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### Original Article

# Relationship between Hospitalization and Parental Stress and Anxiety in the Children's Care Room, Batara Siang Hospital, Pangkajene Islands

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#### Abstract

**Background:** Various things that can cause anxiety and stress in parents due to hospitalization of children include disease diagnosis, length of stay for children, parental knowledge, and care environment. Diagnosis of illness can cause psychological pressure on parents. When parents listen to information about the diagnosis of a child's illness and are required to be hospitalized, this triggers parents thinking that their child is seriously ill so that they will be more anxious and afraid which can cause stress. Listening to the doctor's decision about the diagnosis of their child's illness is a very stressful event for parents.

**Method:** This research method is quantitative. To analyze the relationship between hospitalization of children and parental anxiety stress in the child care room at Batara Siang Pangkep Hospital in 2021. This research will be carried out at Batara Siang Hospital, Pangkajene Islands, on 75 pairs of child respondents and their parents.

**Results:** Based on the results of statistical analysis using the Chi-Square test, p-value  $0.155 > 0.05$  and  $0.089 > 0.05$  mean that  $H_0$  is accepted, meaning that there is no relationship between the child's diagnosis of stress and parental anxiety. P-value  $0.037 < 0.05$  and  $0.002 < 0.05$  means that  $H_0$  is rejected, meaning that there is a relationship between the length of stay of children on stress and parental anxiety. P-value  $0.073 > 0.05$  and  $0.117 > 0.05$  means that  $H_0$  is accepted, meaning that there is no relationship between the environment and parental stress and anxiety. P-value  $0.036 > 0.05$  and  $0.001 > 0.05$  means that  $H_0$  is rejected, meaning that there is a relationship between knowledge of stress and parental anxiety.

**Conclusion:** The most related factor with stress and anxiety of parents at Batara Siang Hospital Pangkajene Islands is knowledge with an Exp (B) value of 32,022.

## INTRODUCTION

Child hospitalization is a traumatic experience felt by children and families, which can have a psychological impact on children, siblings, and accompanying parents (Hockenberry, Wilson & Rodgers 2017). The stress experienced by children during hospitalization can have a negative impact that interferes with the child's development. The child's response when undergoing hospitalization can be considered a bad experience and can cause a crisis for the child and family, this may be because the child does not understand why he is being cared for, is worried about changes in health status, environment, daily habits and limited coping mechanisms (Roberts 2010).

Based on (WHO 2012), that 3-10% of children are treated in the United States both for toddlers, preschoolers or school-age children, while in Germany about 3 to 7% of toddlers and 5 to 10% of preschool children undergoing hospitalization. The child morbidity rate in Indonesia based on the 2018 National Health Survey (Susenas) in urban areas by age group 0-4 years is 25.8%, ages 5-12 years is 14.91%, ages 13-15 years is around 9.1 %, age 16-21 years by 8.13%. The morbidity rate of children aged 0-21 years when calculated from the total population is 14.44%.

Sujatha's research (2014) which measured the level of parental anxiety and parental coping strategies of children undergoing hospitalization with the results of 100 parents, 31 respondents experienced severe anxiety, 34 respondents experienced moderate anxiety and 35 respondents experienced mild anxiety (Sujatha 2014).



Research conducted by Sugihartiningsih (2016) about the description of the level of anxiety of parents towards the hospitalization of children at the Regional General Hospital (RSUD) Dr. Moewardi said that out of 30 respondents, 6 respondents experienced moderate anxiety, 15 respondents experienced severe anxiety, and 9 respondents experienced severe anxiety (panic). In another study it was found that parental anxiety can also develop into post-traumatic stress symptoms (PTSS) after a child's hospitalization if nurses do not provide mental and emotional support to parents (Franck et al. 2015).

The results of Adiratna's research (2017), regarding the analysis of the needs of parents who experience anxiety with hospitalization of children at Prof. Dr. Hospital. Margono Soekardjo Purwokerto, shows that the length of time a child is cared for has a relationship with anxiety, where the longer the child is treated, the higher the level of anxiety and vice versa (Siwi, Fatimah & Emaliyawati 2017). In accordance with the explanation of Wong et al (2008) that parents feel anxiety in line with the length of the child's care. Children who are cared for, long treatment durations can cause parents to feel afraid, anxious and hopeless. Parents who are waiting for their children, hope that the treatment period is not long.

Likewise with parental knowledge about the disease experienced by children, it can also raise concerns because parents' lack of knowledge about the disease will cause the parents to experience psychological pressure. easy to think rationally in solving problems. Leny Marlina's research (2019) on knowledge with parental reactions and anxiety due to hospitalization of children at RSUD Dr. Zainoel Banda Aceh, pointed out that parents who do not know how to treat children's illnesses are more easily stressed because if something changes in their child, for example, the child is restless and has a fever, families who do not know how to care for them tend to panic and immediately call health workers to see the child's condition without doing anything. to the child and the condition of the child after the treatment/treatment is carried out (Marlina & Imelda 2019).

Farhan's research (2014), on the relationship between the hospital environment and family stress, shows that the treatment environment is filled with high-tech equipment accompanied by high-alarm sounds (alarms) from equipment installed on the patient's body as well as limited time and family opportunities to interact with the patient (Farhan, Ibrahim & Sriati 2014). The patient is a significant source of stress in the family so that it can trigger stress and cause negative psychological symptoms in the family. If parents of children undergoing hospitalization experience anxiety, of course, they cannot help children adapt to the hospital environment (Hockenberry, Wilson & Rodgers 2017).

Hospitalization of children is something that really needs to be considered, especially for parents who want their child's healing process to be faster, because if it takes longer it will cause panic and will affect the healing process of their child. This is something that all hospitals should pay attention to, as well as what happened to parents who were being cared for by their children at the Pangkep Islands Hospital. Although hospitalization of children is a process to restore health and is easily controlled, the impact on the situation can be another problem for families, especially parents as well as for parents who are cared for by their children at the Pankep Hospital. Parental anxiety is influenced by various factors, including the seriousness of the child's illness, invasive measures, cultural and religious factors, economics,

The World Health Organization declared COVID-19 to be a global pandemic on March 11, 2020 (WHO 2020). Since then, the prevalence of parental anxiety levels has increased. In a study by (Cameron et al. 2020) which measured the anxiety of mothers with children aged 0-8 years, it was found that from 641 mothers, mothers with children aged 0-18 months had an anxiety prevalence of 36.27%, mothers who had children aged 18 months- 4 years 36.62%, and those who have children 5-8 years 29.59%.

Pangkep Hospital is a general hospital that handles various diseases including child care. Based on initial data from Batara Siang Pangkep Hospital, it was found that in 2019 there were 2,654 children treated and in 2020, 1,283 children. Based on the observations that have been made at the hospital regarding the hospitalization of children, parents have concerns and fears regarding their child's illness, especially if they see their child's condition is different from other children or the child's condition is rather worrying.

Based on preliminary data conducted by researchers on 20 parents whose children are being treated in Flamboyan and Orchid using the Depression Anxiety Stress Scale (DASS), that who experience moderate stress are 7 people (70%), and 3 people (30%) who experienced mild stress, then from 10 other respondents showed that the level of anxiety was moderate as many as 6 people (60%), and as many as 4 people (40%) experienced mild anxiety. Then the psychological stress of stress and anxiety obtained through DASS is described by a

number of questions to parents, that their child has a fever and there is no progress, then the treatment time is more than 3 days and even up to 2 weeks so it makes him stressed,

Based on the previous description, it is interesting to study through the title The relationship between hospitalization of children and stress and anxiety of parents at Pangkep Hospital.

## METHOD

This type of research is a quantitative research with analytical observational method using a cross sectional study design where the independent and dependent variables are observed at the same time during the research (point time approach). This research will be carried out at Rs Batara Siang Pangkajene Islands, and this research will be carried out in February-March 2022. Retrieval of data used in the study is to make observations with a checklist or interviews using questionnaires.

The population in this study were all parents of children who were undergoing hospitalization in the child care room at Batara Siang Pangkep Hospital in February-March 2022 as many as 75 people. The sample is all the population in the same month when the research was conducted, amounting to 75 people. The sampling technique used in this study is Accidental Sampling. Inclusion criteria are general characteristics of research subjects from a target population that is affordable and will be studied. The inclusion criteria in this study are as follows; Parents who have children aged 1 month – 15 years, are willing to be respondents, in an oparents waiting for their children to be hospitalized. Univariate, bivariate and multivariate analyzes were performed in this study with SPSS 20.0.

## RESULTS

**Table 1. Respondents by Age of Parents**

Univariate Analysis	Amount (n)	Percentage (%)
Gender		
Man	34	45.3
Woman	41	54.7
Age		
Neonatal	5	6.7
Baby	12	16
Toddler	34	45.3
Children	15	20
Mature	9	12
Education		
Not school yet	51	68
SD	15	20
Junior High School	9	12
Total	75	100%

The results of the study in table 2 show that the distribution of frequencies based on the sex of the children is spread out by 34 people with a percentage of 45.3% while women by 41 people with a percentage of 54.7%. The results showed that the frequency distribution based on the age of the children was spread out, namely the neonatal category aged 1-3 months as many as 5 infants with a percentage of 6.7%, the category of infants aged 4-12 months as many as 12 infants with a percentage of 16% and the toddler category 1-5 years as many as 34 children with a percentage of 45.3%. While the category of children aged 6-13 years as many as 15 children with a percentage of 20% and the category of adults aged >13 years as many as 9 children with a percentage of 12%.

The results of the research show that the distribution of frequencies based on the education of children is spread out, 51 children who have not attended school with a percentage of 68%, 15 children who are still in elementary school with a percentage of 20%, while 9 children in junior high school with a percentage of 12%.

**Table 2. Relationship between Hospitality and Anxiety**

		Worry				Total	%	P-Value
		Light	%	Currently	%			
Diagnosis	Single	28	70	7	17.5	35	87.5	0.089
	Complications	2	5	3	7.5	5	12.5	
	Total	30	75	10	25	40	100	
Treat	3 days	23	57.5	2	5	25	62.5	0.002
	> 3 days	7	17.5	8	20	15	37.5	
	Total	30	75	10	25	40	100	
Environment	Well	23	57.5	6	15	29	72.5	0.117
	Not enough	7	17.5	4	10	11	27.5	
	Total	30	75	10	25	40	100	
Knowledge	Enough	22	55	1	2.5	23	57.5	0.001
	Not enough	8	20	9	22.5	17	42.5	
	Total	30	75	10	25	40	100	

**Table 3. Relationship between Hospitality and Stress**

		Stress				Total	%	P-Value
		Light	%	Currently	%			
Diagnosis	Single	14	40	11	31.5	25	71.5	0.155
	Complications	3	8.5	7	20	10	28.5	
	Total	17	48.5	18	51.5	35	100	
Treat	3 days	15	42.8	10	28.6	25	71.4	0.037
	> 3 days	2	5.8	8	22.8	10	28.6	
	Total	17	48.6	18	51.4	35	100	
Environment	Well	15	42.8	11	31.4	25	71.4	0.073
	Not enough	2	5.8	7	20	9	25.8	
	Total	17	48.6	18	51.4	35	100	
Knowledge	Enough	6	17.2	1	2.8	7	20	0.036
	Not enough	11	31.4	17	48.6	28	80	
	Total	17	48.6	18	51.4	35	100	

**Table 4. Analysis of the relationship that is most related to stress and anxiety of parents at Batara Siang Pangkep Hospital**

		B	SE	Wald	df	Sig.	Exp(B)	95% CI for EXP(B)	
								Lower	Upper
Step 1a	diagnosis	1,281	.790	2,632	1	.105	3,601	.766	16,928
	LM	2,033	.729	7.766	1	.005	7.636	1,828	31.902
	knowledge	3.466	1,131	9,389	1	.002	32.022	3.487	294,033
	environment	2,980	1.117	7.120	1	.008	19,687	2.206	175,701
	Constant	-14,452	3,642	15,743	1	.000	.000		

Based on table 3, it is known that the most related variable is the level of knowledge of parents. Where the variable level of parental knowledge obtained Exp (B) of 32,022 with the largest value of several other independent variables on the stress and anxiety variable of parents at Batara Siang Hospital Pangkajene Islands.

## DISCUSSION

### *Relationship between Child Diagnosis and Stress and Anxiety in Parents*



Diagnosis is a term adopted from the medical and medical fields as a process for determining the type of disease by looking at the symptoms that appear. According to (Harriman 1965), diagnosis is an analysis of abnormalities or misadjustments of the pattern of symptoms. Similar to medical terms, diagnosis is an activity to determine the type of disease by examining its symptoms. Based on this, diagnosis is the process of examining things that are considered wrong or problematic.

Parents who have moderate stress levels, parents whose children have a diagnosis of complications, it is known that on average they have neonatal babies. When parents receive information about the diagnosis of a child's illness, parents will be more anxious and afraid which can trigger stress. Excessive fear and worry for his infant child must feel pain and various medical equipment and medicines that must be consumed by the baby. The anxiety caused by parents with moderate levels of anxiety is due to the lack of experience or knowledge about the diagnosis of the child's disease before.

The data for single diagnoses with moderate anxiety levels were 7 people with a percentage of 17.5%. It is known that parents who have a moderate level of anxiety because they are worried about their child's condition if they know the diagnosis of the disease and must be treated with medical devices attached to the child's body, especially if the parent is the first time their child is admitted to the hospital. This is what triggers parents to tend to overreact such as rising blood pressure or feeling weak like passing out so that it can trigger stress. Although the results of statistical tests do not show a relationship between a child's diagnosis of parental anxiety, in fact parents feel anxious if their child is sick.

As for the level of severe anxiety with a diagnosis of complications in children as many as 3 people with a percentage of 7.5% are parents who have newborns (neonatal). The Neonatal Intensive Care Unit (NICU) is a hospital unit dedicated to the care of very sick infants. Generally, a baby is sent to the NICU because he or she is premature and prone to various kinds of health problems. Critically ill babies can also spend time in the NICU. For parents, the NICU can be a very scary place that triggers parental anxiety (Aisyah 2012).

The result of p-value is  $0.089 > 0.05$ , which means that there is no relationship between the diagnosis of children's disease and parental anxiety. The results of different studies were found by (Yeni, Novayelinda & Karim 2014) and (Audina, Onibala & Wowiling 2017) that there is a relationship between diagnosis in children with anxiety levels in parents. According to him, parents who receive information about the diagnosis of children's diseases, parents will be more anxious and afraid which can trigger stress. Study Steedman (2007) also shows that listening to the doctor's decision about the diagnosis of their child's illness is an event that greatly increases the stress of parents.

### **The Relationship of Long Caring for Children to Stress and Anxiety in Parents**

*Length of stay* (LOS) or length of stay is one indicator of the quality of medical services provided by hospitals to patients (quality of patient care). Length of hospitalization shows how many days a patient is hospitalized in one treatment period (Lubis & Susilawati 2018). When someone is hospitalized, what is expected is a change in their health status. If what is expected by both the medical staff and the patient has been achieved, then of course no one wants to linger in the hospital. The length of hospitalization was significantly reduced since there was knowledge about matters relating to proper diagnosis. To determine whether the reduction in length of stay increases efficiency or inappropriate treatment, further investigations of the disease and treatment outcomes are needed. (Apriany 2017).

Based on the results of the analysis, it was found that the length of stay for children was 3 days with a mild stress level of 15 people with a percentage of 42.8%. This is because the length of stay of the child only lasts for 3 days. The duration of hospitalization is closely related to the presence of parental stress, because it is related to economic factors, where the faster the duration of hospitalization, the smaller the cost of care and treatment. Even other factors are also mentioned in Sarinti's research (2007) in (Apriany 2013), that the length of hospitalization is one of the factors that can cause stress to parents regarding the hospitalization of children, this is related to a person's inability to adapt to a new and unfamiliar place. At Batara Siang Hospital, Pangkajene Islands, most of the financing is financed by BPJS. Even so, parents feel they still need additional costs for needs while the child is hospitalized. Some working parents still get financial assistance from the company where the parents work. Work as a family support for financial needs. This is in accordance with the opinion of (Nursalam 2011) which states that work is a condition that must be done especially to support life and family life.

As for the length of waiting for child care for >3 days with mild stress as many as 2 people with a percentage of 5.8%. The results showed that both the length of stay of the child was >3 days with a mild stress level because the child had been treated before, the medical action was in accordance with the procedure and the medical personnel on duty were always on stand-by. The experience of stress that occurs in parents is caused by not getting information or lack of information about the child's condition, prognosis, treatment plan and diagnostic examination. This information allows them to understand situations that were not previously known (Majdaleni 2014). Although stress on parents still arises, however, the procedure for treatment and care at Batara Siang Hospital Pangkajene Islands has been explained by nurses and doctors beforehand.

As for the length of days of care for children for 3 days with moderate stress levels as many as 10 people with a percentage of 28.6%. The results show that if parents are first treated at the hospital, it will cause severe stress. Significant changes occurred and required both the child and the parent to adapt to the child care room and hospital environment. From these changes, of course, it will cause discomfort to the child, for example the pain experienced so that the sleep pattern is irregular and triggers the child to continue crying until he experiences tantrums. This is what causes stress on parents to increase when experiencing hospital treatment. There are several factors that cause parental stress related to hospitalization of children, namely the seriousness of the threat to the child,

For the results of statistical tests using chi-square analysis, the results showed that the waiting time for child care was 3 days with a mild level of anxiety as many as 23 people with a percentage of 57.5%. There are several factors put forward by parents related to the length of hospitalization for children, namely the seriousness of the threat to the child, the experience of hospitalization, health or medical procedures in disease diagnosis and treatment and the role of the parents themselves. The role of parents in reducing anxiety due to hospitalization is by providing closeness to children and parents staying 24 hours maintaining contact between the two, preparing children psychologically to take care actions and providing physical proximity to children so that children always feel comfortable.

While the waiting time for child care is >3 days with a mild level of anxiety as many as 8 people with a percentage of 20%. Prolonged hospitalization in children can cause anxiety in parents where the anxiety response is the most common thing experienced by parents when there are health problems for their children, because children are part of their parents' lives so that if there are experiences that interfere with the child's life, parents will feel anxious or stressed. Parents tend to show feelings of anxiety if the care of their child is the first treatment for parents and children, feelings of anxiety and stress can arise if parents lack emotional, social support from the family, relatives and health workers in dealing with their child's illness (Kustiawan, 2010) in (Yeni, Novayelinda & Karim 2015).

The waiting time for child care is 3 days at a moderate level of anxiety as many as 2 people with a percentage of 5%. Parents tend to show feelings of anxiety if their child's care is the first time care for parents and children. The experience of parents when their child has to be hospitalized is a stressful experience. This happens because of a change in the role of parents when children are treated in a hospital environment. Parents need to provide support for children who are being cared for and pay attention to other family members at home.

While the length of waiting for child care for > 3 days with moderate levels of anxiety as many as 8 people with a percentage of 20%. Researchers assume that the longer the patient is treated, the family's anxiety will increase, this is influenced by the condition of the patient the longer it is treated, especially those who are treated in the ICU, meaning that the patient is not stable and requires special handling and complete equipment so that the patient cannot be transferred to the room normal and this causes the family worry and anxiety. If they know the child will be treated for a long period of time, parents will help to bring new toys, meet the needs of the child during treatment, read books about hospitalization or doctor visits with children (Rismalinda, 2017) in (Daryono 2018).

The results of the p-value of 0.043 <0.05 which means that there is a relationship between the length of waiting for children's care and the level of anxiety in parents at the Batara Siang Hospital Pangkajene Islands. Research conducted by (Kaban, Damanik & Siahaan 2021) and (Sitorus, Utami & Prabawati 2020) that there is a correlation between the length of stay of the child and the anxiety of the parents. This is because parents feel anxious when their child is sick and at the same time are required to play an important role elsewhere. Parents who have children hospitalized are a stressor for parents who often experience anxiety and depression during their child's hospitalization.

### ***The Relationship of Nursing Environment to Stress and Anxiety in Parents***

The patient care environment is everything related to patients who are or are in treatment period that can affect the health and stability of the patient while being treated and undergoing treatment at a health care facility. Inpatient care is a form of hospital health care service where the patient stays or stays for at least one day. Inpatient is an individual health service, which includes observation, diagnosis, treatment, care, medical rehabilitation, by staying in an inpatient room at a hospital health facility where for medical reasons the patient must stay overnight. Inpatient services are hospital services that are given bed rest in a hospital.

According to Pulungan et al., (2017) that to provide a safe environment for children, for example an environment that is protected from dangers such as falling out of bed, family or the closest person is always near the child. In addition to a safe environment, it is also comfortable for patients, such as limiting visitors so that children can rest.

As for the less environment with the same stress level as many as 2 people with a percentage of 5.8%. Based on the results of the study, it is known that if parents get an inadequate environment when doing treatment at the hospital, what must be done is to entertain children, one of which is bringing their favorite toy. According to Pulungan et al., (2017) if the puskesmas or hospital does not have play facilities for children, nurses must be creative in making toys from simple tools or materials available in the puskesmas environment. In addition, families can also bring their children's favorite toys from home. This method is quite influential in reducing stress on parents because children will be easily distracted from uncomfortable feelings both from within their bodies and in the conditions of their care environment. So that during the treatment period, parents are not too stressed about the condition of the child who may be fussy due to his discomfort in the hospital environment.

As for a good environment with a moderate level of stress as many as 11 people with a percentage of 31.4%. If a child is treated in a hospital, getting good care will please the child, but in fact, even though the child care environment is in good condition if the child is in a hospital environment, the first thing to remember is some medical devices such as syringes and medicines. The child's previous experiences can cause trauma when they are in a hospital environment. Excessive reactions in children such as tantrums or fussiness throughout the day because they are afraid that when they see a doctor or nurse they will feel they will be injected or given medicine. So that in the treatment process it will be difficult for parents and will take longer to undergo treatment.

As for the environment that is less with a moderate level of stress as many as 7 people with a percentage of 20%. This is because parents lose control which occurs because their children will be hospitalized, especially if there are restrictions on activities. The loss of control has an impact on changing roles in the family, children lose their social groups because they are used to playing activities or social interactions, feeling afraid of death and physical weakness that is felt due to environmental changes. If these changes occur in children, it will automatically affect the stress level of parents. Where because they are not used to or for the first time to be in a hospital environment, it creates a sense of fear and discomfort in being in a hospital environment.

The p-value of  $0.073 > 0.05$ , which means that there is no significant relationship between the environment of the child care area and the stress and anxiety of parents at Batara Siang Hospital, Pangkajene Islands. Different results were presented by (Khairani & Olivia 2018) that children who are hospitalized will try to adapt as well as with their parents. Problems experienced by parents when their children are cared for include changes in lifestyle, financial problems, working conditions, changes and conditions of other family members. In addition, changes in lifestyle felt by parents are changes in work schedules and routines such as bathing, sleeping and waking up.

The statistical test results obtained a good treatment environment with a mild level of anxiety as many as 23 people with a percentage of 57.5%. This is caused when the child experiences unfamiliar feelings with the surrounding environment and foreign to his sick body condition. The results of the study indicate that parents who experience mild stress are because their children are aged 6-13 years where children at this time are familiar with their surrounding environment. Children at this age can think concretely, they can understand better and they can be prepared for hospitalization. An explanation of the procedures performed must be given realistically, because school-age children cannot understand abstract explanations.

The environment is less with a mild level of anxiety as many as 7 people with a percentage of 17.5%. When a child has to be hospitalized in poor environmental conditions, it can affect the child's psychological and developmental development due to limitations in activities. Children will feel anxious, depressed, and sad when hospitalized. This will make parents feel anxious to see the condition of their children. It is known that the level of parental anxiety is caused by being more concerned with the health of their children than the lack of facilities or hospital environmental conditions.

For a good environment with a moderate level of anxiety as many as 6 people with a percentage of 15%. Based on the results of the study found that the emergence of anxiety in parents because they have to deal with situations or circumstances such as being in a new environment especially in a hospital environment. If parents are the first to adapt to the hospital environment, of course they will experience excessive fear, but parents who have experienced this will certainly get used to it and know what needs to be done.

In a less environment with the same level of anxiety as many as 4 people with a percentage of 10%. This is due to the fact that child care at the hospital forces the child to separate from the environment he loves, namely his family and especially his social group and causes anxiety in the child, which of course will also affect the parents. Anxiety reactions that arise due to hospitalization are different for each person, because staying in a hospital is not a pleasant experience, where the patient must follow the rules and routines of the room. Some parents feel anxious about hospitalization, this can develop into an uncomfortable feeling and tend to be scary.

The p-value is  $0.117 > 0.05$ , which means that there is a significant relationship between the environment of the child care area and the anxiety of parents at Batara Siang Hospital, Pangkajene Islands. The different results were presented by Hermalindaa, Deswitaa & Sarfika (2019) that there is no relationship between the environment and the level of anxiety in parents due to previous experiences. According to Siwahyudati (2017), hospitalization experiences are more easily accepted by school-age children who already have contact with the outside environment than children who have never been separated from their parents.

#### ***Relationship of Knowledge Level to Stress and Anxiety in Parents***

According to Notoatmodjo (2007), knowledge is the result obtained or known from a person's senses such as sight, smell, and so on. Based on this knowledge, parents can act as educators and motivators for their children. Parents who have good knowledge can prevent children early by doing things that they should do and what they should avoid. According to (Mubarak 2007), the factors that can affect the level of knowledge, among others, education, interests, occupations, information, culture, age and experience.

Based on the results of statistical tests using chi-square analysis, it was found that the knowledge of parents was sufficient with mild stress levels as many as 6 people with a percentage of 17.2%. This is due to sufficient knowledge of parents so that they are able to think more rationally even though they are in an unstable state because they have to worry about their child's condition. It is also known that the knowledge possessed by parents is certainly motivated by the level of education. Education has an effect on parenting patterns in children undergoing treatment in hospitals. Good parenting will support the participation of parents in care. The results of research conducted by (Miyati, Rasmani & Fitrianingtyas 2021) that the level of parental education has a significant effect on child parenting. Suriani & Faridah (2009) in their research also explain that parents with higher education are more supportive of their children while being cared for than parents with low education. Parents with low education lack an adequate understanding of how to maintain the health of their children.

The knowledge of parents is sufficient with a moderate level of stress as much as 1 person with a percentage of 2.8%. This is motivated by the fact that parents who have sufficient knowledge on average have a job. Parents who are not too busy with their work are more supportive than working parents. Kit-Fong (2008) explained that working parents cannot leave their jobs, so parents ask for the help of nurses to look after their children in the ward while the parents are working. So that as long as parents work, they leave their children in other family members or in hospital nurses and this is what increases stress on parents because they have to leave their sick child.

Lack of parental knowledge with moderate stress levels as many as 7 people with a percentage of 48.6%. Conditions that indicate moderate stress experienced by parents because of their educational background, besides that some parents do not know further information about the disease suffered by their children. An unstable mindset will affect the psychology of parents because of their fear of bad things experienced by their children, causing severe stress to parents.



The p-value of  $0.036 < 0.05$  means that there is a significant relationship between parental knowledge and parental stress at Batara Siang Hospital, Pangkajene Islands. The same research was also conducted by Kurniawan (2008) and Marlina & Imelda (2019) that there is a relationship between knowledge and the level of stress and anxiety of parents. Where the lower the level of knowledge of a person, the higher the level of anxiety. According to Apriany (2017) that some of the respondents whose children were hospitalized had poor health knowledge due to limited information on their children's health. This is reinforced by the absence of counseling about health, as well as the lack of health promotion media for parents whose children are undergoing treatment (hospitalization).

Based on the results of statistical tests using chi-square analysis, it was found that the knowledge of parents was sufficient with mild anxiety levels as many as 22 people with a percentage of 55%. The results showed that the effect of knowledge on parental anxiety showed that parents who had knowledge about their child's illness tended to have mild anxiety compared to parents who had less knowledge. According to (Indrayani & Santoso 2012) the importance of providing understanding to parents by health workers while the child is being treated. One method that can be used is to provide health education related to knowledge about children's diseases and types of medical actions.

Lack of parental knowledge with the same level of anxiety as many as 9 people with a percentage of 22.5%. Someone who has less knowledge tends to experience severe anxiety. Vice versa, someone who has high knowledge, the more knowledge he knows, the anxiety will be easier to overcome. According to (Supartini 2004) that lack of information about procedures and treatment of children can cause parental anxiety to increase and if the information obtained is not correct it will cause parents to panic and anxious responses will also increase.

The p-value of  $0.001 < 0.05$  means that there is a significant relationship between parental knowledge and parental anxiety at Batara Siang Hospital, Pangkajene Islands. Based on research results Andriyani & Darmawan (2020) it can be seen that the majority of the respondents experienced a mild level of anxiety. This is because the respondents had enough to overcome the tension and anxiety due to hospitalization experienced by their children, the ability to control the mother's self because the room nurse was good enough in providing nursing interventions to the mother so as to minimize her anxiety.

Based on this it can be shown that the level of maternal anxiety can be overcome by providing nursing interventions because the focus of nursing interventions is minimizing stressors, maximizing the benefits of hospitalization, providing psychological support to family members and preparing children before being hospitalized. One form of nursing intervention in families related to hospitalization is to provide information.

Respondents with higher education are better able to use their understanding in responding to fracture events in an adaptive manner compared to groups of respondents with low education. This condition shows that the response to severe anxiety tends to be found in respondents with low education because of their low understanding of the incidence of fractures so that they form a frightening perception for them in responding to fracture events.

### ***Factors Most Associated with Stress and Anxiety in Parents***

Based on the results of the analysis showed the most related variable, namely the level of knowledge of parents. Where the variable level of parental knowledge can explain Exp(B) of 32,022 to the stress and anxiety variables of parents at Batara Siang Hospital Pangkajene Islands.

Knowledge or cognitive is a very important domain for the formation of one's actions (ovent behavior). Behavior based on knowledge will be more lasting than behavior that is not based on knowledge (Notoatmodjo 2010).

Parents who have good knowledge about hospitalization are able to take advantage of the positive impact of hospitalization of their children, while parents who have less knowledge most of the respondents have a tendency to experience worries, fears, and even stress on the negative impacts of hospitalization of their children because mothers do not understand less about hospitalization.(Supartini 2012).

Based on this it can be shown that the level of maternal anxiety can be overcome by providing nursing interventions because the focus of nursing interventions is minimizing stressors, maximizing the benefits of hospitalization, providing psychological support to family members and preparing children before being hospitalized. One form of nursing intervention in families related to hospitalization is to provide information.

In relation to the disease, treatment procedures and prognosis, the child's emotional reaction to being sick and being treated as well as the emotional reaction of family members to the sick child and being offered (Muhaj 2009). In addition, nursing interventions are important to be carried out by nurses by increasing self-control for families because experiences facing crises such as illness or hospitalization will provide opportunities for self-control (self-mastery) (Suliswati 2005).

## CONCLUSION

Based on the discussion in the previous chapters, it can be concluded as follows: 1). There is no relationship between children's diagnosis of stress and anxiety of parents at Batara Siang Hospital Pangkajene Islands where the value of Sig. respectively  $0.155 > 0.05$  and  $0.089 > 0.05$ . 2). There is a significant relationship between the length of stay of children on stress and anxiety of parents at Batara Siang Hospital Pangkajene Islands where the value of Sig. respectively  $0.037 < 0.05$  and  $0.002 < 0.05$ . 3). There is no significant relationship between the environment and the stress and anxiety of parents at Batara Siang Hospital Pangkajene Islands where the value of Sig. respectively  $0.073 > 0.05$  and  $0.117 > 0.05$ . 4). There is a significant relationship between knowledge of stress and anxiety of parents at Batara Siang Hospital Pangkajene Islands where the value of Sig. respectively  $0.036 > 0.05$  and  $0.001 > 0.05$ . 5). The most related factor with stress and anxiety of parents at Batara Siang Hospital Pangkajene Islands is knowledge with an Exp (B) value of 32,022.

## SUGGESTION

Based on the results of the analysis and conclusions in this study, the suggestions that researchers can convey are as follows: 1). This research can be used as an alternative action in reducing stress and anxiety experienced by parents due to hospitalization because it will mutually affect the child so that with this parents are able to control stress and anxiety on themselves. 2). For hospitals, it can be used as input for related hospitals in providing informational care, especially in reducing anxiety to parents due to hospitalization in the community, so that children can adapt to the hospital environment. 3). For institutions, the results of this study can be used as input or a source of information and knowledge base for public health students.

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## Declaration of Conflicting Interest

All authors state that there is no potential Conflict of Interest in this research and article.

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