medical staff, which may be used in handling stressful situations. It was developed in 1983 and demonstrated good internal consistency with Cronbach's alpha coefficients ranging from 0.71 to 0.86 for the three sub-scales.[22] CHIP is also a validated and standard scale used in the Nepalese population[23]. Both DASS 21 and CHIP scales were already translated into the Nepali language and available in the Department of Psychiatry of TUTH. Pretesting was done among 10.0% of the sample size i.e. 20 parents in different wards of

KCH, who were excluded from the final study. After pre-testing, the researchers modified the CHIP from 45 items to 30 items.

Data were collected by researchers themselves through in-person interviews with a structured interview schedule while applying preventive measures against COVID-19. Coded data were entered and cleaned in SPSS version 16 for statistical analysis. Categorical variables were presented as frequency, percentage, mean, and standard deviation. The chi-square test was applied to measure the association of the level of stress with selected socio-demographic variables.

RESULTS

Regarding the socio-demographic characteristics, 45.5 % of parents belonged to the 31-40 years age group and more than half (57.0%) were female (mothers). Similarly, the majority (77.5%) of parents followed Hinduism, 47.0% were Janajati, and about half (49.0%) had a secondary level education. Concerning the socio-economic status of the parents, 47.0% of parents' occupation was home based work, and 45.0% of parents' earnings were only enough for less than 6 months. Likewise, parents lived in joint (48.0%) and single (48.0%) family households (Table 1).

Regarding the demographic characteristics of the hospitalized children, the majority of children were male (64%) and 37.5% were infants (Table 2).

Table 1: Socio-demographic Characteristics of Parents (n=200)

Characteristics	Number	Percentage
Age (in completed years)		
Below 20	7	3.5
20-30	87	43.5
31-40	91	45.5
41-50	13	6.5
Above 50	2	1.0
Mean ± =		
Sex		
Male	86	43.0
Female	114	57.0
Ethnicity		
Dalit	11	5.5
Janajati	94	47.0
Madhesi	17	8.5
Chettri/Brahmin	76	38.0
Others	2	1.0
Educational Level		
Not able to read and write	16	8.0
Informal education	36	18.0
Basic Level (1-8 grade)	26	13.0
Secondary (9-12)	88	49.0
Graduate and above	34	17.0
Occupation		
Service (Government / non-government)	43	21.5.
Self employed	20	10.0
Home based work	94	47.0
Farming and business	43	21.5
Types of Family		
Nuclear	96	48.0
Joint	96	48.0
Extended	8	4.0
Economic Status		
Enough for less than 6 months	90	45.0
Enough for more than 6 months	81	40.5
Enough for more than 12 months	29	14.5
Residence		
Within Kathmandu valley	83	41.5
Outside Kathmandu valley	117	58.5

Table 2: Demographic Characteristics of Children of Parents (n=200)

Characteristics	Number	Percentage
Age in years		
Infant (under 1)	75	37.5
Toddler(1-3)	36	18.0
Pre-school age (3-5)	17	8.5
School age (6-12)	47	23.5
Adolescent (12-18)	25	12.5
Sex		
Male	128	64.0
Female	72	36.0

Stress and Stressors among Parents of Hospitalized Children

The stress of the parents was assessed using the stress sub-scale of the DASS 21, which consists of seven items rated on a four point Likert scale. The level of stress was also scored. Among the parents, the majority (71.5%) had a normal level of stress, while 12.0%, 9.0%, 5,0%, and 2.5% had mild moderate, severe and extremely severe levels of stress respectively (Figure 1).

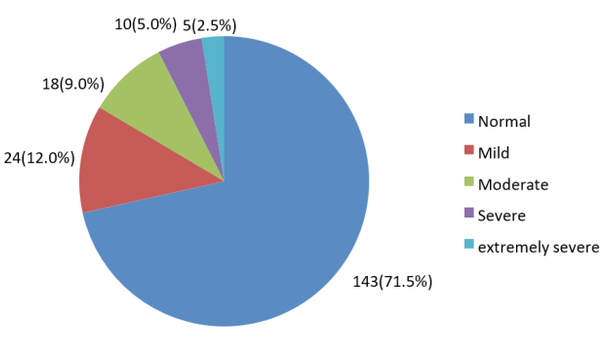

Figure 1: Level of Stress among the Parents

Parents were asked about perceived stressors, which included communication and behaviors of care providers, hospital environments, hospital facilities, and perceived severity of illness of their children. Only 14% - 17% of parents mentioned that health professionals did not explain medical procedures to parents, and 14% -15 % of parents have experienced less empathetic behavior from health workers. Regarding stressors related to the hospital environment, 18.0% reported having a crowded and noisy environment, followed by the experience of unpleasant/ bad odors, and very hot and cold temperatures (3.0%). In terms of facilities available in hospitals, 61.0% were satisfied with available facilities such as safe drinking water, 79.0% were satisfied with an adequate number of toilets and bathrooms in hospitals and 74% were satisfied with lab investigations, but only 43.5% were satisfied with food for children. Parents were asked about the perceived severity of illness, with 35.0% reporting severe and 16.5% reporting very severe illness in their hospitalized child. Additionally, 38.5% perceived the illness as moderately severe (Table 3).

Table 3: Perceived Stressors among the Parents of Hospitalized Children (n=200)

Variables	Number	Percentage
Explanation about medical procedure		
Always	90	45.0
Very often	47	23.5
Often	28	14.0
Seldom	35	17.5
Experience of empathetic behaviour from health-workers		
Always	83	41.5
Very often	58	29.0
Often	31	15.5
Seldom	28	14.0
Hospital environments *		
Crowded and noisy	36	18.0
Peaceful	133	66.5
With bad odours	10	5.0
Without bad odours	72	36.0
With very hot /cold temperature	6	3.0
With normal/usual temperature	125	62.5
Satisfaction with available facilities *		
Safe drinking water	122	61.0
Toilets and bathrooms	139	79.5
Foods for children	87	43.5
Laboratories investigations/ services	148	74.0
Supply of medicine	114	57.0
Perceived severity of illness		
Mild	20	10.0
Moderate	77	38.5
Severe	70	35.0
Very severe	33	16.5

** Multiple responses*

The study found significant associations between stress levels and socio-demographic variables, with parents' educational qualifications (p=0.029) and income (p=0.032) being significant. Stress was also linked to satisfaction with hospital facilities such as an adequate number of toilets and bathrooms (p=0.027) and the supply of medicine (p=0.040), as well as hospital environmental factors like crowded and noisy environments (p-value 0.009) (Table 4).

Table 4. Association between Level of Stress and Selected Variables related to Parents (n= 200)

Variables	Level of Stress			Chi-square	*p*-value
	Low	Medium	High		
	No.(%)	No.(%)	No.(%)		
Sociodemographic variables					
Gender					
Male	41(47.1)	26(29.9)	20(23.0)		
Female	59(52.2)	34 (30.1)	20(17.7)	.943	.624
Age					
Below 35	76(51.4)	44 (29.7)	28(18.9)		
Above 35	24(46.2)	16 (30.8)	12(23.1)	.554	.758
Educational Qualification					
Able to read and write	96(52.2)	55 (29.9)	33(17.9)		
Not able to read and write	4 (25.0)	5 (31.3)	7 (43.8)	7.088	0.029
Family income					
Up to 6 months	36(40.0)	31(34.4)	23(25.6)		
Above 6 months	64(58.2)	29(26.4)	17(15.5)	6.875	.032
Explanation of medical procedure					
Very often	70(51.1)	38(27.7)	29(21.2)		
Less often	30(47.6)	22(34.9)	11(17.5)	1.143	.565
Experience of empathetic behaviors from health care team					
Very often	73(51.8)	40(28.4)	28(19.9)		
Less often	27(45.8)	20(33.9)	12(20.3)	.729	.694
Avaibility of Safe drinking water					
Yes	65(53.3)	35(28.7)	22(18.0)		
No	35(44.9)	25(32.1)	18(23.1)	1.457	.483
Adequate number of toilet and bathrooms					
Yes	72(51.8)	46(33.1)	21(15.1)		
No	28(45.9)	14(23.0	19(31.1)	7.202	.027
Adequate facilities for lab investigations					
Yes	80(54.1)	42(28.4)	26(17.6)		
No	20(38.5)	18(34.6)	14(26.9)	4.054	.132
Adequate facilities for medicine supply					
Yes	59(51.8)	27(23.7)	28(24.6)		
No	41(47.7)	33(38.7)	12(14.0)	6.446	.040
Environmental factors					
Crowded and noisy					
Yes	14(38.9)	10(27.8)	12(33.3)	9.395	.009
No	90(54.9)	46(28.0)	28(17.1)		
Bad odour					
Yes	5 (50.0)	3(30.0)	2(20.0)		
No	95(50.0)	57(30.0)	38(20.0)	.000	1.00

p-value significant at ≤0.05 level (chi-square)

Parents used various coping strategies to manage their stress during the hospitalization of their children. The 'adopted strategies are summarized and categorized as maintaining family integration, cooperation, and optimistic towards the situation; and understanding the medical situation through communication with other parents and consultation with medical staff (Table 5).

Table 5: Coping Strategies of Parents of Hospitalized Children

Variables	Items	Mean score	Standard deviation
Maintaining family integration, cooperation and an optimistic towards the situation	11	23.94	4.60
Maintaining social support, self-esteem and psychological stability	13	25.80	5.38
Understanding the medical situation through communication with other parents and consultation with medical staff	6	12.65	**2.95**
Total	30		

DISCUSSION

The objective of this study is to investigate stress and coping strategies among parents of hospitalized children in a tertiary hospital. Among the parents, 45.5% belonged to the 31-40 years' age group, and majority (49.0%) having secondary level education. Moreover, 45.0% of parents reported that their family income was only enough for less than 6 months. Most parents lived in joint or single households (48.0%), and the majority of hospitalized children were male.

Among the parents, the majority (71.5%) had a normal level of stress, while 12.0%, 9.0%, 5.0%, and 2.5% had mild, moderate, severe, and extremely severe levels of stress, respectively. Contrary to the findings in the current study, various studies have reported that many parents experience high levels of stress when their child is hospitalized.[24-27] A study involving mothers of hospitalized children found that 46.7% experienced extremely severe stress, while 21.1% reported severe stress levels.[27] Similarly, another study reported that 66% of parents had a moderate level of stress, while 32% had mild stress and 2% had severe stress.[28] These differences might be due to variations in the studied population characteristics, study settings, and the severity of the child's illness. There is a significant association of parental stress with their education level (p = 0.029), and family income (p=0.032).

The illness and hospitalization of a child are significant stressors for parents, impacting their mental health and overall family dynamics. Therefore, parents were asked about perceived stressors. The findings of this study show that a significant percentage of parents perceive various stressors during their child's hospital stay.

Forty five percent of the parents mentioned that health care professionals always explain medical procedures to parents. Effective communication is crucial in alleviating parental anxiety, as it fosters trust and understanding between healthcare providers and families. Research has shown that parents often experience heightened stress due to a lack of information regarding their child's condition and treatment.[29,30] When healthcare professionals take the time to explain procedures clearly, it can significantly reduce feelings of uncertainty and fear among parents, which are common during hospitalizations.[24,31] Moreover, 41.0% of parents experienced empathetic behavior from healthcare workers. Empathy from healthcare providers has been linked to improved parental satisfaction and reduced stress levels.[30]

Regarding the stress factors related to the hospital environment, 66.5% of parents answered that they experienced a peaceful environment. A calm atmosphere can help parents feel more secure and less anxious while their child is hospitalized. Conversely, only 18.0% reported a crowded and noisy environment which aligns with previous studies indicating that such conditions can exacerbate parental stress.[29,32] In the current study, five percent of parents reported that the presence of unpleasant odors also contributed to negative perceptions of the hospital environment, reinforcing the need for hospitals to maintain cleanliness and comfort. There is a significant association of parental stress with crowded and noisy environment in the hospital (p = 0.009).

The availability of adequate facilities plays a critical role in shaping parental experiences during hospitalization. Concerning the facilities available in hospitals, 79.5% responded that there is an adequate number of toilets and bathrooms followed by lab investigations by more than seventy percent (74.0%), having safe drinking water by 61.0%, and the supply of medicine by 57.0%. There is a significant association of parental stress with the adequate number of toilets and bathrooms (p=0.27) and supply of medicine (p=0.040). Various studies have reported that access to proper facilities is crucial as it directly affects parental stress levels.[30,33]

Parents were asked about the perceived severity of illness , with 35.0% reporting severe and 16.5% reporting very severe illness in their hospitalized child. Among them, 38.5% perceived the illness as moderate in severity. This perception can significantly influence parental stress levels, as higher perceived severity correlates with increased anxiety and emotional distress.[30,32]

Parents had different coping strategies to reduce stress such as maintaining family integration, cooperation, and optimistic towards the situation, with a mean score of 23.94 (SD=4.60); maintaining social support, self-esteem, and psychological stability with a mean score of 25.80 (SD=5.38); and understanding the medical situation through communication with other parents and consultation with medical staff with a mean score of 12.65 (SD= 2.95.) Various studies support these findings. A study highlighted that family support positively correlates with mental health outcomes, indicating that cooperative family dynamics can serve as a buffer against stressors.[34] Parents who engage in supportive relationships tend to experience lower stress levels and improved well-being.[34]

Engaging with medical staff not only provides necessary information but also fosters a sense of community among parents facing similar challenges. Clear communication is essential for effective coping in stressful situations involving health concerns.[35]

CONCLUSIONS

Hospitalization of children is a significant source of stress for parents and the level of stress is influenced by a number of factors. A significant proportion of parents reported mild to extremely severe stress, even though the majority indicated normal stress levels. Lower family income, lower educational attainment, inadequate hospital amenities (such as a lack of restrooms and medication supplies), and a busy, noisy hospital setting were all significant factors in increased parental stress. It was discovered that healthcare providers' sympathetic demeanor and effective communication were essential in reducing parental stress. Parents used a variety of coping mechanisms, but they mostly concentrated on preserving family unity and optimism, seeking social support, and communicating with other parents and medical professionals to understand the medical situation. It is recommended that hospitals should improve facilities, enhance communication among healthcare workers, provide targeted psychological support, and continuously monitor parental stress and coping to support parents and minimize stress during their children's hospitalization.

This study was limited to only two tertiary hospitals in Kathmandu with purposive sampling technique. Therefore, it cannot be generalized to other settings.

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