

Description of Motivation, Knowledge, Attitudes, Perceptions, Cognition of Mothers in Nonpharmacological Pain Management due to Invasive Procedures in Children at Islamic Hospital in Surabaya

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Abstract: *Invasive procedures and being in a hospital can be painful and frightening experience for children and their parents. Pain is a condition that must be treated immediately, other than being unethical to leave the patient in a state of pain. The ability of a family is still low and can lead to minimal nonpharmacological pain management which can lead to negative psychophysiological effects, increased health costs and increased chronic pain syndromes that are in line with the child's response to the experience of pain in the future. This study aims to describe the mother's internal factors in nonpharmacological pain management due to invasive procedures in children at the Islamic Hospital in Surabaya. The study design was descriptive, cross-sectional with a sample of 96 respondents with purposive sampling. Research analysis with frequency distribution. The results showed mothers had 100% positive motivation, 54% good knowledge, 99% attitude positive, 66% negative perception, mother cognitive 55% very confident belief they can treat children who experience pain. High motivation, good knowledge, positive attitude, cognitive are very confident but negative perceptions about the nonpharmacological pain management ability. All internal factors of the mother have a positive value so this proves that the mother has good motivation, knowledge, attitude and cognition to be involved in dealing with pain in her child when an invasive action is taken. Nurses must be sure to involve mothers in nonpharmacological interventions to overcome pain in children who undergo out invasive procedures when hospitalized.*

Keywords: *Nonpharmacological Pain Management; Mother's Ability; Children*

I. INTRODUCTION

Pain is a complex, multidimensional, subjective experience that can be challenging for health professionals to assess and manage, particularly in infants and young children. Various pain tools have been validated for use in the assessment of pain in the pediatric population, but pain remains the forgotten 'fifth vital sign' in triage [1] and is often

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ignored. Despite the advancements in scientific knowledge and understanding of pain mechanisms and its assessment and management, current evidence suggests that pain in hospitalized infants and children remains poorly assessed and managed [2]. Patient pain is influenced by physiologic, psychological, social, chronobiologic, ethnic, and cultural factors, as well as circadian rhythms [3]. Education programs and protocols have been shown to improve management of pain in children although studies have also shown that knowledge and practice related to pediatric pain management can be incongruent [4].

Assessing and managing pain in hospitalized children is a challenging task compared with adults. Infants and young children, depending on their age and developmental stage, may not have the communication skills or the cognitive development to adequately describe their pain to reveal its nature, location, severity, or intensity and they may not be able to articulate the effects of analgesia and pain relief therapies. The parents may help or hinder pain assessment and management in their children, depending on their knowledge, understanding, and beliefs or misbeliefs about pain and its treatment and management. It is for these reasons that infants and children may experience unrelieved pain more often than adults as it goes unrecognized, untreated, or poorly managed. Effective pain management is every child's right. Regardless of a person's age, health professionals have a responsibility to alleviate pain and to manage it effectively for all patients under their care [2].

Leyener's research in 2017 positively states that interventions used to intensely reduce pain are very limited both in terms of resources. Mothers indicate a desire to be involved in their instant comfort during the procedure [5]. Effectiveness of parental involvement can reduce pain in invasive actions, namely children who are accompanied by parents who are involved in pain management show the lowest pain scale reduction compared to children whose parents are only present and groups of children whose parents are absent, therefore, there is a greater interest in allowing parents to be present when the procedure is carried out on their children in the emergency department.

Parents' role is important in the care of hospitalized infants and more so during procedures where their views inform decisions about pain practices. They are not only key participants in physical and behavioral pain-relieving interventions (e.g., breastfeeding, kangaroo care) but also advocate for minimalization of pain exposures and use of pain treatment interventions [6]. This trend means parents are in a position to help with managing their children's pain. It is therefore very important for parents to be well equipped with relevant knowledge to perform this role [7]. This study aims to describe mothers' motivation, knowledge, attitudes, perceptions, cognition in nonpharmacological pain management due to invasive procedures in children at the Islamic Hospital in Surabaya.

II. METHOD

The study design was descriptive, cross-sectional with a large sample of 96 mothers whose children were treated invasively. The sampling technique used is with purposive sampling. The variables are mothers' motivation, knowledge, attitudes, perceptions, cognition in nonpharmacological pain management. Research analysis with frequency distribution. The data of this study have been collected through a questionnaire. The questionnaire was developed by researchers based on similar research instruments that already existed. The questionnaire included five major sections. These included mothers' motivation factor (8 questions), cognition factor (18 questions), knowledge factor (8 questions), attitudes factor (8 questions), perceptions factor (9 questions), in pain management.

For collecting the motivation factor, attitudes factor, perceptions factor, a likert scale was used. For collecting knowledge factor the Guttman scale was used and for cognition factor a numeric rating scale from 0- 100. In the

process of collecting data, the researcher was assisted by a nurse in the room and students to disseminate the instrument (51 questions) to the mother of the child undergoing invasive procedures

The questionnaire was distributed on January 1, 2020, and collected in February 2020 by a group of four associated surveyors at two targeted child departments at RS Islam A.Yani Surabaya. The questionnaire included basic information about the expert such as age, education, and position/job. After the questionnaires were collected, experts' answers were extracted using the coding method and transferred to an excel spreadsheet. The data has been transferred to the coding excel spreadsheet and grouped to summarize similar opinions in tables to present the percentages. The ethical clearance in this study was given by the Health Research Ethics Commission (KEPK) Nahdlatul Ulama University Surabaya (Unusa).

III. RESULT

Demographic Characteristics of mothers which include age, education level, and occupation are explained in Table 1.

Table 1. Participants' Demographic Characteristics (n=96)

Characteristic	N	Percent (%)
Age		
<20	4	0,04
20-35	20	0,21
>35	72	0,75
The total samples	96	100
Education level		
Senior-junior high school	15	0,16
High school	51	0,53
Diploma-bachelor	30	0,31
The total samples	96	100
Occupation		
Have a job	56	0,58
Don't have a job	40	0,42
The total samples	96	100

The results showed mothers' age > 35 years, 75%, education level 53% moderate, and having a job 58%. Frequency distribution of mothers' motivation, knowledge, attitudes, perceptions, cognition factors in pain management due to invasive procedures in children at Islamic hospital in Surabaya are explained in Table 2 :

Table 2. Frequency Distribution of Mothers' Motivation, Knowledge, Attitudes, Perceptions, Cognition Factors in Pain Management due to Invasive Procedures in Children at Islamic Hospital In Surabaya (n=96)

Characteristic	N	Percent (%)
Motivation		
Positive	96	100
negative	0	0
Personal trait		
1. Knowledge		
High	52	0,54
Enough	41	0,44
Low	3	0,03
2. Attitude		
Positive	95	0,99
Negative	1	0,01
3. Perceived threat		
Positive	33	0,34
Negative	63	0,66
Cognitive		
Very confident	53	0,55
Confident enough	43	0,45
Low confidence	0	0

IV. DISCUSSION

Mother's internal factors in nonpharmacological pain management due to invasive procedures can be explained as follow. The motivation in this research means a strong maternal drive to meet the care needs of children for invasive procedures includes: 2) Physiological needs (sleep rest, mobilization, comfort, personal hygiene); 2) Safety & safety needs. The results showed mother have 100% positive motivation; mothers agree that children's sleep can be interrupted by invasive actions; because of this mothers need to learn how to prevent it. Adequate rest in my child can accelerate the healing process of the disease, children with pain can still move actively so I do not need to worry, mothers assist nurses in reducing pain due to invasive measures to meet comfort needs. Personal hygiene needs in children who experience pain can be delayed until the pain disappears.

Knowledge in this research means information that is known by the mother about nonpharmacological pain management in children under invasive measures. Mothers have good knowledge, 54%, mothers know that pain is an unpleasant feeling that can make a child feel scared and anxious, they know that the first sign of children experiencing pain when invasive actions are performed is crying; they know that getting involved in dealing with pain in children undergoing invasive actions can be by holding them; they know that showing a smiling face to a child in this situation is necessary and that distracting their attention by using light, videos, whistles, music is a way to reduce pain in children.

The attitude in this research means the reaction of closed feelings about mothers' beliefs about pain management includes: cognitive component, affective component (mother's feeling), conative component (tendency to behave). 99% of mothers have attitude positive, they agree to be involved by nurses in carrying out nonpharmacological pain management in their children in the case of invasive measures; they also feel responsible for the successful implementation of the nonpharmacological pain management performed by nurses, and want to help the nurse carry it out so that pain is reduced during invasive measures. They want to help the nurse carry out nonpharmacological pain management so that the child is not afraid/stressed during invasive measures.

Perception in this research means maternal perceptions of perceived health threats when treating infants in infusion: 1) threats to basic needs, 2) threats to danger 3) threats to loss of control. 66% of mothers have a negative perception; they do not agree that children with discomfort comfortable with pain can be alleviated; they agree pain is a normal thing that does not need to be treated, and that mothers do not need to be involved in managing pain in children who undergo invasive actions. They do not agree pain can have negative psychophysiology effects. However, pain affects all aspects of a child's life including appetite, the ability to move, social isolation, change in self-concept, depression and even suicidal thoughts, but they do not agree mothers can perform pain treatment independently on children who have infusion performed. This result means mothers still have a negative perception that must be corrected by health workers with increased understanding. Transfers of knowledge related to child care information can be provided through health education. Health education is a form of nursing intervention to improve family abilities. Nursing interventions are nurses' actions or responses, which include nurses' therapeutic actions, which appear in the context of the nurse-client relationship that has an impact on the individual, family or community function. Nursing interventions are intended to influence change, although no one can predict the progress of specific results [8]. Its effectiveness is influenced by the match between the intervention offered by the nurse and the physiological-spiritual structure of the client/family.

Cognitive in this research means the mothers' beliefs about her ability to care for children who experience pain with indicators: 1) Confidence in the ability to face the level of difficulty, 2) Confidence about expectations in all situations, 3) Strong or weak belief. For all the indicators mother cognitive 55 % high level confident belief can treat children who experience pain. That can be explained as 1) Confidence in the ability to face the level of difficulty at a moderate level, 2) Confidence about expectations in all situations at a high level, 3) Strong or weak belief at a high level.

Therefore mothers' internal factors must be explored first as a basis whether or not they need to be involved in dealing with pain due to invasive procedures in children. Parents are the most important source of support for children during hospitalization and painful procedures. Not being with people whom the child trusts in a hospital setting may reduce tolerance to pain during procedures experienced by the child. The most important emotional reactions that accompany pain are anxiety and fear. Anxiety usually occurs with acute and short-term pain. Previous studies have shown a direct relationship between anxiety and pain, either of which increases the severity of the other. Persons who experience high levels of anxiety are more sensitive to pain. Parental presence during painful procedures can make it easier for the child to cope with pain and anxiety [9] [5][10][11].

Based on data above review about parent support for children during hospitalization and painful procedures must be taken. The theory that supports this is Family-Centered Care. Family-Centered Care assures the health and well-being of children and their families through a respectful family-professional partnership. It honors the strengths, cultures, traditions and expertise that everyone brings to this relationship. Family-Centered Care is the standard of practice that results in high-quality services [2].

This definition applies to all children and their families and all health care practitioners, including pediatricians, family physicians, nurses, social workers, and other allied health care professionals. At its core is the transformational idea that the provision of health care is a partnership in which, families and practitioners work together for the child. As the child grows and is able to take on greater decision-making capabilities, he/she assumes a partnership role. For this family-professional partnership to succeed, each member must respect the skills and expertise the other partners bring to the relationship; partners must fundamentally trust each other's actions and motivations; communication must be open, and decisions must be made together, with a willingness to negotiate as needed [9].

Because the FCC concept is evolving, evidence concerning its effectiveness in improving outcomes for children is limited. Indeed, developing a sound evidence base for FCC is an important goal in its own right. However limited, the extant evidence, as summarized in the article by Kuhlthau and colleagues in this issue, supports the value of FCC in improving outcomes for children and families. Several studies demonstrate that FCC results in fewer hospitalizations, reduced hospital costs, improvements in medication use, reduced rates of unmet needs, and increased use of appropriate services. FCC interventions are associated with reduced symptoms, improved physical and mental health and functional status, and fewer missed school days for children with a number of chronic conditions, including asthma, diabetes, attention and behavior disorders, or traumatic brain injuries. Families who receive FCC report higher satisfaction, better communication, and greater ease accessing and using service systems [10].

The preponderance of studies show that FCC is associated with improved access and satisfaction, more appropriate utilization of services, and improved health and functional status, as well as reductions in the use of hospital care, suggesting potential cost savings for FCC, especially for children with significant health problems.

Fully embracing FCC can offer many rewards to practitioners, foremost being the greater satisfaction derived from knowing that the child's needs are better served when the family is a partner and is satisfied with care: 1)

Acknowledges the family as the constant in a child's life, 2) Builds on family strengths, 3) Supports the child in learning about and participating in his/her care and decision-making, 4) Honors cultural diversity and family traditions, 5) Recognizes the importance of community-based services, 6) Promotes an individual and developmental approach, 7) Encourages family-to-family and peer support, 8.) Supports youth as they transition to adulthood, 9) Develops policies, practices, and systems that are family-friendly and family-centered in all settings, 10) Celebrates success.

Family involvement in dealing with nonpharmacological pain is an important thing that nurses do in conducting nursing care based on the philosophy of child care, namely family-centered care. Family-centered care emphasizes the importance of family involvement and empowerment in caring for children. Research [11] shows the application of family-centered care in practice treating families with care, conveying information to families so that they understand the conditions of their child care, involving family participation in decision-making and child care, and cooperation between family and nurse.

Transfers of knowledge related to child care information can be provided through health education. Health education is a form of nursing intervention to improve family abilities. Nursing interventions are nurses' actions or responses, which include nurses' therapeutic actions, which appear in the context of the nurse-client relationship that have an impact on the individual, family or community function. Nursing interventions are intended to influence change, although no one can predict the progress of specific results [8]. Its effectiveness is influenced by the match between the intervention offered by the nurse and the physiobiological-spiritual structure of the client/family

V. CONCLUSION

The study results show that mothers have high motivation, good knowledge, positive attitude, cognitive are very confident but have a negative perception about the nonpharmacological pain management ability. Research suggestions not only measure the extent of an ability that is still abstract but also the implementation of the mother in the management of nonpharmacological pain in hospitals. The results of the study proved that the mother has good motivation, knowledge, attitude and cognitive so mothers are ready to be involved in pain management in children.

Managing children's pain is important for multiple reasons, including alleviating patient suffering, improving the success of evaluation and treatment, and preventing future negative health care experiences or avoidance of health care. Family involvement in dealing with nonpharmacological pain is an important thing that nurses do in conducting nursing care based on the philosophy of child care, namely family-centered care.

CONFLICT OF INTEREST

The authors have no conflicts of interest to disclose.

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REFERENCES

- [1] V. Melby, C. McBride, and A. McAfee, "Acute pain relief in children: Use of rating scales and analgesia," *Emerg. Nurse*, vol. 19, no. 6, pp. 32–37, 2011.
- [2] K. Alotaibi, I. Higgins, and S. Chan, "Nurses' Knowledge and Attitude toward Pediatric Pain Management: A Cross-Sectional Study," *Pain Manag. Nurs.*, vol. 20, no. 2, pp. 118–125, 2019.
- [3] K. Alotaibi, I. Higgins, and S. Chan, "Nurses' Knowledge and Attitude toward Pediatric Pain

- Management: A Cross-Sectional Study,” *Pain Manag. Nurs.*, vol. 20, no. 2, pp. 118–125, 2019.
- [4] R. Treadgold, D. Boon, P. Squires, S. Courtman, and R. Endacott, “Implementation of paediatric pain care-bundle across South-West England clinical network of Emergency Departments and Minor Injury Units: A before and after study,” *Int. Emerg. Nurs.*, vol. 43, pp. 56–60, 2019.
- [5] J. A. K. Leyenaar, E. R. O’Brien, L. K. Leslie, P. K. Lindenauer, and R. M. Mangione-Smith, “Families’ priorities regarding hospital-to-home transitions for children with medical complexity,” *Pediatrics*, vol. 139, no. 1, 2017.
- [6] J. Kyololo, O. M., Stevens, B. J., & Songok, “Mothers’ perceptions about pain in hospitalized newborn infants in Kenya,” *J. Pediatr. Nurs.*, vol. 47, pp. 51–57, 2019.
- [7] H. Y. Chng, H. G. He, S. W. C. Chan, J. L. W. Liam, L. Zhu, and K. K. F. Cheng, “Parents’ knowledge, attitudes, use of pain relief methods and satisfaction related to their children’s postoperative pain management: A descriptive correlational study,” *J. Clin. Nurs.*, vol. 24, no. 11–12, pp. 1630–1642, 2015.
- [8] M. Wright, L. M. , & Leahey, *Nurses and families: A guide to family assessment and intervention*, 3rd Ed. Philadelphia: F.A. Davis., 2000.
- [9] D. S. Sağlık and S. Çağlar, “The Effect of Parental Presence on Pain and Anxiety Levels During Invasive Procedures in the Pediatric Emergency Department,” *J. Emerg. Nurs.*, vol. 45, no. 3, pp. 278–285, 2019.
- [10] P. Arango, “Family-Centered Care,” vol. 11, no. 2, pp. 97–99, 2011.
- [11] X. E. Jones, P., Winslow, B.W., Lee, J.W., Burns, M., Zhang, “No Title Development of care giver empowerment model to promote positive outcome.,” *J. Fam.Nurs*, 17(1552-594X), vol. 17, no. 1552–594x, pp. 11–28, 2011.