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Penulis : Wesiana Heris Santy, I Dewa Gede Ugrasena, Yuni Sufyanti
Arief, Nur Hidaayah, Resti Utami

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Website : lppm.unusa.ac.id

Email : lppm@unusa.ac.id

Hotline : 0838.5706.3867

Analysis Factors Influencing Mother's Filial Values Related to Nonpharmacological Pain Management (Behavioral Intervention) in Toddlers Who Perform Infusion

by Wesiana Heris Santy

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ORIGINAL ARTICLE

Analysis Factors Influencing Mother's Filial Values Related to Nonpharmacological Pain Management (Behavioral Intervention) in Toddlers Who Perform Infusion

Wesiana Heris Santy^{1,4}, I Dewa Gede Ugrasena², Yuni Sufyanti Arief³, Nur Hidayah^{1,4}, Resti Utami^{1,5}

¹ Doctoral Program Faculty of Nursing, Universitas Airlangga, 60115 Surabaya, Indonesia

² Faculty of Medicine, Universitas Airlangga 60132 Surabaya, Indonesia

³ Department of Nursing, Faculty of Nursing University of Airlangga 60115 Surabaya, Indonesia

⁴ Department of Nursing, Faculty of Nursing and Midwifery, Universitas Nahdlatul Ulama Surabaya, East Java, Indonesia

⁵ Faculty of Health Universitas Muhammadiyah 68124 Jember, Indonesia

ABSTRACT

Introduction: Mother acts as the main source of comfort and assistance during illness. The mother's involvement is not optimal because, every time the nurse performs invasive actions such as infusion and injection, the patient's parents refuse to accompany their child because they cannot bear to see the painful treatment of their child so the child often cries, rebels and even kicks the nurse. The study aimed to analyze factors that influence mother filial values related to non-pharmacological pain management (behavioral intervention) in toddlers who perform infusion. **Methods:** The design was analytic with 115 mothers who have a toddler in Surabaya Islamic Hospital with purposive sampling. The independent variable is child, mother, and nurse factors and the dependent variable are mother's filial values. Data were taken by questionnaire and analyzed with Partial Least Square with a significance level of $p < 0.05$. **Results:** Filial values influenced by mother factors and child factors with the same p-value of 0.000 and path coefficient value mother's factor of 0.591 and the nurse factor of 0.27 meaning that it has a positive effect and the mother's factor has a greater influence. **Conclusion:** Mother's filial values are formed by the mother's factors, namely motivation and cognitive as well as the nurse factors.

Keywords: Mother, Nurse, Filial values, Toddler, Invasive

Corresponding Author:

Wesiana Heris Santy, M.Kep

Email: wesiana@unusa.ac.id

Tel: +081336672155

INTRODUCTION

The presence of parents during invasive procedures is necessary to relieve pain in toddlers. Family empowerment can help nurses and other health workers, but in its implementation, it is necessary to have a family empowerment scale [1] [2]. Family empowerment can be done by increasing the mother's self-confidence [2] (Filial values) and performing non-pharmacological pain management (behavioral intervention) in children who are put on by mothers with various training and education from nurses. The implementation of non-pharmacological pain management to treat pain during the hospitalization period by nurses is still low and until now the mother's filial value, which consists of responsibility, respect, and care in treating pain due to invasive

procedures has not been optimal. Meanwhile, nurses addressed the barriers to applying nonpharmacological pain management as lack of time, patient unwillingness, and patients' health beliefs. Nevertheless, nurses report that non-pharmacological pain management is less expensive and has fewer side effects than medication, and is demonstrated post-discharge [3]. The reality in the field is the mother's involvement is still not optimal because of the mother's opinion which states that pain management is the nurse's job, the mother is not confident in being able to accompany her child when an infusion is placed and also the nurse's reluctance to involve the mother because she is considered to be hampering invasive procedures due to excessive maternal worries. Where the basic goal of nursing care is to relieve pain and improve the quality of life of patients, including children [4].

Management of pain is inadequate, 35-55% of nurses underestimate the patient's pain and 64% of patients do not receive medication before or during painful procedures in the intensive care unit [5]. Findings from

Pain Management Practices in a Pediatric Emergency Room on pain management practice that 26.7% of children with moderate to severe pain received analgesics and only 16.7% received non-pharmacological interventions [6]. In a study in Arabia, 24.4% of children could not manage their pain effectively [7]. In a study in Turkey of 224 nurses 72.3% did not know the effectiveness of non-pharmacological interventions to reduce pain. In Islamic Hospital Surabaya, Indonesia 30 nurses' behavior toward pain management in children when invasive measures are carried out (observation sheets) (70.0%) 21 respondents are positive behavior and 20% have negative behavior. Parents' role is important in the care of hospitalized infants and more so during procedures where their views inform decisions about pain practices [8]. They are not only key participants in physical and behavioral interventions (e.g., breastfeeding, kangaroo care) but also advocates for minimalizing exposures and using other pain treatment interventions [9]. 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 filial values to perform this role [10]. Efforts to increase the filial value of mothers in treating pain due to invasive actions for toddlers by applying non-pharmacological pain management (behavioral intervention) based on family-centered empowerment need to be improved. Filial value of the family can improve the family's ability to care for leukemic children that have an impact on children's health indicators [11].

Behavioral intervention is a behavioral method that guides children's attention away from pain-related procedures (eg video recordings, games, interactive books) which includes breathing exercises, positive coping behavior modeling, desensitization, positive reinforcement, and parental coaching [12]. In *Caregiver Empowerment Model* it is suggested that when filial values are present, when certain resources are available where the resources in question are personal factors (mother factor) and family assistants, namely caregivers (nurses) (14). By increasing the mother's filial values including responsibility, respect, and care, it is hoped that the mother will make changes, and increase the ability to implement non-pharmacological pain management in children [10]. This study aims to describe the analysis of factors that influence mothers' filial values related to non-pharmacological pain management (behavioral intervention) in toddlers undergoing intravenous infusion.

MATERIALS AND METHODS

The study design was analytic with a sample of 115 mothers whose toddlers were infusion with inclusion criteria mothers who looked after their children while in hospital and exclusion criteria

mothers who refused to be respondents. The sampling technique used is purposive sampling. The variables are child factor (age, gender, health status, previous iv experience, psychosocial, social), mother factor (age, education, occupation, the experience of caring for sick children, cognitive (beliefs), motivational, personal threat and nursing factor (enabling, empowering, supporting) related to filial values mothers (responsibility, respect, care) in nonpharmacological pain management. Research analysis with SEM PLS with a significance level of $p < 0.05$. The data of this study have been collected on a questionnaire five likert scale: strongly agree, agree, moderately agree, disagree, strongly disagree. The questionnaire was developed by researchers based on similar research instruments that already existed before. The questionnaire consists of general data and specific data covering the four main variables: child factors, mother factors, nurse factors and filial values. The results of the validity test with the Pearson Product Moment on all instruments are all valid where the value of $r > 0.361$ and the results of the reliability test with the Cronbach Alpha test obtained a value of more than 0.7 meaning that all items are reliable. In the process of collecting data, the researcher was assisted by a nurse in the room with a google form.

The questionnaires have been distributed on the first of Agustus 2021 and has been collected in December 2021 in pediatric departments at two hospitals at RS Islam Surabaya. The questionnaire included basic information about the expert such as age, education, and position/job. After the questionnaires have been collected, experts' answers have been 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.

Ethical Clearance was approved by Research Ethics Committee, RS Islam A Yani dan Jemur Sari Surabaya no.025.EC.KEP.RSIAY.08.21 dan No.049/KEPK.RSI JS/IX/2021.

RESULTS

Child characteristics (X1)

The characteristic variables of children consist of 6 indicators, namely 1) age, 2) gender, 3) Health status, 4) previous infusion experience, 5) psychosocial, and 6) social [13]. Of the age of toddler 57% are aged 1-2 years, gender 57% is male, health status 97% is non-chronic, experience in previous infusions 62% have been installed infusion, child's anxiety of more than 23% is mild anxiety, moderate and panic, child social support when installed infusion 56% involved calming the child after infusing alone and there

are still 28% children are not accompanied by the mother when installed the infusion 56% involved calming the child after infusing alone and there are still 28% children are not accompanied by the mother when installed the infusion 56% involved calming the child after infusing alone and there are still 28% children unaccompanied by the mother when installed infusion (Table I).

Table I : Distribution of frequency of child characteristics in Surabaya Islamic Hospital, 2021 (n=115)

Indicators of children	f	%
Child age (year)		
1-2	66	57
2-3	49	43
Gender		
Male	65	57
Woman	50	43
Health status		
<i>Non chronis</i>	112	97
<i>Chronis</i>	3	3
Previous infusion experience		
Ever	71	62
Never	44	38
Psychosocial		
Not anxious	12	10
Mild anxiety	30	26
Moderate Anxiety	26	23
Severe Anxiety	21	18
Panic	26	23
Social		
The child is not accompanied by the mother	32	28
The child is accompanied by the mother.	64	56
Child accompanied by mother who is actively involved in reducing child pain	19	16

Mother’s factor (X2)

Variable Mother,s factor consists of 7 indicators, namely 1) the age of the mother, 2) the level of education, 3) occupation, 4) the experience of caring for a sick child, 5) Kognitive, 6) Motivation, 7) Personal trait or knowledge [14]. The mother’s age is an early adult 71% (26-35 years), the education level 66% is the upper education level, the mother’s employment status is not working 51% and 64% of mothers have had an experience of hospital care. Mothers are confident about their ability to care for children

who experience pain 98% have high confidence. The motivation of mothers to meet the needs of care in children who perform invasive actions is 60% high and the level of maternal knowledge about non-pharmacological pain management in children who performed invasive actions is 97% have a good level of knowledge (table II).

Table II : Distribution of mothers factor in Surabaya Islamic Hospital, 2021 (n=115)

Indicator	Category	f	%
Mother’s age	late teens (17-25)	13	11
	early adult (26-35)	82	71
	late adult (35-45)	19	17
	Early elderly (>45)	1	1
Education Level	Senior-Junior high school	5	4
	High School	34	30
Occupation	Diploma-Bachelor	76	66
	Have a job	56	49
	Don’t have a job	59	51
Previous experience caring for a sick child	Ever	74	64
	Never	41	36
<i>Cognitive</i>	Low	2	2
	Moderate	0	0
	High	113	98
Motivation	Low	0	0
	Moderate	46	40
	High	69	60
<i>Personal traits/ knowledge</i>	Good	112	97
	Enough	3	3
	Less	0	0

Nurse factor (X3)

The nurse factor variable consists of three indicators including; 1) enabling, 2) empowering, and 3) protecting. The ability of nurses to create an atmosphere that allows the potential of mothers to develop or enable 76% is high, the ability of nurses to improve the skills and potential of mothers in caring for children who experience pain due to invasive actions or empowering 64% is high and the ability of nurses to protect mothers and children by developing pain management systems or protecting 79% is high,

but of the three indicators >20% still has a moderate value (Table III).

Table III : Distribution of of nurse factors in Surabaya Islamic Hospital, 2021 (n=115)

Indicator	Category	f	%
Enabling	High	88	76
	Moderate	25	22
	Low	2	2
Empowering	High	74	64
	Moderate	38	33
	Low	3	3
Protecting	High	91	79
	Moderate	23	20
	Low	1	1

Filial value (X4)

The variable filial value consists of three indicators including 1) responsibility, 2) respect, and 3) care[15]. shows that of the three indicators of filial value, the indicator of respect in conducting non-pharmacological pain management (behavioral intervention) is the lowest with a result of 59% being to have moderate respect and there is still a low category of 15%. The responsibility indicator is the highest, which is 54% is a high responsibility and almost half are still in the medium category of 46% (Table IV).

Table IV : Distribution of variable filial values in Surabaya Islamic Hospital , 2021 (n=115)

Indicator	Category	f	%
Responsibility	High	62	54
	Moderate	53	46
	Low	0	0
Respect	High	30	26
	Moderate	68	59
	Low	17	15
Care	High	26	23
	Moderate	86	75
	Low	3	2

Analysis Sem PLS Result

To see the significance of the relationship between constructions, the T-test analysis of the path coefficient is used. The significant results for the mother's factor and the nurse's factor are the same, namely p 0.000, which means that both factors affect the filial value. The results obtained are the path coefficient value of the mother,s factor of 0.591 and the nurse factor of 0.27 meaning that it has a positive effect and the mother,s factor has a greater influence (which is a value that is useful in indicating the direction of the relationship between variables, whether a hypothesis has a positive or negative direction. Path coefficients have values that are in the range of -1 to 1) [16].

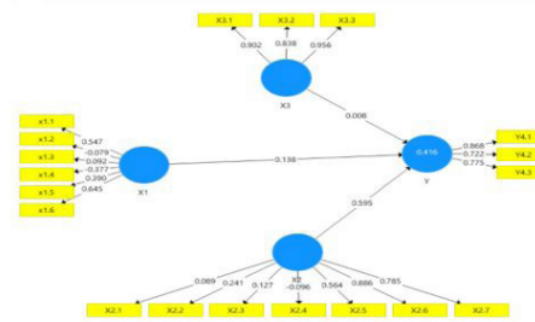


Figure1. analysis Sem PLS Result

Figure 1 : Analysis Sem PLS Result.

DISCUSSION

Based on the results above concluded factors that affect the filial value of the mother include :-

Child factor

Previous infusion experience: Children's experience related to the installation of previous infusions where the most results are sixty-two percent have never been infused before. So the current installation of infusions is their first experience for them. Psychosocial: About the child's ability to manage the feelings of fear that the mother helps the impact of invasive actions. All children who were installed infusion experienced mild anxiety to panic only ten percent were not anxious. In line with the results of research in Semarang, Indonesia, the pain scale of children who were placed in infusions had an average severe pain [17]. Social: Interpersonal relationships between mother and child that are associated with maternal involvement in pain management activities affect the sense of comfort received by the child. Mothers who accompany are more than mothers who do not accompany and mothers who are actively involved. The presence of

the mother is important but more meaningful if the mother is present and involved in reducing the pain and anxiety that occurs what happens to the child who performs infusion. Pain levels of children whose parents were present at their sides during invasive procedures and involved in the procedure were lower [18].

Mother Factor

Cognitive in this research means the mother's 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 indicators mothers' cognitive fifty-five percent high-level confident belief can treat children who experience pain. That can be explained 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. The strong or weak belief at a high level [19].

Motivation in this research means a strong maternal drive to meet the care needs of children for the invasive procedure including 1. Physiological needs (sleep rest, mobilization, comfort, personal hygiene), 2. Safety & safety needs. The results showed mother one hundred percent have positive motivation, mother agree that their child can be interrupted by sleep rest due to 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, mother assist nurses in reducing pain due to invasive measures so that 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%, of mothers know that pain is an unpleasant feeling that can make a child feel scared and anxious, she knows that signs of children experiencing pain when performing invasive action is crying, she knows that getting involved in dealing with pain in children who carried out invasive actions one of them by holding children, she knows that showing a smiling face on a child who is carried out invasive action is very necessary, she knows that divert attention by using light, videos, whistles, music is a way to reduce pain in children who carried out invasive actions.

Nurse factor

Enabling: The ability of nurses to create an atmosphere or climate that allows the potential of the mother to develop, Empowering: The ability of nurses to improve the skills and potential of mothers in caring for children who experience pain due to invasive actions,

supporting: The ability of nurses to protect mothers and children by developing a pain management system [1]. Of the three indicators of the ability of nurses all have high ability, this becomes the basic capital to improve services related to nonpharmacological pain management with nurses as a driver of mothers to be involved and active in managing nonpharmacological pain. Nurses play a key role in applying effective and different non-pharmacological therapies in surgical wards. Thus, nurses should be encouraged to demonstrate non-pharmacological pain management therapies with patients undergoing surgical procedures [3].

In line with research [20], there was a relationship between the knowledge and behavior of nurses about pain management in children during invasive procedures.

Filial Values

All of the above factors affect the mother's filial value. Filial value is the basic value of the mother consisting of an attitude of responsibility, respect, and the ability to care in performing non-pharmacological pain management (behavioral intervention). The attitude of caregivers obtained from trust and commitment to maintaining traditional values is believed to increase motivation to provide care [11]. Jones, Lee, and Zhang (2007) developed and tested a scale to measure filial values. Exploratory factor analysis identified there are 3 dimensions in measuring the filial value, among others: (1) the sense of responsibility of parents in caring for children, (2) the sense of parental concern for children, and (3) the desire of parents to care for children. The three dimensions of the filial value are expected to change how individuals assess the demands of parenting as a challenge instead of a stressor, contribute to the resources available to cope through a strong sense of purpose and meaning associated with giving back, affect access to family resources and use of community resources, indirectly affect results through resources and assessment [21]. Of the three factors above the most influential factor is the mother factor. Line with the increase in the mother's internal factors including Cognitive, motivation, and knowledge can increase the mother's filial values so that it will move the mother to be involved and active in reducing pain in children who have infusions placed.

CONCLUSION

The study result that the filial values of the mother are most influenced by the mother's own factor (internal factors) i.e. beliefs, motivation dan personal traits. The results of the study proved that the mother has good motivation, knowledge, attitude, and cognitive so the mother is 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 healthcare experiences or avoidance of healthcare. Parents are the most important source of support for children during hospitalization and painful procedures [18]. 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 Center Care [22][23]. Practitioners, especially nurses, actively involve and improve mothers' skills in reducing pain due to infusion in the hospital.

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