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Assessment of stress and coping strategies for mothers of hospitalized children

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Abstract: **Background: The hospitalization of a child is often a critical event, generating a considerable amount of stress among family members, particularly the mothers. However, there is a noticeable lack of emphasis on identifying the components of stress experienced by mothers of hospitalized children and providing them with effective coping mechanisms. This study aimed to : assess stress and coping strategies for mothers of hospitalized children. Design: A descriptive research design was utilized for this study. Setting: The study was conducted at inpatient pediatric department in Mustafa Hassan pediatric hospital affiliated to Fayoum university hospitals. Sample: A convenience sample of 110 mothers of hospitalized children. Tools: Four tools were used in data collection. First tool: Structured interviewing questionnaire. Second tool: Index scale for family participation in the care of their hospitalized children (Reported daily care). Third tool: Structured Questionnaire sheet for Stress assessment. Fourth tool: Coping Strategies Scale. Results: Equal percentage of studied mothers (more than one third) were in age group 20: <25 years and had preparatory education. Additionally, the majority of the studied mothers married and not working, as well as more than one third of them achieved high level of engagement in the care of their hospitalized children. There were statistical significant relationship between mother's stress level and their characteristics except household income, there were no statistically significant correlation between mother's level of coping and their characteristics except general health status. Conclusion: This study concluded that less than half of the studied mothers had moderate level of stress and high level of coping strategies. there was a strong statistical significant negative correlation between mother's stress score and their coping strategies score. Recommendation: Applying an educational intervention program to relieve stress and improve coping strategies for mothers of hospitalized children.**

Keywords: **Coping strategies, Mothers' stress and hospitalized children.**

1. INTRODUCTION

The illness and hospitalization of a child are significant events that can have a profound impact on the entire family. The stress associated with these circumstances can affect all family members. The mother, in particular, experiences numerous changes in various aspects of her life during the hospital stay, including her basic needs, social interactions, and economic circumstances. These changes often lead to heightened levels of stress and anxiety for mothers (***Ndwiga et al., 2022).***

Factors that cause stress in mothers of hospitalized children are environmental factors, managerial factors; socioeconomic factors and factors that are related to the child's circumstances. A higher level of maternal stress can reduce the ability of the mother to cope with problems ***(Basnet, 2019).***

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Having a child in the hospital is one of the most stressful events mothers can experience. They may be overwhelmed with the stress of the illness, complicated medical information, and worry for their child's future while trying to balance other family demands and maintain some continuity in their daily lives. As they encounter stressors, they must find ways to cope and harness resources to maintain stability ***(Bektas et al., 2020).***

Mothers may have high levels of stress when a child is unexpectedly hospitalized because of their lack of the skills in finding effective solutions and problem solving mechanisms. Minimizing hospital-related stressors and implementing stress management interventions may potentially decrease stress levels during hospitalization and increase overall satisfaction with care, maternal stress and anxiety can also affect the child in two ways, transferring stress to the child and interfering with the mother's ability of childcare ***(Canga et al., 2020).***

Mothers' coping may depend on the condition of their babies, and how they watched to their babies while being admitted. Also the mothers help with healthcare professionals as well as with significant others such family members, husbands and their in-laws may affect their ability to coping ***(Hajibagheri et al., 2022).***

Other studies have documented coping strategies such as confrontive coping, escape avoidance, planful problem solving and positive reappraisal. Seeking social support and self-control have been identified as coping strategies. On the one hand, when sick babies are miserable, restless and easily irritated mothers tend to demonstrate negative coping. When their babies are calmer and easily coping to changing conditions, these mothers demonstrate positive coping strategies ***(Demianczyk et al., 2022).***

The smoothness of the transition from home to the hospital relies on how well the child has been prepared for it and how the child's physical and emotional needs have been satisfied. Providing support to the family, supplying them with information, and empowering their participation in the child's care adds to the adjustment and well-being of all concerned ***(Clarke, 2022)***.

The hospitalization of a child is a highly stressful experience for both the mothers and their child. An important role during the child's stay in hospital is played by the support of the medical staff and the psychological characteristics of the child and the mothers, as well as the relationship between them. Particularly important predictors of the well-being of the mothers and their child in this difficult situation for the family include the quality of communication concerning the first factor (staff support), mainly in the area of feedback and the possibility of participating in childcare, and the characteristics of styles of coping with stress, emotionality, and temperamental conditions concerning the second factor ***(Zdun-Ryżewska et al., 2021).***

A pediatric nurse deals not only with the child but also with all the anxieties and demands of the parents. Nurses should provide psychological support to the child's mothers. This could be done in association with mothers and could help in decision making. Better cooperation in nursing team was also required. Therefore, the nurses must have high level of knowledge, work experience to alleviate maternal stress and the huge work tasks ***(Stephen et al., 2023).***

Nurses are the principal caregivers in the ward. When mothers are present, they are able to partner with nurses and actively participate in the care of their child. Maternal presence during invasive procedures and routine healthcare rounds has several effects. It results in improved opportunities for communication with the healthcare team and improved reports of satisfaction for both mothers and waders ***(Hallowell et al., 2019).***

Significance of the Study:

The hospitalization of a child is often a critical event, generating a considerable amount of stress among family members, particularly the mothers. The risk of mortality in children is associated with several socio-demographic factors, including the mother's emotional well-being and survival, sanitation, and the socioeconomic status of their household ***(Salak et al., 2023).*** In 2022, 5 million children died before turning 5 years old. An estimated 2.1 million children, adolescents and youth aged 5–24 years died that same year ***(Sharrow et al., 2022.)*** The current infant mortality rate for Egypt in 2023 is 13.166 deaths per 1000 live births ***(united Nations., 2023).*** According to data derived from ***(statistical offices, 2022)*** at Fayoum University children hospital it was detected that a number 4200 child were admitted at the inpatient pediatric department in the hospital.

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Nurses and mothers have different perceptions of stressors in the child's admission to a hospital. In other words, efforts that the hospital staff makes to reduce stress for mothers may not be effective, it is not helpful and increases their stress levels too. Therefore, special attention should be given to identify the stressors in mothers of hospitalized children and moving these stressors and treatment in the same direction and the factors that can reduce the mother's ability to provide childcare and delay in treatment progress ***(Gwaza & Msiska 2022)*** From the researcher point of view, this study conducted to shed light on stress and coping strategies for mothers of hospitalized children.

Aim of the Study

This study aimed to assess stress and coping strategies for mothers of hospitalized children.

Research Questions:

1. What is the stress level among the mothers of hospitalized child ?
2. What are the coping strategies of the mothers with hospitalized child?
3. There are relationship between the stress level and coping strategies for mothers of hospitalized children and the characteristics of this mothers?

2. SUBJECT AND METHOD

The subject and method: for this study were portrayed under the four main Items as follows:

I-Technical Items.

II-Operational Items.

III-Administrative Items.

IV-Statistical Items.

I-The technical design includes research design, setting, subject and tools for data collection.

A-Study design:

A descriptive research design was utilized to achieve the aim of the study.

B- Study setting:

This study was conducted at, Fayoum University pediatric hospital which, consisted of ten floors both of 7th, 8th and 9th floor specialized for inpatient units, each floor consists of 15 room which are: Sampling room, Treatment room, doctors room, nursing room the store, ten rooms for pediatric patients containing 26 bed**.**

C-Study subjects:

A convenient sample of 110 mothers of hospitalized children at the previously mentioned setting under the following: Inclusion Criteria**:** all available mothers who have hospitalized children regardless their age, educational level and occupation.

D-Tool for data collection:

The following tools was used for data collection:

Tool I: Interviewing Questionnaire Sheet:

It consisted of three parts designed by the researcher in simple Arabic language after reviewing recent literature (national and international) to suit the level of understanding of mothers and served to assess the following:

Part I: Characteristics of mothers:

Such as age, level of education, place of residence, occupation, household income, marital status, number of children and general health status.

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Part II:Characteristics of the children:

Such as age, gender and birth order.

Part III: Medical history of the child:

Such as medical diagnosis, nature of disease, modalities of treatment, length of hospitalization and history of previous hospitalization.

Tool I: Index scale for family participation in the care of their hospitalized children (Reported daily care):

It was adapted from **(Vasli., & Salsali, 2014)** to asses mother's participation in daily care of the child.

The scale included of (39) item grouped into (3) subscale. These are namely: preparation for inpatient and post hospital (3items), physical care (27 items) and psychological care (9 items).

Scoring system:

Each activity graded into (Yes=1, No =0) the total score of activities was 39 point.

Total score were categorized into:

-Low engagement (< 75%)

-Moderate engagement (60% < 75 %).

-High engagement (≥ 75 %).

Tool III: A Structured Questionnaire sheet for Stress assessment:

This tool was adopted from **Shajahan, (2013)** and modified by the researcher to suit the nature of the study, it included (30) item grouped into (4) subscale, namely; general aspects of stress (10 items), aspects of stress related to child hospitalization (7 items), aspects of stress related to treatment and prognosis (6 items), aspects of stress related to complications (7 items).

Scoring system:

Each stressors scale graded into (Always=2, Sometimes =1, not at all =0)total score of stressors was 60 point.

Total score was categorized into:

-Mild (< 60%)

-Moderate (60% < 75 %).

-Severe (≥ 75 %).

Tool IV: Coping Strategies Scale:

It was adopted from **Afifi Mohamed et al., (2022)** and modified by the researcher to suit the nature of the study and to assess coping strategies among mothers of hospitalized children. It consisted of (42) item grouped into (11) subscale. These are namely: Negativism and self-balm (6 items), Mental disengagement (5 items), Seeking out for information and social support (3 items), Reinterpretation (5 items), Positive thinking (4 items) turning to religion(3items), Emotional condition (3 items) Acceptance, (3 items) Self –control (4 items), denial (3 items) and active coping (3 items).

Scoring system:

Which each subscale graded into: (fully agree=3,somewhat agree=2,disagree=1)

Total score was categorized into:

-Low level of coping (< 60%)

-Moderate level of coping(60%<75 %).

-High level of coping (≥ 75 %).

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Tool Validity:

The content validity of the tool was reviewed by three experts from Faculty of Nursing specialized in pediatric health nursing to test the content validity of the tools for clarity, relevance, comprehensiveness, under-standing and applicability. Minor modifications of the tool was done according to the expert's comments and add part of knowledge on clarity of sentences, appropriateness of content and sequences of items.

Pilot study:

A pilot study was carried out on (11) mothers who represented 10% of the total study sample based on sample criteria to test the clarity, applicability and understand ability of the tool. Little modification was done as replacing and arrangements of some items. The involved mothers of the pilot study were excluded later from the main study sample.

Ethical considerations:

An official permission to conduct the proposed study was obtained from the Scientific Research Ethics Committee of Faculty of Nursing Helwan University. Participation in the study was voluntary and each subject was given complete full information about the study and their role before signing the informed consent and had the right to refuse to participate. The ethical considerations included explaining the purpose and nature of the study, stating the possibility to withdraw at any time and confidentiality of the information where it was not accessed by any other party without taking permission of the participants. Ethics, values, culture and beliefs were respected.

II- Operational design:

Preparatory phase:

This phase included reviewing of related literature relevant to the research problem and the theoretical knowledge of the study using articles, periodicals, magazines, books and websites to get a clear picture of all aspects related to the research problem, as well as to develop the study tools for data collection.

Field work:

Permission was granted to proceed with the study, the researcher visited the study setting. The actual field work was carried out over 6 months started from beginning of May, 2023 to the end of November, 2023 for data collection. The researcher was available two days/week by the rotation in the previously mentioned study setting during the morning shifts from 9 am to 12 pm, the purpose of the study was explained by the researcher to each mother of hospitalized child before data collection in addition to clear and brief idea about aim of the study and its expectation. The average time needed for completion or filling all items of questionnaire that started with Tool I& Tool II took nearly 2o minutes and Tool III took about 15 minutes.

III- Administrative design:

A written approval letter was being issued from Dean of faculty of Nursing – Helwan University. The letter was being directed to general director of pediatric hospital Fayuom University asking for cooperation and permission to conduct the study. After explanation of the study aim. Consent was obtained from mothers ensuring complete privacy and total confidentiality.

IV- Statistical design:

Upon completion of data collection, data was organized, categorized, tabulated, entered and analyzed using Statistical Package for the Social Science (SPSS), IBM SPSS Statistics for Windows and Version 20.0. Armonk, NY: IBM Corp. Data were presented using descriptive statistics in the form of frequencies and percentages. R-tests were used to compare frequencies and correlation between study variables.

Probability (P-value):

P-value >0.05 was considered insignificant.

P-value <0.05 was considered significant.

P-value <0.001 was considered as highly significant.

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3. RESULTS

Part I: Characteristics of the studied mothers and their children.

Table (1): Numbers and percentage distribution of the studied mothers according to their characteristics (n=110).

Mother's Characteristics	No.	%
Mother's Age		
20: <25years	38	**34.5**
25: <30 years	36	32.7
30: <40 years	29	26.4
≥40 years	7	6.4
Level of Education		
Illiterate	26	23.6
Read and write /primary	22	20.0
Preparatory	37	**33.6**
Secondary	6	5.5
University	19	17.3
Occupation		
Working	22	20.0
Not working	88	**80.0**
Marital status		
Married	104	**94.6**
Divorced	5	4.5
Widow	1	0.9
Residence place		
Urban	31	28.2
Rural	79	**71.8**
Household income		
1000:> 2000	43	39.1
2000:>3000	47	**42.7**
≥3000	20	18.2
Number of children		
1:2	44	40.0
3:4	51	**46.4**
>4	15	13.6
General health status:		
Excellent	1	0.9
Very good	28	25.5
Good	78	**70.9**
Poor	3	2.7

Table (1): shows that, more than one third (34.5%) of the studied mothers were in age group from 20 : < 25years. Also this table showed that 80 % & 94.6% of the studied mothers married and didn't work, respectively.

Regarding household income, it was clarified from this table that 46.4% of the studied mothers their incomes were 2000:>3000 pound per month additionally, this table clarified that 71.8 &70.9% of the studied mothers were lived in rural areas and had a good general health status, respectively.

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Table (2): Numbers and percentage distribution of studied children according to their characteristics (n=110).

Children characteristics	N	%
Age of child in years:		
<2	53	**48.2**
2:<4	22	20.0
4:<8	20	18.2
≥8	15	13.6
Gender:		**54.5**
		45.5
Male	60	
Female	50	
Child order:		23.6
		30.0
		35.5
		10.9
First	26	
Second	33	
Third	39	
Fourth or more	12	

Table (2): Reveals that, near to one half (48.2%) of the studied children were in the age group <2 years. Concerning child gender, more than half (54.5%) of them were male.

Table (3): Numbers and percentage distribution of studied children according to their medical history (n=110).

Medical history	N	%
Medical diagnosis		
respiratory diseases	29	26.4
cardiovascular diseases	8	7.3
GIT disorder	33	**30.0**
urinary tract disorder	15	13.5
hematological disorder	10	9.1
neurological disorder	8	7.3
endocrinal disorder	7	6.4
Type of disease		
Acute	70	**63.6**
Chronic	40	36.4
If chronic(n:40).		
Heredity	8 (20%)	20
Not Heredity	32 (80%)	80
Length of hospitalization in days		
1:4	73	**66.4**
5:9	18	16.4
10:14	10	9.1
15:19	5	4.5
≥20	4	3.6
Type of treatment modalities		
Non Invasive	3	2.7
Invasive	15	13.7
Both of them	92	**83.6**
History of previous hospitalization		
Yes	52	47.3
No	58	**52.7**
If yes: (n:52).		
Duration of previous hospitalization in days	8.48±6.30	

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Table (3): Reveals that, about one third (30%) of the studied children had a GIT disorder. Regarding the type of disease, this table shows that, about two thirds of them (63.3%) had acute disease and the had chronic disease. On the other hand more than three quarters of the chronic disease (80%) were not heredity diseases.

Part II: Index scale for family participation in the care of their hospitalized children (Reported daily care):

Figure (1): Distribution of the studied mothers according to total level of participation in the care of hospitalized child (Reported daily care) (n=110):

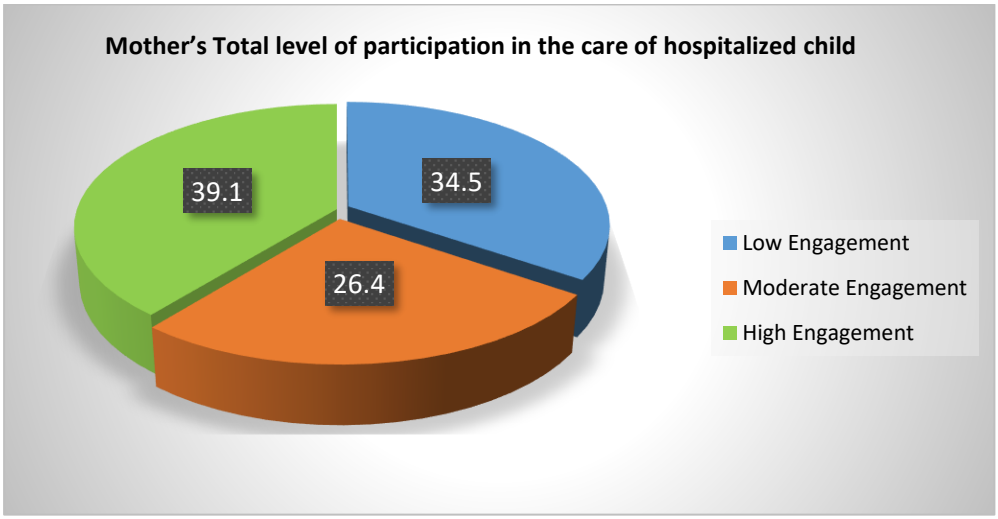

Figure (1): As regarding mother's total level of participation in the care of hospitalized child, this figure showed that, more than one third (39.1%) had high level of engagement in the daily care, less than one third(34.5%) of them had low level of engagement and the rest of them (26.4%) had moderate level of engagement.

Part III: Mother's Total level of Stress:

Answering research question (no 1) What is the stress level among the mothers of hospitalized child ?

Figure (2): Distribution of the studied mothers according to total level of stress (n=110).

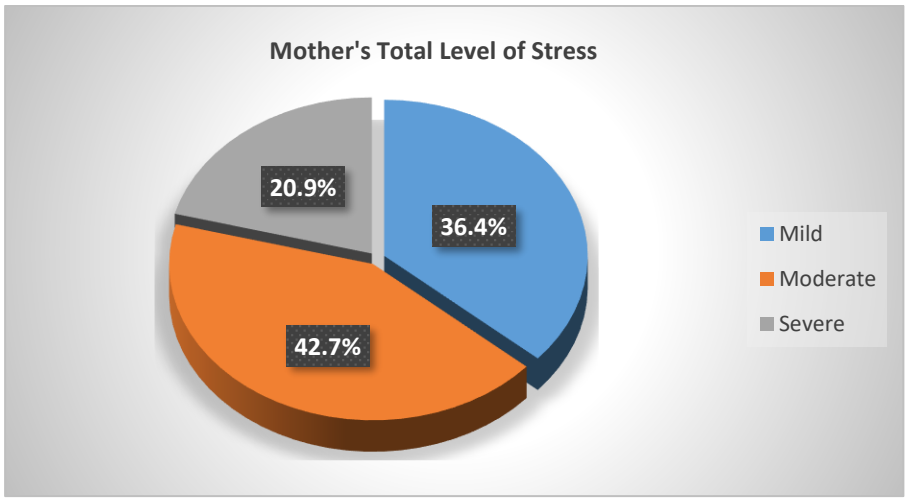

Figure (2): As regards mother's total level of stress, this figure clarified that, less than half (42.7%) of the studied mothers had moderate level of stress, additionally, and more than one third (36.4%) of the studied mothers had mild level of stress and the rest of them (20.9%) had severe level of stress.

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Part IV: Mother's Total Level of Coping Strategies:

Answering research question (no 2) What are the coping strategies of the mothers with hospitalized child?

Figure (3): Distribution of the studied mothers' coping strategies (n=110)

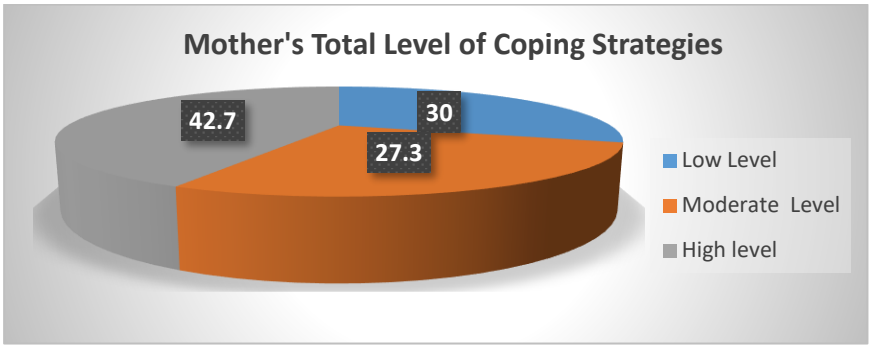

Figure (3): As regarding mother's total level of coping strategies, this figure showed that, less than half (42.7%) of the mothers had a high level of coping. Meanwhile, less than third (30%) had low level of coping and rest of them (27.3%)of them had moderate level of coping.

Part V: Statistical relations and correlations between studied variables:

Answering research question (no.3): There are relationship between the stress level and coping strategies for mothers of hospitalized children and the characteristics of this mothers?

Table (4): Relationship between the studied mother's total level of stress and their characteristics (n=110).

Mother's characteristics	Total level of stress								
	Mild (N=40)		Moderate(N=47)		Severe(N=23)		Total	Chi-square	
	N	%	N	%	N	%	N	X^2	P-value
Mother's Age									
20: <25years	13	34.2	15	39.5	10	26.3	38		
25: <30 years	18	50.0	10	27.8	8	22.2	36	10.998	0.088
30: <40 years	6	20.7	18	62.1	5	17.2	29		
≥40 years	3	42.9	4	57.1	0	0.0	7		
Level of Education									
Illiterate	7	26.9	14	53.8	5	19.3	26		
Read and write /primary	5	22.7	10	45.5	7	31.8	22		
Preparatory	14	37.8	18	48.7	5	13.5	37	14.609	0.067
Secondary	2	33.3	1	16.7	3	50.0	6		
University	12	6.2	4	21.1	3	15.7	19		
Occupation									
Working	12	54.6	5	22.7	5	22.7	22	5.118	0.077
Not working	28	31.8	42	47.7	18	20.5	88		
Marital status									
Married	37	35.6	45	43.2	22	21.2	104		
Divorced	2	40.0	2	40.0	1	20.0	5	1.807	0.771
Widow	1	100.0	0	0.0	0	0.0	1		
Residence place									
Urban	15	48.4	13	41.9	3	9.7	31	4.327	0.115
Rural	25	31.6	34	43.1	20	25.3	79		
Household income									

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Mother's characteristics	Total level of stress								
	Mild (N=40)		Moderate(N=47)		Severe(N=23)		Total	Chi-square	
	N	%	N	%	N	%	N	X^2	P-value
1000:> 2000	10	23.3	25	**58.1**	8	18.6	43		
2000:>3000	18	38.3	18	38.3	11	23.4	47	**10.434**	**0.034***
≥3000	12	**60.0**	4	20.0	4	20.0	20		
Number of children									
1:2	13	29.5	20	45.5	11	25.0	44		
3:4	24	47.1	17	33.3	10	19.6	51	7.218	0.125
>4	2	20.0	10	66.7	2	13.3	15		
General health status									
Excellent	1	100.0	0	0.0	0	0.0	1		
Very good	11	39.3	15	53.6	2	7.1	28	6.479	0.372
Good	27	34.6	31	39.7	20	25.7	78		
Poor	1	33.3	1	33.3	1	33.4	3		

*: *Significant at P ≤ 0.05*

Table (4): Clarifies that, there was statistically significance correlation between mothers' stress level and their household income.

Table 5: Relationship between the studied mother's coping strategies and their characteristics (n=110).

Mother's characteristics	Mother's total level of coping strategies								
	Low level (N=33)		Moderate level (N=30)		High level (N=47)		Total	Chi-square	
	N	%	N	%	N	%	N	X^2	P-value
Mother's Age									
20: <25years	9	23.7	12	31.6	17	44.7	38		
25: <30 years	10	27.8	9	25.0	17	47.2	36	2.924	0.818
30: <40 years	12	41.4	7	24.1	10	34.5	29		
≥40 years	2	28.6	2	28.6	3	42.8	7		
Level of Education									
Illiterate	8	30.8	9	34.6	9	34.6	26		
Read and write/primary	11	50.0	5	22.7	6	27.3	22		
Preparatory	9	24.3	10	27.1	18	48.6	37	11.387	0.181
Secondary	3	50.0	1	16.7	2	33.3	6		
University	2	10.5	5	26.3	12	63.2	19		
Occupation									
Working	6	27.3	7	31.8	9	40.9	22	0.298	0.862
Not working	27	30.7	23	26.1	38	43.2	88		
Marital status									
Married	29	27.9	30	28.8	45	43.3	104		
Divorced	4	80.0	0	0.0	1	20.0	5	7.732	0.102
Widow	0	0.0	0	0.0	1	100.0	1		
Residence place									
Urban	9	29.0	7	22.6	15	48.4	31	0.686	0.710
Rural	24	30.4	23	29.1	32	40.5	79		
Household income									
1000:> 2000	11	25.5	10	23.3	22	51.2	43	2.391	0.667

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Mother's characteristics	Mother's total level of coping strategies								
	Low level (N=33)		Moderate level (N=30)		High level (N=47)		Total	Chi-square	
	N	%	N	%	N	%	N	X^2	P-value
2000:>3000	15	31.9	15	31.9	17	36.2	47		
≥3000	7	35.0	5	25.0	8	40.0	20		
Number of children									
1:2	12	27.3	14	31.7	18	40.9	44		0.776 b
3:4	15	29.4	12	23.5	24	47.1	51	1.780	
>4	6	40.0	4	26.7	5	33.3	15		
General health status									
Excellent	0	0.0	0	0.0	1	**100.0**	1		
Very good	2	7.1	9	32.2	17	60.7	28	**14.247**	**0.027***
Good	30	38.4	19	24.4	29	37.2	78		
Poor	1	33.3	2	**66.7**	0	0.0	3		

**: Significant at P ≤ 0.05*

Table (5) clarifies that, there was a statistically significance correlation between mothers' coping level and their general health status. Where 100% of studied mothers who had excellent health status showed high level of coping pattern.

Part VI: correlation between study variables.

Table (6): Correlation between the studied mother's stress score, coping strategies score and their participation in the daily care score.

Variables	Mother's coping strategies score		Mother's activities score	
	R	P-value	r	P-value
Mother's Stress score	**- 0.572**	**<0.001****	**- 0.390**	**<0.001****
Mother's coping strategies score	**----**	**----**	**0.718**	**<0.001****

**: Significant at P ≤ 0.05*

Table (6) illustrates that, there was a strong statistical significant negative correlation between mother's stress score and mother's coping strategies score, which mean that, an increase in mother's stress will be associated with a decrease in mother's coping strategies. The table also illustrated that, there was statistical significant negative correlation between mother's stress score and mother's participation in daily activities score, which mean that, an increase in mother's stress will be associated with a decrease in mother's participation in daily care activities.

On the other hand, this table shows that, there was a strong statistical significant positive correlation between mother's coping strategies score and mother's participation in daily activities score, which mean that, an increase in mother's coping strategies will be associated with an increase in mother's participation in daily activities.

4. DISCUSSION

Part I: characteristics for mothers and their children:

Regarding the characteristics of the studied mothers namely age, occupation and residence, the findings of the present study showed that, more than one third of the studied mothers were in the age group 20 to less than 25 years old, the majority of studied mothers were not working and more than two thirds were lived in rural areas. These findings were in agreement with findings of **Mami Daz, (2020)** who carried out study entitled " A Study to Assess the Level of Stress and Coping Mechanism among Mothers of Neonates Admitted in Neonatal Intensive Care Unit in Selected Hospitals of Guwahati, Assam. Religion, " and found that, more than one third of the studied mothers were in the age group 21-25years old, the

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majority of studied mothers were not working and more than two thirds were lived in rural areas. From researcher's point of view the nature of these societies that women married at young age and their work not encouraged.

Regarding the level of education of the studied mothers, the results of the present study showed that, more than one third of the studied mothers were had preparatory education. This finding was in agreement with the finding of **Raju et al., (2019),** who studied " Assess the Level of Stress among Mothers of Hospitalized Children: A Challenge for Quality Nursing Care " and found that, more than third of the studied mothers were had preparatory education and less than one quarter were had university education. From the researcher's point of view, this could be due to the nature of some rural residence that girls should get married at young age as a result they should stop their education in preparatory stage.

As regards mothers' marital status, the results of the current study illustrated that, the majority of the studied mothers were married. This findings are consistent with **Nasr, (2023)** who carried out a study entitled, " Mother's Coping while Caring for a Child with Cancer and its Relationship with Mother-Child Relationship "and reported that the majority of mothers were married..

Concerning household income, the result of the recurrent study clarified that, more than one third of studied mothers their income was from 2000:>3000. This finding was in agreement with the finding of **Lin et al., (2023).** Who studied " Parents' understanding and attitudes toward the use of the We Chat platform for postoperative follow-up management of children with congenital heart disease." and found more than one half of mothers their income was from 2000:>3000. From researcher point of view, at the present time, our societies suffering from limited job opportunities and moderate monthly salaries.

Regarding number of children, this study revealed that, about half of the studied mothers had 3-4 children. The finding of the present study was similar to the findings of **Jaiswal, & Chauhan., (2022)** who conducted a study entitled ". Parental Stress and Coping Strategy in Intensive Care Unit of North India: A Single-Center, Prospective Observational Study" that near to half of the studied mothers had 3 and above children. From researcher's point of view these finding shed the light about number of children that certainly affect the mothers ability to provide adequate care for their children.

Regarding the characteristics of the studied children, the findings of the present study showed that, near to one half of the studied children their age less than 2 years. These findings were in agreement with findings of **Raju et al., (2019),** who studied " Assess the Level of Stress among mothers of hospitalized children: A Challenge for Quality Nursing Care" and found that, the majority of the studied children were less than 2 years. From researcher's point of view that, children in these age are more susceptible to diseases than other ages.

Concerning child's gender, the findings of this study clarified that, more than half of studied children were male. This finding was in agreement with the finding **of Gheibizadeh, (2017)** who studied "Coping strategies of parents with chronic ill children hospitalized in educational hospitals", and found that more than half of studied children were male. Meanwhile this finding were in disagreement with **Zych et al., (2021)** who conducted study about "Perception of stress and styles of coping with it in parents giving kangaroo mother care to their children during hospitalization in NICU" and found that, more than half of studied children were female.

Regarding birth order, this study revealed that, more than third of the studied children were the third child within the families. The finding of the present study was similar to the findings of **NM et al., (2022)** who conducted a study entitled "Stressors and Coping Patterns of Mothers Having Children with Epilepsy" that two fifth of the studied children were the third child within the families. From researcher's point of view, the third child received less attention from family so that, they more susceptible to health problems.

Regarding the medical history of the studied children namely; nature of diseases and length of hospitalization, the findings of the present study showed that, about two thirds of the studied children had acute diseases and stayed in hospital for 1-4 days. These findings were in agreement with findings of **Abdallah, (2022).** who carried out study entitled "Stress and Coping Styles among Parents of Children undergoing Heart Surgery." and found that, the majority of children in acute stage of their illnesses and stayed in hospital 1-5 days. From researcher's point of view, acute diseases require short hospital stay than chronic.

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Regarding the history of previous hospitalization, the findings of the present study showed that, near to half of the studied children had previous hospitalization. These findings were in agreement to the findings of **Dhungana & Kachapati., (2018)** who studied " Maternal Stress of Hospitalized Children In A Hospital of Rupandehi, Nepal" and found that, near to half of the studied children were hospitalized for the first time. From researcher's point of view, children are more susceptible to infections and diseases which require hospitalization

Part II: Mother's participation in the care of hospitalized child (daily reported care):

Concerning total level of mother's participation regarding in the care of hospitalized children, the findings of the current study revealed that, more than one third of the studied mothers had high level of engagement. This findings was in disagreement with **Zabihi et al., (2017)** who carried out study entitled " Participation of Mothers in the Care of Premature Infants and its Associated Factors. " and found that high percentage of mothers participated in child care. Meanwhile this result was in agreement with those of **Mughis& Rasheed., (2021)** who conducted a study entitled " Parental engagement practices with young children during hospitalization: a cross-sectional survey from Pakistan." and found that low percentage of show high engagement in child care. From the researcher point, these findings highlight the importance for integrating the mother's interventions for medical recovery and holistic wellbeing of pediatric in-patients undergoing acute hospitalization.

Part III: : Stress level of the studied Mothers:

According to Research question (n:1). What is the stress level among the mothers of hospitalized child ?

Considering total level of stress among the studied mothers the finding of the present study showed that, near to half of the studied mothers had moderate stress level; this finding were supported by **Abdallah, (2022)** who carried out study entitled "Stress and Coping Styles among Parents of Children undergoing Heart Surgery" and found that more than half of the studied parents had moderate stress level. From researcher's point of view that, the majority of studied children have acute disease so they require short hospital stay.

Part III: Mothers coping strategies:

Answering research question (no: 2) What are the coping strategies of the mothers with hospitalized child?

Concerning total level of coping strategies of the studied mothers, the findings of the current study revealed that, less than half of the studied mothers had high level of coping strategies. This result is accordance with **Ghimire, (2017)** who conducted a study entitled " Stress and coping among the parents of children with congenital heart disease: A hospital based study" found that more than three quarters of parents had adequate helpful level of coping. On the other hand, this result was contradicted by **Mami Daz, (2020)** who carried out are study entitled " A Study to Assess the Level of Stress and Coping Mechanism among Mothers of Neonates Admitted in Neonatal Intensive Care Unit in Selected Hospitals of Guwahati, Assam. Religion " and found that more than half of the sample had poor coping mechanism.

Part IV: Statistical relations and correlations among studied variables:

Answering research question (n:3): There are relationship between mother's characteristics and their level of stress, coping strategies ?

Regarding the relationship between total level of stress and characteristics of the studied mothers. The study findings revealed that there was no statistically significant relationship between mother's total level of stress and mother's characteristics namely; age, marital status, level of education, residence place and number of children. These findings were in an accordance with those of the study **by Mami Daz, (2020)** who carried out study entitled " A Study to Assess the Level of Stress and Coping Mechanism among Mothers of Neonates Admitted in Neonatal Intensive Care Unit in Selected Hospitals of Guwahati, Assam. Religion, " where there was no statistical significant relation between the total stress level of mothers and their age, marital status, level of education, residence place and number of children.

Also concerning the relationship between total level of stress and characteristics of the studied mothers. The study presented that, there was statistically significant correlation between stress level of mothers with their household income. This study finding is in an agreement with **Abdullah, (2022)** who carried out study entitled "Stress and Coping Styles among Parents of Children undergoing Heart Surgery" who found that, parenting stress was significantly correlated to economic

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circumstances where financial strain increased level of parenting stress. From the researcher's point of view, that mothers who had low household income would be over thinking about cost of treatment and procedures related to child hospitalization.

Regarding the relationship between total level of the coping strategies with characteristics of the studied mothers, the present study revealed that there was no statistically significant differences between total coping strategy with age, marital status, level of education, residence place and number of children but, there was statistical significant relation between total level of the coping strategies with general health status. This came in the same line with **Mami Daz, (2020)** who carried out study entitled " A Study to Assess the Level of Stress and Coping Mechanism among Mothers of Neonates Admitted in Neonatal Intensive Care Unit in Selected Hospitals of Guwahati, Assam. Religion, " who reported that, there was no statistical significant relation between total level of the coping strategies with age, marital status, level of education, number of children. From the researcher point of view, that coping of studied mothers is strongly related with level of stress and health status of them.

Regarding correlation between total level of stress and total level of coping strategies, the study finding showed that, there were highly statistically significant negative correlation between level of stress and level of coping strategies, . This result is accordance with **Ghimire, (2017)** who conducted a study entitled " Stress and coping among the parents of children with congenital heart disease: A hospital based study" found that there was negative correlation between level of stress and level of coping strategies.

Regarding correlation between total level of stress and total level of participation, the study finding showed that, there were highly statistical significant negative correlation between total level of stress and total level of participation. This result is in accordance with **Çamur & Sarıkaya Karabudak, (2021)** who studied "The effect of parental participation in the care of hospitalized children on parent satisfaction and parent and child anxiety" and found that there was relationship between mother's satisfaction and family centered care.

Also regarding correlation between total level of coping strategies and total level of participation, the study finding showed that, there were a strong statistical significant positive correlation between mother's coping strategies score and mother's participation in daily activities score, this result goes in the same line with **Hussein et al., (2021)** who studied " Effect of Family-Centered Care on Maternal Coping and Care Participation for their Children with Congenital Heart Diseases. Evidence-Based Nursing Research" and found that, there was a strong positive correlation between total mothers' coping patterns, participation, and mothers' total actual practices regarding their children's care. From the researcher point of view, the mothers can't able to cope with child health status have enthusiasm to engage in child's care.

5. CONCLUSION

Based on the present results this study concluded that, less than half of the studied mothers had moderate level and high level of coping strategies, there was a strong statistical significant negative correlation between mother's stress score and mother's coping strategies score.

Recommendations:

In the light of the study findings, the following recommendations are suggested:

For nursing:

- Development of psychosocial care protocol for dealing with mothers who had hospitalized child.
- Applying an educational intervention program to relieve stress and improve coping styles of mothers of hospitalized children
- Encourage interventions to increase maternal engagement in the of hospitalized children.

For researches:

- Future researches to assess factors that may influence role of parents and challenges that faces them during child hospitalizing.

- Further researches including larger sample size for generalization of the study findings.

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