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Original Research

Nurses' Experiences of Providing Pain Management to Pediatric Patients in Indonesia

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Abstract

Inadequate pain management has been a worldwide concern for hospitalized children. Little is known about pain management for pediatric patients in Indonesia. This study explored nurses' experiences providing pain management in the pediatric unit. A qualitative descriptive approach was used. Fifteen nurses who worked in the pediatric intensive care unit and the pediatric, maternal-child, and general wards of the Islamic Teaching Hospital in Indonesia were interviewed by telephone due to the COVID-19 pandemic period. Based on content analysis, five themes were extracted from the data: ways to assess pain vary, working with colleagues, attitudes toward pain-relief strategies, enhancing parental understanding and involvement, and desire to have age-specific pain management training for pediatric patients. The results revealed issues nurses face in real contexts. Pediatric nurses need pain management training to improve their knowledge and skills.

INTRODUCTION

Pain, the most common complaint nurses encounter in pediatric hospital settings. It is a significant aspect of children's illnesses, as well as the treatments and procedures they receive, and is a source of worry for the child.[1-4] Up to 80% of pediatric department patients are subjected to unpleasant measures such as venipuncture, IV insertion and removal, blood sampling, injections, suctioning, and catheterization.[5] Research found that Children in the PICU undergo almost six times more painful operations per day than children in medical-surgical units [6], and PICU patients often have to receive many medical procedures that cause pain they cannot control.[7] However, inadequate pain management is a worldwide concern for hospitalized children.[8] For instance, numerous children do not get adequate pain medication and, as a result, suffer moderate to severe pain in the hospital.[9, 10] Due to the fact that painful procedures are often unexpected, they exacerbate stress and anxiety during hospitalization, resulting in traumatic experiences and negative associations with medical environments, all of which can negatively affect outcomes.[5]

The experience of moderate-to-high levels of continuous pain impacts pediatric patients both physiologically and

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psychologically. Physiologically, pain increases sympathetic responses, for example, resulting in increased cardiac effort to pump blood throughout the whole body and elevating stress hormones (cortisol). If pain is continuous, immunosuppression occurs and wound healing is delayed.[11] Psychologically, untreated or poorly treated pain in children may lead to chronic pain that can continue into adulthood, because of traumatic experiences during hospitalization.[12]

Nurse-related factors are one of the obstacles to pain assessment and management found in a variety of pediatric settings.[10, 13] Difficulty in pain management decision-making, insufficient knowledge about assessing and managing pain, and nurses' misunderstanding about the usage of opioid analgesics are the most significant obstacles to successful pain management.[10, 14] In Indonesia, insufficient pain management for pediatric patients is a result of nurses' lack f knowledge and training in pain assessment and management, which is not comprehensively discussed in either the Diploma or Bachelor of Nursing curriculums.[15]

Although many studies focus on pain and evidence about pain management in adults are available[16-19], the implementation of pain management for children is also less than ideal.[10] Therefore, nurses' provision of pain management for pediatric patients is a topic that needs to be explored. The purpose of this study is to understand how nurses provide pain management at different pediatric units in an Islamic hospital.

METHODS

This study used a qualitative descriptive approach[20] to investigate experiences and perceptions of pediatric nurses. The researcher did not make any inferences about the phenomena in order to remain close to the experiences of the participants.[21] The study was conducted during the coronavirus pandemic. Because of epidemic prevention regulations, we used one-to-one telephone interviews. The telephone interview, as an alternative to facilitate contact across time and space, can maintain anonymity of participants and therefore put them at ease about providing personal information.[22]

Purposive sampling was employed in an Islamic teaching hospital in Central Java Province, Indonesia. In this hospital, pediatric patients may be admitted into pediatric general, maternal-child, and VIP wards, as well as the pediatric intensive unit (PICU); therefore, nurses who worked in one of these four places and had experience providing pain management to pediatric patients met the criteria for inclusion in this study. Fifteen nurses (aged 26-47 years) participated: 4 from the pediatric general ward, 4 from the maternal-child ward, 3 from the VIP ward and 4 from the PICU. All participants were female, Muslim and had been working between 3 and 16 years. Ten of the nurses had nursing diplomas and five had bachelors in nursing. Six of them were team leaders on the wards.

The ethics committee board of the hospital approved the study (IRB No. 71 EC/KEPK/2020). Data were collected between November and December 2020. The third author recruited the nurses, making a telephone appointment with each participant to explain the study and inform them about the interview recording. The nurses who were willing to participate signed a written consent form and the date and time of the telephone interview was arranged. Each interview lasted 60 minutes and was conducted and recorded using the WhatsApp application. According to the semistructured interview guide, nurses were asked how they knew their pediatric patient was in pain, how the nurse dealt with their pain, what difficulties they had managing the patient's pain, and expectations regarding pain management skills. The researcher gathered demographic characteristics such as education, length of work, the nurses'

positions and the units they are assigned to . Participants were informed that they could terminate the interview at any time on request. New data from the interviews were continuously and repeatedly fit into the categories. As answers were consistent across participants, no further interviews were conducted after the 15th nurse. Each participant was referred to by a number to maintain anonymity.

The interview data was transcribed verbatim. To facilitate the analysis, the researcher double-checked the transcripts and the recordings to make sure they were accurate and reflected the interview's wholeness. Content analysis was used in analyzing the data. To gain a deeper comprehension of the data, the authors read and reread the transcripts multiple times. The researchers used inductive content analysis, dividing the data into smaller units, giving the content a code and naming the units, then grouping the coded unit-based shared concepts.[21] Themes within and among themes were identified.

The trustworthiness of the study was established based on the methods of Lincoln and Guba published in 1985.[21] The first author conducted all the interviews. To get rich data and ensure a good response rate, the interviewer introduced himself to the participants two weeks before the interview, building good rapport even before the interviews started. During the interview, the interviewer made brief notes about the patients' conditions as described by the participants. During the analysis, the authors reached a consensus and generated themes from the nurses' experiences. Then, the interviewer invited seven participants to review the findings and verify their accuracy. Their feedback supported the truthfulness and consistency of the findings.

RESULTS

Five themes emerged from the data: ways to assess pain vary, working with colleagues, attitudes toward pain-relief strategies, enhancing parental understanding and involvement, and desire to have age-specific pain management trainings for pediatric patients.

Ways to assess pain vary

Nurses responded that assessing pain is the first step in doing pain management. The hospital has pain management guidelines for patients of different ages and units, including when pain should be assessed, what instruments and interventions are available, and when to evaluate pain levels. Specifically, the nurses are required to assess pain at least once a shift if the patient has mild pain, every 3 hours for moderate pain, and every 30 minutes if the pain is severe. If the patient has unbearable pain, the nurse provides medication to relieve the patient's pain first and assesses the pain afterward. However, each nurse might use a different method to assess pain. One nurse described how she assessed the pain routinely.

> *Assessment is number one…, we must do it for every patient here. Whether there is pain or anxiety. It may be visible in the patient's hemodynamics on the monitor. Also nurses keep asking the patients whether they have pain or not, because that is the basis for taking further steps. During emergency conditions, we automatically give analgesics to reduce pain. (N1, PICU).*

Instead of using a range of assessment tools suggested in the hospital guidelines, the nurses use whichever pain scale is most frequently used in their units. One nurse said she would use two pain scales to validate a pain score, if needed.

> *First, if the patients complained they were in pain, I would use the Wong-Baker scale to assess it. If the patient had a low score, but he or she complained of severe pain, I would also use the COMFORT scale to make sure the result was valid…. (N12, PICU).*

Pediatric patients often experience pain in the post-surgery or acute phase of the disease. For patients who had surgery, physicians commonly prescribe analgesics. Many nurses said they assess the patient's pain level after the patient receives pain medications to see if the patients or parents still have complaints. If the patient or parents had no further complaints, the nurses assume that the pain is being well managed.

Some nurses in the maternal-child and general pediatric wards explained that they only assess pain if the patient shows common signs of pain, such as crying, verbal expressions, and rubbing the affected area of the body.

> *If patients are 6 years old, they can already express feelings and go wau… wau…wau... (*an involuntary expression when someone has pain*). If people here go wau…wau, it means they are in pain (N9, Ped).*

The nurses who worked in units with few pediatric patients, such as the VIP unit, were not familiar with pediatric pain scales. As a result, they assessed children's pain using their intuition, such as the intensity of a patient's crying.

> *We rarely have child patients admitted into our unit. When I assess children's pain, it is not based on the pain guidelines, because I am not familiar with the FLACC scale…. We rarely use that…. We watch the patient's condition. If we judge this patient to be in moderate pain, we convert our judgment into a pain score of approximately 4 to 6. We document it like that (N11,VIP).*

Nurses who worked more than five years in the pediatric unit frequently care for pediatric patients in pain. They judged the patient's pain based on their prior experience. They believed that if they work in a hospital for a long time, they should be able to recognize a patient's pain level.

> *We do not really go by the guidelines. Maybe because we are used to pain issues in our unit. When we see a patient crying a little, we have a feeling that this patient has mild pain. If the patient cries a bit louder, we categorize it as moderate pain. If the patient screams and the parent is unable to calm the patient, we categorize it as severe pain. That's what I do based on my experience. I care for child patients very often (N7, Ped).*

Working with the colleagues

Under certain circumstances in the PICU, when nurses are busy managing painful procedures for patients, they break into teams and divide job responsibilities with their colleagues to finish the job more efficiently. Doctors at the research hospital still use paper-based documentation with handwritten orders. When nurses have difficulty reading a doctor's writing, they consult with pharmacists to assess the correctness of drugs, dosages, administration methods, and their side effects. They also seek help from nursing colleagues, especially senior ones, another common solution for nurses when they face problems with managing a patient's pain.

> *Sometimes if I can't resolve the patient's pain, I often ask Ms. S (nurse leader) why the patient is like this or that…if the patient suffers pain like this,…. what should I do about it? Because Ms. S is more senior than I… I consult her first, if there is a patient experiencing severe pain, (N10, PICU).*

If a child's pain worsens, nurses call the physician to get a prescription for pain medication. Most nurses believed prescribing medication is exclusively the doctor's authority, so they just have to follow the physician's prescription and administer the medication to the patient. By contrast, one senior nurse thought her role

was to collaborate with the physician, therefore she would check if the prescription was proper for the child and suggest the correct dose, if necessary, without feeling inferior.

> *First, for severe pain, drugs/medication are needed to suppress it. Prescribing medication is not under our (nurse) authority, but we have to collaborate with the doctors… I have been working with them (doctors) for a long time. We are like partners, and I already know the character and behavior of the doctors. I know how to inform them about medication errors. Because our goal is to do whatever best for the patient, we work as a team (N1, PICU).*

Attitudes toward pain-relief strategies

When caring for a patient who had pain, besides giving medication, each nurse reported that they would combine one or two nursing interventions such as relaxation, compress, and distraction such as drawing and watching videos to reduce the patient's pain.

> *We teach deep breathing techniques. If the patient doesn't want to do it, we would like to encourage him to play with his toys or to draw. Nowadays many pediatric patients have cell phones, so they can watch shows on YouTube (N3, MC)*

Although they provided more than two nursing intervention at the same time, they believed that those were not so effective to alleviate pain. They did it as the alterative while waiting the pain medication came. Religious practice is another common strategy used to alleviate pain. Some nurses mentioned that they employ Islamic approaches when a child is in critical condition (such as in the PICU) on parents' request, for example, applying holy water (a cleric blows on the water after reciting specific prayers). People believe that these approaches can cure ailments.

> *A patient's family once gave me prayed water* (Water a cleric prayed over) *and asked me to use it to bathe the patient's body, so we just did it, so that the family would be more satisfied. When giving the intervention (bathing the patient with prayed water), we recited al-Fatihah (part of the holy Quran) (N1, PICU).*

In this hospital, all activities, treatments, or procedures should be consistent with Islamic rules. For example, before the nurses give medication, they encourage the patient to say specific sentences from the holy Quran. People believe that recovery is given by God and pain medication is just a path to recovery.

> *When I give pain medication (paracetamol) while reciting bismillahirrahmanirrahim* (meaning, "In the name of *Allah*, The Most Gracious and The Most Merciful")… *afterwards, the pain will definitely disappear and one can sleep. After 30 minutes, I come back to the patient to see their condition. Usually, they go to sleep because they feel better (N15, Ped-PICU).*

Enhancing parental understanding and involvement

When a child is in pain, the parents become anxious and worried about their children. The parents' emotions can make patients uncooperative when nurses approach them. The nurses in this study believed that building a trusting relationship with the parents first and giving them comprehensive explanation of the child's condition were the most effective strategies for managing the patient's pain.

> *Because the patient is a child, it is impossible for us to focus on the patient only. We involve the family too. We explain the patient's condition to the parents and encourage them to work with us. They must not panic when the child is experiencing pain. When treating pediatric patients (doing painful*

procedures), the strategy is to approach the parents; what we do is to calm the parents first (N13, Ped).

In dealing with patients in pain, nurses do not directly provide intervention because the child might be afraid of the nurse. Instead of directly approaching patients, nurses suggest to parents various strategies to reduce patients' pain and encourage them to provide comfort measures to their children.

We ask the family for help to distract the patient or do things to make their child relax. If the patient wants to be carried or wants to be lulled, they can do it. Families are very helpful in comforting pediatric patients (N15, Ped-PICU).

One nurse in the PICU thought that letting the parents get involved is an efficient solution to help both the patient and the nurse while performing procedures that are painful. Thus, she would call the parents in to comfort the patient.

Desire to have age-specific pain management training for pediatric patients

Every year, the hospital offers a short lecture related to general pain management in the in-service program. However, only a few nurses from each unit can participate. Although half of the nurses in this study had worked for more than nine years, many felt they did not have sufficient knowledge to manage pediatric pain other than by giving medications.

Some children are easy to communicate with and some are difficult. When we enter the room, the patient cries…and it is difficult to predict the child's behavior. What I know is just to distract the child. I don't know what else to do. I want to learn (N3, MC).

Some nurses who participated in the in-service program mentioned that there was no skill practice in the pain management training. They hoped to have the skills training, including a demonstration on how to assess pain and implement pain-relief interventions.

The pain management training we attended last time was lecturing only, it was very boring and made us not interested and sleepy…… if possible, the training should include practice on how to do pain assessment and nursing interventions for pain…. (N6, MC).

DISCUSSION

This study conducted interviews with pediatric nurses with experience in pain management working in the pediatric general, maternal-child, and Very Important Person (VIP) wards, as well as a pediatric intensive care unit (PICU).

Ways to assess pain vary

Our study revealed that nurses in the PICU and other units who care for post-surgery pediatric patients follow the hospital's guidelines for pain management, particularly in doing pain assessment. They do so because patients experience a range of complications, with those requiring the highest level of medical care in need of closer monitoring. Meanwhile, some of the nurses who do not deal with post-surgical patients, did not follow the guidelines. Child patients with pain have the prerogative to the maximum possible quality of health and the right to be examined by healthcare professionals who are knowledgeable in evaluating, diagnosing, and treating pain.[23] Therefore, the nurses must follow pain guidelines and professional standards which direct their actions in order to maintain safe and clinically competent nursing practice.[24] When they do not use it, they are unable to make reasonable clinical decision making in treating pain. As the result, the safety and effectiveness of

treatment of patients in pain is lower, making the patients experience pain becomes longer.[25-28]

Pain intensity should be reassessed at least once a shift and after treatments are administered, then adjusted to accurately reflect the patients' changing condition[29] using one or two pain scales as appropriate for the individual.[30] No particular pain assessment tool is suitable for all age groups or forms of pain in children. Therefore, the measures used to assess pain and its severity in children are largely on the discretion of the medical professional.[29]

Crying is the most common behavior shown by children with pain[31, 32] and can make children uncooperative, which makes pain assessment difficult in children and infants.[33, 34] Every nurse must recognize that crying is not always pain, it may be a sign of stress. Therefore, nurses must able to differentiate between the two.[35] In certain cases, some nurses in this study assessed pain whenever patients showed pain symptoms such as crying. Perhaps they had inadequate knowledge of pain management[31], did not perceive pain assessment or the use of pain measures as part of their responsibility [36] or expressed displeasure with the currently available validated measures.[34]

Ideally, when a patient experiences pain or receives pain treatment, pain assessment should be performed whether or not the patient shows pain symptoms in order to evaluate the effect of the pain management already provided [30]. Every nurse must ensure that each patient gets the same standard of pain management consistent with guidelines. The standard should be the same regardless of where or by whom patients are treated. Following pain guidelines improves the quality of care. In addition, guidelines also offer explicit recommendations for nurses who are uncertain about how to proceed with nursing care.[37] Although the number of pediatric patients with pain in mixed-age units is limited, equipping nurses with updated knowledge and skills in pain management is important for improving nursing care service.

Working with colleagues

In this study, many nurses just follow pain prescription even though they found the prescription errors from the doctors. Only senior nurse have braveness giving suggestion to doctor. Previous studies found that doctors believed they are the primary patient care decision maker[38, 39], which makes a hierarchical relationship/inequalities between the physician and nurses[39, 40] and they are barely speak each other.[39] Our study is consistent with these findings. In addition, the nurse-physician collaboration also influenced by the culture of the individual clinical unit [38]. For example, nurse and physician in ICU interact more frequently due to the complexity of patient care, while in other units do not.

Previous study found that the role and function of nurses in medication was unclear, made them inferior toward physician.[41] Giving suggestions or correcting pain medication when it is wrong and is one of the solutions to enhance patient safety[42] as a part of nurses' role in medication management.[43] Interprofessional collaboration between nurses and physicians will go well when the role of each profession is clear[44] and tasks and professional responsibilities are defined.[45] Moreover, Bell, Granas (46) mentioned that senior nurses should support junior colleagues when they report incidents or concerns about providing proper pain management. Our study found that when junior nurses faced any difficulty in providing pain management, they consulted senior nurses. Senior nurses sharing their experiences give junior nurses ideas about how to prevent a mistake or what not to do in certain situations.

Attitudes toward pain-relief strategies

Nurses are encouraged to combine different interventions when clinically indicated [47, 48] and use an adjuvant to pharmacological treatment [49] to enhance the efficacy of nursing interventions. To diminish pain, some nurses in our study provided two nursing interventions simultaneously, but it was not adequate to alleviate pain. They did it to make the patients and families calm while waiting the pain medication is coming. The limited variety of nursing interventions known by nurses in this study was in consistent with previous research finding that nurses had inadequate understanding about non-drug pain relief methods for children.[50] Therefore, the nurse may also offer therapeutic play as an alternative nursing intervention to alleviate pain.

Furthermore, the patients at Islamic-based hospital in this study consist of Muslims and non-Muslims and receive the same standard of care but the practice of pain management may vary from culture to culture. This hospital has integrated religious practices into managing pain for Muslim patients by incorporating Islamic values into every nursing activity; for example, giving "prayed water" (*air doa*) or recites a short prayer before and after a nursing intervention to the patient. This behavior is tailored to the family's values, culture, and preferences.[23] Religion gives meaning to pain[23] and it is regarded as crucial to medical care in Islam[51], particularly common in Muslim populations.[52] Previous studies have also reported nurses providing religious/spiritual practice, such as prayer, to treat pain.[53]

Spiritual belief is a means of diverting patients' focus away from their discomfort.[54] Patients who practice religion are more likely to be psychologically and physically well [55] because it may play a significant part in an individual's ability to cope with disease and pain.[47, 56] Isgandarova and O'Connor (57), mentioned that a Muslim nurse should be able to integrate both the Qur'an and Sunnah (as Muslim guideline) into their nursing practice for Muslim patients. From an Islamic viewpoint, nursing not only promotes spiritual support, but also the spiritual development of the individual as part of the healing path.[58]

Enhancing parental understanding and involvement

Previous studies suggest that fostering a good relationship between nurses and parents is one solution to difficulties managing pain in children[59]; involving the parents in pain management facilitates pain relief.[60, 61] This is consistent with the nurses in our study. Involving parents in pain management is part of family centered care, which means that parent can not be separated from their children in the hospital.[23, 62] It is the child's greatest source of strength, and essential for a child's emotional and physical welfare.[29] Although a parent may not have any health education background, they are "experts"on their child's care. Nurses should value parents' expertise.[63] Therefore, the nurse should allow a parent to be present during minor invasive procedures, as it helps to calm the child and lower the pain level.[31]

Desire to have pain management trainings for age-specific pediatric patients

Our nurses express their needs of inservice on pain management and hope that everyone has the same opportunity to participate in the pain management training activities. Insufficient pain education was likewise found in a study by Alotaibi, Higgins (60), whereas other studies have noted nurses have inadequate understanding of basic pain management for children[64, 65] and have identified a need for continuing nurses' education.[10, 50, 60, 66, 67]

Pain management training combines varied approaches, including lectures, group

discussion, teamwork, and demonstrations, which can also be supplemented with digital teaching aids and e-learning. All these are effective for improving the level of learning and quality of education[68, 69], which enhances nurses' pain management knowledge and skills. The demonstration method of training, in particular, has been shown to positively engage the learners to facilitate learning[70], improves confidence[71], and can enhance nurses' learning in various domains. It is an effective method for teaching nurses' about psychomotor skills, and has been shown to be more effective than traditional learning methods.[72]

This study has some limitations. Because in this research hospital, adolescent patients are hospitalized in the adult ward, they were not included in the observations; the pain management experiences of nurses in this study involved only neonates and school-aged patients. In addition, this study was conducted in only one Islamic hospital and all of the participants were female. Future studies should include male nurses and non-Islamic hospitals.

CONCLUSION

Assessing pain in pediatric patients, nurses may use different approaches. Some nurses in this study followed the hospital's pain guidelines and some did not. Treating pediatric patients' pain requires good collaboration between junior and senior nurses, physicians, and pharmacists, in order that each can fulfill their own responsibility within their professional authority. In this Islamic hospital, strategies combining religious practices, nursing interventions, and medical care are employed to alleviate pediatric patients' pain. Collaborating with parents is key when nurses are working to diminish a patient's pain. In-service training related to pain management should be periodically provided to fit the needs of pediatric nurses working in different units.

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