PROCEEDING

2nd Banten International Conference on Health Advancement & Research
binar@poltekkesbanten.ac.id
https://binar.poltekkesbanten.ac.id/
Vol. 1 No. 2 (2026)

THE RELATIONSHIP BETWEEN THE LEVEL OF NURSES' KNOWLEDGE IN IDENTIFYING PAIN RESPONSES TO THE IMPLEMENTATION OF PAIN MANAGEMENT IN TODDLER-AGE PATIENTS IN THE PEDIATRIC WARD OF TANGERANG CITY HOSPITAL

Irma Safitri[1], Endang Suartini[2]

Politeknik Kesehatan Kemenkes Banten,

endang.suartini@poltekkesbanten.ac.id

ABSTRACT

Background, Toddler patients who are undergoing treatment require attention from nurses because at this age the child is not able to tolerate the pain he feels. Preliminary studies conducted by researchers found that nurses have not been able to identify the pain response of *toddlers* properly. **The objective is** to analyze the relationship between the level of knowledge of nurses in identifying pain responses to the implementation of pain management in toddler-age children in the pediatric ward at the Tangerang City Regional General Hospital. **Research Methodology,** A type of analytical research with *a Cross Sectional* approach, data analysis using *the Chi Square test*. The population in this study is all nurses who are in charge of treating pediatric patients in the inpatient of the Tangerang City Regional General Hospital, the number of samples is 30 respondents. **The results,** based on the results of *the chi square* test, it is known that there is a significant relationship with *the p value* of 0.004 < 0.05. **Conclusion,** The level of nurse knowledge in identifying pain responses affects the good implementation of pain management in *toddler children* in the pediatric ward at the Tangerang City Regional General Hospital.

Keywords: Nurse Knowledge, Pain Management, Toddler Patients

INTRODUCTION

Illness and hospitalization in childhood are a separate problem that children must face because they can cause stress and trauma. One of the main stressors in children is pain and is a very worrying experience for children. Sources of pain during hospitalization include medical procedures, nursing procedures, and diagnostic procedures (Jannah, 2016).

Pain occurs simultaneously with the onset of the disease or at the same time as some diagnostic or treatment examination. Repeated medical procedures will cause recurrent pain in the child. During the provision of daily medical services in the hospital, health workers are inseparable from the need to carry out invasive measures. Children's behavioral activities during the treatment process show that children experience pain, especially for the age group of 1-3 years (toddler age children). *Toddlers* are different from adults who have verbal abilities and express pain appropriately, this is because toddlers are not able to tolerate the pain they feel. Toddlers' responses to pain are crying, increased blood pressure; breathing; pulse (physiological response), and children tend to protect the part that feels pain (Silalahi, 2022).

Toddlers continue to react with strong emotional anger and physical resistance to both actual and perceived pain experiences. *Toddlers* can react to painless procedures just as harshly as painful ones. Toddlers tend to be more restless and very active when in pain. This response is often unknown as a result of pain (Sembiring, 2015).

According to Nursalam (2016), pain experienced by patients if not handled properly can be detrimental to patients because they experience things such as lack of quality of life, sleep disorders, and functional disorders

physical. Furthermore, pain can result in despair that inhibits the patient's response to the

treatment given. Adequate pain management is one of the important indicators of the quality of health services in hospitals as well as patient safety and satisfaction.

Nurses are health workers who interact directly with patients, obtain information about patients and become a liaison with other medical personnel. Regarding the care of toddler children , of course, the role of nurses is to help parents face problems related to the care of their children in the hospital because the nurse is next to the patient for 24 hours. Pain patients rely on loving, empathetic and patient-centered professional nursing that aims to achieve effective and satisfactory pain management. The health outcomes that patients obtain lie in the type of care provided by the nurse when the nurse performs her role (Silalahi, 2022).

Patients who are experiencing pain generally want a pain-free state, so the patient hopes for medical personnel so that the pain they are experiencing can be reduced or disappear soon. Leaving patients sick without an effort in providing optimal care is highly unethical. This reality immediately encourages medical personnel to be able to overcome it. In terms of overcoming the pain experienced by patients, medical personnel carry out strategies or methods that are often referred to as pain management (Cristiani, 2016).

Pain management is an effort to reduce pain to a level of comfort that the patient can accept. Pain management is divided into two types, namely pharmacological and non-pharmacological pain management. Pharmacological pain management is an effort or strategy to cure pain using painkillers.

The dominant medical personnel in pharmacological management are doctors and pharmacists. Meanwhile, non-pharmacological pain management is a pain healing strategy without the use of drugs but rather a *caring behavior*. Therefore, the dominant role of medical personnel is nurses because they are in direct contact with nursing duties (Cristiani, 2016).

In the treatment of pediatric patients, a nurse has an important role in the implementation of pain management, and effective pain management can be done if the nurse is knowledgeable, trained and experienced. Nurses need to understand that pain management should be patient-centered care. There is a need for training and retraining on effective pain management (Odunayo & Olalek, 2020).

Nurses should know that the pain experienced by the child is manifested by the pain response. The pain response of neonates, infants, toddlers, preschool age and adolescents is different. A reaction to pain is a physiological and behavioral response that occurs after perceiving pain. The physiological response is divided into Sympathetic stimulus (increased heart rate, peripheral vasoconstriction, increased blood pressure, increased blood sugar values, diaphoresis, increased muscle strength, pupil dilatation, decreased GI motility) and parasympathetic stimulus (pale face, hardened muscles, decreased heart rate and blood pressure, rapid and irregular breathing, fatigue and fatigue). Behavioral responses to pain can include verbal statements (groaning, crying, shortness of breath, snoring), facial expressions (grimacing, gritting teeth, biting lips), gestures (restlessness, immobilization, muscle tension, increased finger and hand movement), contact with others/social interactions (avoiding conversations, avoiding social contact, decreased attention span, focusing on pain-relieving activities) (Lastri, 2019).

A study of nurses in Saudi Arabia conducted by Samarkandi (2018) entitled *Knowledge and attitudes of nurses toward pain management*, shows that nurses working in Saudi have a low level of knowledge and attitude of pain management especially in issues related to pain treatment, it is known that from 247 questionnaires, more than half of nurses (50.6%) reported having no previous pain education in the last 5 years. Nurses' inadequate knowledge and negative attitudes towards pain assessment and management are alarming global concerns. Healthcare facilities must improve the competence of nurses through continuous education and training programs, adopt the latest guidelines and remove barriers to achieving holistic patient care including optimal pain management (Samarkandi, 2018).

The results of several studies conducted in Indonesia generally also show that nurses' knowledge and attitudes towards pain management are still inadequate, such as a study at the ER of Siloam Hospital Kebon Jeruk in Jakarta showing that 19 respondents (100%) had insufficient knowledge about pain management, and none of the respondents had a good attitude about pain management (Parhusip, 2020). Similarly, a study conducted by Sya'rani (2016) entitled Overview of Emergency Installation Nurses' Knowledge of Pain Management concluded that almost all emergency room nurses of Dr. Moewardi Surakarta Hospital had poor knowledge about pain management, namely 51 respondents (98.1%). So it is hoped that the hospital will pay more attention and facilitate nurses to improve their knowledge and pain management skills (Sya'rani, 2016).

The Tangerang City Regional General Hospital is one of the Technical Implementation Units (UPT) under the Office Health of Tangerang

City. The Tangerang City Hospital was established as an effort by the Tangerang City Regional Government in providing comprehensive health services to the community, especially the people of Tangerang City. Based on secondary data at the Tangerang City Hospital, from January to March 2022 there were 312 pediatric patients treated in the pediatric intensive care unit, of which 95 children (30%) were aged 1-3 years (*toddler* age) who required special attention in identifying their pain responses.

Based on the results of a preliminary study in the form of interviews with 6 nurses in the pediatric care room of Tangerang City Hospital who have worked for more than 1 year which researchers conducted randomly, all of them said that they could not identify the child's pain response properly, the assistance carried out could not be carried out optimally, and most of the nurses said that they had never participated in training on pain education in the last 5 years.

Based on this, the researcher is interested in conducting a research entitled "The Relationship between the Level of Knowledge of Nurses in Identifying Pain Response to the Implementation of Pain Management in *Toddler Children* at the Tangerang City Regional General Hospital".

MATERIALS AND METHODS

Quantitative research with a descriptive type of analysis using the *cross sectional method* was carried out on all nurses who are in charge of caring for pediatric patients at the Tangerang City Hospital. This study used *total sampling* and obtained a sample of 30 respondents.

The instrument in this study used the FLACC pain scale and the observation sheet was adapted from Mahendra (2014). This instrument has been tested for validity and realism with a *Cronbach Alpha* value of 0.977.

1. Respondent Characteristics

   The results of this study show that the frequency based on the age of the respondents, namely most of the respondents are <35 years old, as many as 21 nurses (70%), while those who are old ≥35 years old as many as 9 people (30%). The distribution of respondent characteristics can be seen in table 1.1.

   The frequency based on the gender of the respondents was that most of the respondents were female as many as 19 nurses (63.3%), while the male gender was 11 nurses (36.7%). The distribution of respondent characteristics can be seen in table 1.2.

2. Nurse Knowledge and Implementation of Pain Management in Toddlers

   The frequency based on knowledge in identifying toddler pain responses is that most of the respondents have good knowledge in identifying toddler pain responses as many as 21 nurses (70%), while those who have less knowledge are 9 nurses (30%). The frequency distribution of the description of patients' learning needs can be seen in table 2.1.

   The frequency based on the implementation of pain management in *toddlers* is that most of the respondents have good implementation of pain management in toddlers as many as 19 nurses (63.3%), while those who implement less management are 11 nurses (36.7%). The frequency distribution of the description of patients' learning needs can be seen in table 2.2.

3. Bivariate Analysis

   Respondents who have good knowledge in identifying pain responses have good pain management implementation, which is as much as 17 people (81.0%), while respondents who had good knowledge in identifying pain responses had the implementation of pain management was lacking as many as 4 people (19.0%). And for respondents who had less knowledge in identifying pain responses, 2 people (22.2%) had good pain management implementation, 7 people (77.8%) had poor knowledge in identifying pain responses.

   From the results of a statistical test using *Chi Square* in the form of a *crosstab, a* p value *of 0.004 < 0.05 was obtained, which means that at alpha 5% statistically there was a significant relationship between the level of nurses' knowledge in identifying the pain response to the implementation of pain management in* toddler children *at the Tangerang City Regional General Hospital, with* the value of the Odd Ratio (OR) 14.875 means that nurses with a good level of knowledge in identifying pain responses are 15 times more likely to be able to perform pain management in *toddlers* well than nurses with a low level of knowledge in identifying pain responses. The frequency distribution of the description of patients' learning needs can be seen in table 3.1

RESULTS AND DISCUSSION

Based on the results of the study, respondents who had knowledge in identifying pain responses had good pain management implementation, namely 17 people (81.0%), while respondents who had knowledge in identifying pain responses had sufficient pain management implementation as many as 4 people (19.0%). With

the Chi Square statistical test in the form of a crosstab, a *p value* of 0.004 < 0.05 at alpha 5% of the analysis results means that there is a significant relationship between the levels nurses' knowledge in identifying pain responses to the implementation of pain management in toddler children in the Pediatric Ward of Tangerang City Hospital.

This result is in line with the results of a previous study conducted by Anis Afidah (2013) at Dr. Moewardi Hospital Surakarta, the results of *the Chi-square* test were obtained with *a p value* = 0.031 < 0.05 which shows that there is a significant relationship between nurses' knowledge about pain and the pain assessment behavior of *toddlers*.

Knowledge is a continuous formation by a person who at any time undergoes reorganization due to new experiences, knowledge can be obtained by a person naturally or intervened either directly or indirectly (Budiman & Riyanto, 2013). Knowledge is a very important domain in shaping a person's actions, one of which is the implementation of pain management in *toddler* children. *Toddlers* who are experiencing pain want a pain-free state, but are not yet able to express it. The nurse must be able to identify the pain response so that the pain that the toddler is experiencing can be reduced or disappear immediately. In nursing education, nurses have been introduced to pain management, both pharmacological and non-pharmacological, so nurses should already have good knowledge about pain management.

According to the researcher's analysis, the knowledge about pain management obtained by nurses while in college needs to be maintained. Retaining knowledge can be done by recall (*Recall*). Therefore, nurses must get refreshed information to improve the ability of nurses in the implementation of pain response identification, especially in children *Toddler* through education, training, and attending seminars related to the implementation of management pain.

Table 1.1

Frequency of Respondents Based on Age in the Children's Ward of the Tangerang City Regional General Hospital

Age	Quantity	Percentage (%)
< 35 years old	21	70
≥ 35 years old	9	30
Total	30	100

Table 1.2

Frequency of Respondents by Gender in the Pediatric Ward of the Tangerang City Regional General Hospital

Gender	Quantity	Percentage (%)
Women	19	63,3
Male	11	36,7
Total	**30**	**100**

Table 2.1

Frequency of Respondents Based on Knowledge in Identifying Pain Responses in the Children's Ward of the Tangerang City Regional General Hospital

Knowledge in Identifying Pain Response	Quantity	Percentage (%)
Good	21	70
Less	9	30
Total	**30**	**100**

Table 2.2

Frequency of Respondents Based on the Implementation of Pain Management in Toddlers in the Pediatric Ward of the Tangerang City Regional General Hospital

Implementation of Pain Management in Children *Toddler*	Quantity	Percentage (%)
Good	19	63,3
Less	11	36,7
Total	**30**	**100**

Table 3.1
The Relationship of Nurses' Knowledge Level in Identifying Pain Response to the Implementation of Pain Management in Toddler Children in the Pediatric Inpatient Room of Tangerang City Hospital

Nurse Knowledge in Identifying Pain Response	Implementation of Pain Management in *Toddler Children*				Quantity		P Value	OR
	Good		Less					
	n	%	n	%	N	%		
Good	17	81,0	4	19,0	21	100	0,004	14,875
Less	2	22,2	7	77,8	9	100		
Quantity	19	63,3	11	36,7	30	100		

Which is related to the implementation of pain management.

From the results of the study, it was found that there was a compatibility between the theory and the results of the study, namely nurses with a good level of knowledge in identifying the pain response *of toddlers* related to the good implementation of pain management in *toddler children*.

CONCLUSION

The results of this study showed a significant relationship between the level of nurses' knowledge in identifying pain responses to the implementation of pain management in toddler-age children in the pediatric ward at Tangerang City Hospital with *a p value* of 0.004 < 0.05.

REFERENCES

Abd El-Gawad, S. M., & Elsayed, L. A. (2015). *Effect of interactive distraction versus cutaneous stimulation for venipuncture pain relief in school age children*. Journal of Nursing Education and Practice. Accessed from https://www.sciedu.ca/journal/index.php/jnep/article/view/5816/3789 dated August 27, 2022.

Af Idah, Anis. (2013). *The Relationship between the Level of Nurses' Knowledge of Pain and the Behavior of Pain Assessment of Toddlers in the Melati II Room of the Hospital Dr. Holiday rentals in Surakarta*. University of Muhammadiyah Surakarta. Accessed from http://eprints.ums.ac.id/14763 August 27, 2022.

Arikunto, S. (2016). *Research Procedure A Practical Approach*. Jakarta: Rineka Cipta.

Bahrudin, Mochamad. (2017). *Pathophysiology of pain (pain).* Volume 13 Number 1 of 2017. Accessed at https://ejournal.umm.ac.id/index.php/sainmed/article/download/5449/524 6/14282 dated August 27, 2022.

Budiman & Riyanto A. (2013). *Capita Select Questionnaire Knowledge and Attitudes in Health Research*. Jakarta: Salemba Medika.

Canbulat, N., Inal, S., & Sonmezer, H. (2014). *Efficacy Of Distraction Methods On Procedural Pain And Anxiety by Applying Distraction Cards and Kaleidoscope in Children*. Asian Nursing Research. Accessed from https://www.asian-nursingresearch.com/action/showPdf?pii=S1976-1317%2813%2900066-2 August 27, 2022.

Cristiani Goddess Mayasari. (2016). *The Importance of Understanding Pain Management No Pharmacology For a nurse.* Journal of Health Insights, Volume: 1, Number 1, June 2016. Accessed from https://stikessantupaulus.e-journal.id/JWK/article/download/13/ 5/ August 13, 2022.

Goddess, Bella Arinda Mashita. (2018). *The Relationship between Attitudes and Experience in the Implementation of Pain Management in Nurse Towards the Implementation of Postoperative Patient Pain Management*. Journal of Surgical Medial Nursing Science 1 (1), May 2018, 1-43. Retrieved from https://garuda.kemdikbud.go.id/documents/details/971356 27 August 2022.

Dharma, Kusuma Kelana. (2013). *Nursing Research Methodology : Guide to Implementing and Implementing Research Results*. Jakarta : Trans InfoMedia

Lasri Sumantri thought. (2019). *Overview of Toddler Pain Response with Invasive Procedures at Roemani Hospital Semarang*. University Muhammadiyah Semarang. Accessed from http://repository.unimus.ac.id/3505/ August 13, 2022.

Hidayat, Alimul Aziz. (2017). *Nursing Research Methods and Techniques Data Analysis*. Jakarta: Salemba Medika.

Hockenberry, M. J., & Wilson, D. (2015). *Study Guide for Wong's Nursing Care of Infants and Children* - E-Book (11 th edit).

Jannah, Nur Ifdatul. (2015). *Level Overview Stress On Children School Age With Hospitalization at the hospital Pumpkin Wedge*. Faculty of Medicine, Alauddin State Islamic University, Makassar. Accessed from https://repositori.uinalauddin.ac.id/1576/1/NUR%20IFDATUL%20JANNAH.pdf August 13, 2022 Kebung, Konrad. (2021). *Philosophy of Science Knowledge*. Jakarta: Cerdas Pustaka Publisher.

Kusrini, Erna S. (2020). *Effectiveness of Therno Stimulation, Musical Sttimulation and Thermomusical on the Scale of Pain and Anxiety in Toddler Children Who Perform Venous Puncture Actions*. Semarang: University Muhammadiyah Semarang. Accessed from http://reader.repository.unimus.ac.id/index.php/display/file/4381/1/ August 27, 2022.

Mahendra, Stephen Oka. (2014). *Overview of Pain Management in Children Post Surgery Performed by Nurses Reviewed from the Perspective of Parents in the Orchid Room of Salatiga Hospital*. Satya Wacana Salatiga Christian University. Accessed from https://repository.uksw.edu/handle/123456789/9050 dated August 27, 2022.

Mubarak, W, I & Chayatin, N. (2017). *Community Nursing Sciences Introduction and Theory*. Jakarta: Salemba Medika.

Muhammad A.A. (2017). *Human Age Group Classification Based on Fractal Box Counting Dimension Analysis of Facial Imagery with Canny Edge Detection*. Scientific Journal of Mathematics Volume 2 No. 6. 2017. Accessed from https://jurnalmahasiswa.unesa.ac.id/index.php/4/article/view/19398/17715 August 27, 2022.

Nerslicious Academy. (2022). *FLACC Scale Pain Scale Assessment in Patients Pediatrics*. Development Portal Digital Indonesian Nursing Sciences. Accessed from https://www.nerslicious.com/skala-pain-flacc/ Date 27 August 2022.

Notoatmodjo, S. (2018). *Health Research Methodology*. Jakarta: Rineka Cipta.

Notoatmodjo, S. (2015). *Health Education and Behavior*. Jakarta: Rineka Cipta.

Nursalam (2016). *Nursing Management Applications in Practice Professional Nursing*. Jakarta: Salemba Media Publishers, Edition 5.

Odunayo, O. F., & Olalekan, P. R. (2020). *Knowledge as Predictors of Nurses Attitude Toward Effective Pain Management in Selected Secondary Hospitals in Ibadan, Oyo State, Nigeria*. African Journal of Health, Nursing and Midwifery, ISSN: 2689-9418, Volume 3, Issue 2, 2020. Accessed from https://abjournals.org/ajhnm/wp-content/uploads/sites/18/journal/published_paper/volume-3/issue-2/AJHNM_NKiYyK1O.pdf August 13, 2022.

Palmer, & Linnard, L. (2013). *Pediatric Digest: A Clinical Practice Book* (Angelina Bethsy, Ed.). Jakarta: EGC.

Parhusip, J. N. (2020). *Overview of Knowledge Level Nurse About Pain in the Siloam Emergency Unit, Kebon Jeruk Hospital*. Universitas Pelita Harapan, Tangerang Retrieved from https://onesearch.id/Record/IOS6381.3881 dated August 13, 2022.

Ridho, Muhammad Rasid. (2014). *How to Make Table Range Scale For Analysis Descriptive*. Emerer.com, Jakarta Retrieved from http://emerer.com/cara-membuat- table-range-scale-for-analysis-descriptive/ August 27, 2022.

Saifullah, Arif. (2015). *The Relationship between Nurses' Knowledge Level and Nurses' Actions in Postoperative Patient Pain Management in the Surgical Ward of Dr. Soehadi Prijonegoro Sragen Hospital*. STIKes Kusuma Husada Surakarta. Accessed from https://digilib.ukh.ac.id/files/disk1/24/01-gdl-arifsaiful-1171-1-thesis-p.pdf dated August 27, 2022.

Samarkandi, Osama Abdulhaleem. (2018). *Knowledge and attitudes of nurses toward*

pain management. Saudi Journal of Anesthesia, 12(2). Accessed from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5875209/pdf/SJA-12-220.pdf dated August 27, 2022.

Sembiring, J. (2017). *Textbooks for Neonatus, Infants, Toddlers, Preschool (First)*. Sleman: CV Budi Utama.

Sembiring, Sada Ulina. (2015). *Comparison of Pain Responses of Toddler and Preschool Children Who Have Undergone Invasive Procedures*. JOM Vol 2 No.2, October 2015. Accessed from https://media.neliti.com/media/publications/186290-ID-none.pdf August 13, 2022.

Please, Harlena Rose. (2022). *Knowledge Overview and Attitude Nurses Against Management Pain at Home Pain*. Journal Nurse Research Professional Volume 4 Number 2, May 2022. Accessed from http://jurnal.globalhealthsciencegroup.com/index.php/JPPP/article/view/925/649 August 13, 2022.

Soetjiningsih, IG. N. Gde Ranuh. (2014). *Children's Growth and Development Edition 2*. Jakarta: EGC Medical Book Publisher.

Sugiyono. (2016). *Educational Research Methods of Quantitative, Qualitative and R&D Approaches*. Bandung: Alfabeta.

Sujarweni, W. (2015). *Statistics for Health*. Yogyakarta: Media Style.

Swarjana, I. K. (2012). *Health Research Methodology*. Yogyakarta: ANDI OFFSET.

Sya'rani, F. U. (2016). *Knowledge Overview Nurse Emergency Installation on Pain Management*. University Holiday rentals in Semarang. Accessed from http://eprints.undip.ac.id/49458/ August 13, 2022

Wibowo, sister. (2014). *Practical Research Methodology in the Health Sector*. Jakarta Rajawali Press.

Wong, (2012). *Pediatric Nursing Textbook*. Jakarta: EGC.