# Validity and Reliability of Hospitalization Anxiety Scale Based on Parent Perception in Children Age 1-6 Years

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***Abstract***

*Hospital is a stressful experience for both children and their families. The main stressors could be in the form of separation from family, loss of control, bodily injury, and pain. In clinical practice, nursing assessments in identifying anxiety in children and parents were often challenging. Nurses tended to focus on the physical problem of children than on physicological respond. This research aimed to test the validity and reliability of parents' perception scale about hospitalization anxiety of children aged 1-6 years. The research used a descriptive-analytic research design with a cross-sectional study approach. The sample in this research were 34 parents taken by accidental sampling technique. The sample criteria were children undergoing hospitalization aged 1-6 years and being treated for more than one day. Data were collected using a questionnaire for parents' perceptions about the anxiety of hospitalization for children aged 1-6 years. This questionnaire consisted of 18 items ranging from never to often. The researcher used the Cronbach alpha test and Pearson product-moment to analyze the data. The results showed that 15 items were valid and reliable (r> 0.339) and Cronbach's Alpha value = 0.885). We could conclude that the scale was valid and reliable in measuring parents' perceptions about the anxiety of hospitalization for children aged 1-6 years. Further research was needed to test the effectiveness of this scale in a practical setting.*

***Keywords:*** *Children, hospitalization anxiety, reability and validity*

**Abstrak**

Hospitalisasi merupakan pengalaman penuh stres baik bagi anak maupun keluarganya. Stresor utama yang dialami dapat berupa perpisahan dengan keluarga, kehilangan kendali, perlukaan tubuh dan rasa nyeri. Pengkajian keperawatan dalam mengidentifikasi kecemasan pada anak dan orang tua dalam praktik klinis sering sulit untuk dilakukan oleh pemberi layanan perawatan, karena selama ini fokus layanan adalah untuk mengatasi masalah fisik pada anak dan mengabaikan respon psikologis anak. Penelitian ini bertujuan untuk menguji validitas dan reabilitas skala persepsi orang tua tentang kecemasan hospitalisasi anak usia 1-6 tahun. Metode penelitian menggunakan desain penelitian deskriptif analitik dengan pendekatan *cross sectional study*. Sampel dalam penelitian ini adalah 34 orang tua yang diambil dengan teknik *accidental sampling*. Kriteria sampel adalah anak yang menjalani hospitalisasi yang berusia 1-6 tahun dan sudah dirawat lebih dari 1 hari. Data dikumpulkan dengan menggunakan kuesioner persepsi orang tua tentang kecemasan hospitalisasi anak usia 1-6 tahun. Kuesioner ini terdiri dari 18 pernyataan dengan rentang dari tidak pernah samapi sering. Data di analisis dengan uji *cronbach alpha* dan *pearson product moment*. Hasil didapatkan bahwa terdapat 15 pernyataan yang valid (r>0.339) dan reliabel (nilai Cronbach's Alpha= 0.885). Dapat disimpulkan bahwa skala persepsi orang tua ini valid dan reliabel dalam mengukur persepsi orang tua tentang kecemasan hospitalisasi anak usia 1-6 tahun. Penelitian lanjutan diperlulkan untuk menguji keefektivan alat ukur ini dalam tatanan praktik.



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**Kata kunci:** anak, kecemasan hospitalisasi, reabilitas dan validitas

## INTRODUCTION

Hospitalization can be a threatening and stressful experience for children due to the unfamiliar environment, medical procedures, and not knowing why they are being treated. This condition can result in responses in children such as anger, uncertainty, anxiety and feelings of helplessness (Saharan, 2017). When sick, the children cry easily, are more dependent on their parents, feel afraid and sad, and are very susceptible to showing anxiety. (Gomes & Nóbrega, 2015).

If hospitalization is necessary, the emotional status of children becomes negative because they feel far from home, away from the family or change their routine habits, and the child is in an unfamiliar environment as a hospital environment where the child has to undergo several invasive and painful procedures (Gomes & Nóbrega, 2015). Children who experience critical illness will show extreme stress. This condition is due to invasive procedures, separation from family, critical condition of other children and child death (Rennick et al, 2014).

When being hospitalized, children will show different behaviours. Among these behaviours, the nurse needs to identify anxiety and formulate it as a nursing diagnosis that has never been measured in the family context (Gomes & Nóbrega, 2015). A previous study suggested a need for an assessment with a biopsychosocial approach to children which aims to overcome anxiety appropriately during preoperative, early recoveryrev, and relief postoperative's pain (Moura et al., 2016).

Nurses can reduce the psychosocial impact of hospitalization on children by demonstrating the importance of individual experiences and feelings during hospitalization and helping children and their families adapt to the hospital environment (Obaid, 2015).

In 2018, a study aimed to identify anxiety responses in parents and children. The result showed that the child's response to hospitalization was relatively high. Children's anxiety was identified based on age, starting from babies aged 0-1 years to toddlers aged 1-3 years, 4-6 years, 6-12 years and 12-18 years. The most common anxiety behaviour at toddler and pre-school age is hugging parents tightly during painful procedures, running towards parents and crying to parents. It is not uncommon for children to carry out aggressive actions such as kicking, hitting and biting (Herman, Nurshal, & Sarfika, 2018).

Based on the results of the previous study, it is necessary to evaluate the validation and reliability of the instrument to measure hospitalization anxiety in children based on parent's perceptions. This study aims to test the validity and reliability of a scale measuring parents' perceptions of hospitalization anxiety in children aged 1-6.

## METHODS

The study used a sectional study approach. Sampling in this research used a non-probability sampling technique with an accidental sampling approach that happened to exist when the research was conducted. Thirty-four parents with children aged 1-6 years participated in this study. The sample criteria are children aged 1-6 years who have undergone treatment or hospitalization for over one day.

The instrument used in this study was a questionnaire about hospitalization anxiety in children aged 1-6 months. This questionnaire consists of 18 questions regarding the anxiety response to hospitalization in children aged 1-6 years, ranging from never=1, rarely=2 and



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often=3. Parents were asked to complete the questionnaire based on their perception of the children's response during hospitalization. Validity test using pearson product moment, which assesses the accuracy of each question on the measuring hospitalization anxiety. Meanwhile, Cronbach alpha were used to test the internal consistency of the items.

This study has received approval from health research ethic committee of RSUP Dr. M.Djamil Padang, in 2019.

## RESULTS

The results explain the frequency distribution of each statement item and the results of the validity and reliability tests of the questionnaire used.

**Table 1.** Hospitalization anxiety of children aged 1-6 years based on parent's perception

| No | Anxiety responsed | Frequency | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| 1 | The child is seen crying | 4 | 14 | 16 |
| 2 | The child like to snapped and angry with other | 15 | 11 | 8 |
| 3 | The child rebel physically, such as kicking, hitting, biting, and pinching | 13 | 15 | 6 |
| 4 | The child is sad and moody because being hospitalized | 10 | 9 | 15 |
| 5 | The child looks lethargic, weak and inactive | 8 | 11 | 15 |
| 6 | The child does not want to talk to other | 10 | 14 | 10 |
| 7 | The child cannot sleep well | 3 | 14 | 17 |
| 8 | The Child wakes up in the middle of the night | 4 | 13 | 17 |
| 9 | The child is difficult to wake up | 18 | 16 | 0 |
| 10 | The child does not finish the food that provided | 8 | 18 | 8 |
| 11 | The child refuses to eat | 11 | 12 | 11 |
| 12 | The child depends on other and become less independent | 15 | 8 | 11 |
| 13 | The child urinates frequently | 3 | 10 | 21 |
| 14 | The child is seen shaking when interacting with health workers and taking nursing action | 5 | 15 | 14 |
| 15 | The child looks pale when talking to the health worker and the nursing action will be taken | 8 | 16 | 10 |
| 16 | The child looks sweaty, especially when the nursing action is about to be carried out | 7 | 16 | 11 |
| 17 | The child looks restless | 7 | 12 | 15 |
| 18 | The child looks tense and afraid | 8 | 10 | 16 |

Note: 1=never, 2=rarely, 3=often

Table 1 provides information on the description of hospitalization anxiety of children aged 1-6 years based on parents' perceptions. The study's results showed that the most frequent anxiety response shown by children aged 1-6 years was 21 children urinating frequently. Another typical anxiety response children often show is being unable to sleep well (n=17) and waking up in the middle of the night (n=17). The following anxiety response that often occurs in children is that the child is seen crying and looks tense and afraid, with a frequency of 16 children.

**Table 2.** Validity test of hospitalization anxiety scale base on parent's perception

| No | Items | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|
| 3 | rebel physically* | 0.127 | 0.879 |
| 13 | urinates frequently * | 0.171 | 0.876 |
| 9 | difficult to wake up * | 0.262 | 0.873 |
| 1 | The child is crying | 0.359 | 0.87 |
| 8 | wakes up in the middle of the night | 0.368 | 0.87 |
| 14 | shaking when interacting with health workers | 0.428 | 0.868 |
| 10 | does not finish the food | 0.478 | 0.866 |
| 12 | Not independent | 0.486 | 0.866 |



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| | | | |
|---|---|---|---|
| 7 | cannot sleep well | 0.496 | 0.866 |
| 2 | snapped and angry | 0.51 | 0.865 |
| 6 | does not want to talk to other | 0.514 | 0.865 |
| 15 | looks pale when talking to the health worker | 0.521 | 0.864 |
| 4 | sad and moody | 0.575 | 0.862 |
| 11 | refuse to eat | 0.59 | 0.861 |
| 16 | sweaty, especially when the nursing action is about to be carried out | 0.623 | 0.86 |
| 5 | lethargic, weak and inactive | 0.719 | 0.856 |
| 18 | tense and afraid | 0.719 | 0.856 |
| 17 | looks restless | 0.759 | 0.854 |

Note *: not valid, r value < 0.33

Table 2 shows the validity of each item. The result revealed that 15 anxiety statements or response items have an r value > 0.33. So it can be concluded that the 15 anxiety response statements of children aged 1-6 years, according to parents' perception, are declared valid.

**Tabel 3.** Reliability test of hospitalization anxiety scale base on parent's perception

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .885 | .884 | 15 |

Table 3 describes the reliability of the hospitalization anxiety scale of children aged 1-6 years based on parent's perceptions. The reliability test results show a Cronbach's Alpha value = 0.885. This shows that this scale is reliable for measuring the anxiety response to hospitalization in children aged 1-6 years.

## DISCUSSION

This study found that 15 items were declared valid for measuring the anxiety response of children aged 1-6 years according to parental perception. Items related to anxiety responses in children aged 1-6 years include seven physical and eight psychosocial responses. The child's physical anxiety response consists of refusing to eat, not finishing food, not being independent, shaking when interacting with health workers, waking up in the middle of the night, not being able to sleep soundly, and looking pale when interacting with health workers. Meanwhile, when hospitalized, children's psychological responses include crying, shouting and getting angry, not wanting to talk to other people, being sad and depressed, looking tense or scared, and looking restless.

Toddler-aged children often feel afraid of new people they meet, and they can remember traumatic events. When a child is sick and faced with an unfamiliar environment, the child's anxiety response becomes more severe. Children's behavioral responses include asking parents to stay, reacting with temperamental behavior and refusing to carry out usual routines. As a result, this affects the child's ability and can even result in regression in toilet training and refusal to eat (Kyle, 2013).

The synthesis of conceptual elements is a guide for measuring hospitalization anxiety in children in the context of health service providers. Some attributes are classified into biological requirements such as pupil dilation, tachycardia, tremor, changes in appetite, dyspnea, and insomnia. And psychological needs which include fear, anxiety, hyperactivity, impulsivity, agitation, feeling insecure, impotence, feeling guilty, self-harm, feeling neglected, feeling alone, nervousness, irritability, crying and decreased concentration (Gomes & Nóbrega, 2015).

Several studies on childhood anxiety disorders generally focus on anxiety symptoms as a psychopharmacologic disorder. Anxiety disorders in children include generalized anxiety disorder, social phobia, and social anxiety disorder (Wehry et al. 2015). Identification of the consequences or impact of hospitalization



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anxiety in children, which may cause children to experience depression, mood disorders, generalized anxiety disorders, phobias, panic disorders, separation anxiety disorders, post-traumatic stress disorders, and obsessive-compulsive disorders (Gomes & Nóbrega, 2015).

Although there are some signs of anxiety disorders, they differ from focused fears in children. In separation anxiety disorder, the child's fear relates to separation from parents or caregivers. Children with separation anxiety are permanently attached to their parents, have difficulty sleeping alone, refuse to go to school, and show somatic symptoms due to separation. Children with generalized anxiety disorder also express fear of danger to family members, but this is not a focus of concern for the child. Children with social anxiety disorder, also known as social phobia, can show shyness and, in severe cases, show behavior that refuses to talk to people they do not know, especially adults. (Ramsawh, Chavira, & Stein, 2010)

*The revised child anxiety and depression scale-parent version (RCADS-P)* is a widely used parent-report measure developed to assess anxiety and depression in children in schools and clinics. Three hundred-seven children and adolescents aged 3 to 17.5 years were used as samples. In the analysis, the researchers divided the sample into two groups: a smaller group of children (152 children aged PAUD to grade 2) and a larger group of children (grades 3 to 12 with a sample size of 155). The results show that RCADS-P has acceptable validity and reliability values. RCADS-P in the younger group of children consists of 6 subscales, namely separation anxiety disorder (r=0.51), generalized anxiety disorder (r=0.56), panic disorder (r=0.42), social anxiety disorder (r=0.57), obsessive-compulsive disorder (r=0.59), Major Depression disorder (r=0.65) (Ebesutani., Tottenham., & Chorpita, 2015).

Based on the conceptual definition, it is essential to identify anxiety caused by unfamiliar environments, separation from family and social circles and having to live with unknown people. Children also undergo various invasive procedures and actions that can cause pain. (Gomes & Nobrega, 2015).

To minimize psychosocial stress due to hospitalization in children, it is necessary to understand the causes and needs of children and effective interventions when children are treated. Nurses can reduce the psychosocial impact of hospitalization on children by showing the importance of individual experiences and feelings during hospitalization and helping children and their families to adapt to the surrounding environment (Obaid, 2015).

## CONCLUSION

The parent perception scale regarding hospitalization anxiety aged 1-6 years consists of 15 items. The statistical test results showed that all question items were valid and reliable in measuring anxiety in hospitalized children aged 1-6 years.

Further research is needed to test the implementation of the parent perception scale regarding hospitalization anxiety for children aged 1-6 years in a clinical setting, evaluate its effectiveness, and develop strategies to create policies regarding its implementation in nursing service practice.

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