

# Problems of Nurses in Using Techniques for Reducing Injection Pain in Children

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## ABSTRACT

One of the most important children's rights is health priority, which is a moral issue in the management of pain in children admitted to the hospital. This study aimed to identify nurses' problems in applying methods of reducing pain in children. In this descriptive study, 40 nurses working in pediatric unit were selected by convenience sampling method. Data were collected by questionnaires, which consisted of demographic characteristic, and problems in the methods of reducing injection pain in children and data were analyzed by descriptive statistics. From the dimension of personnel management, lack of time, in educational dimension, unavailability of pain measurement instrument and dimensions of environmental-equipment and motivation, inadequate equipment and the low satisfaction in terms of income have been named as most important barriers in the application of pain reduction methods. Nurses participating in this research have multiple problems in the use of methods to reduce pain during injections for children. The presence of guidelines and considering of pain management methods in job description, training workshops in this area, providing the appropriate equipment for applying the methods to reduce pain and improve working conditions of nurses can be helpful.

**Keywords:** Nurses; Child; Pain Management; Injection

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## Introduction:

According to the World Health Organization, pain relief is a fundamental human right [1]. This organization as well as many other professional organizations and institutions have reached the conclusion that pain management is a basic aspect of patient's care [2] and it is an important part of the health care services [3]. Regarding children, pain management is one of their major rights and medical priorities, which has also been raised as an ethical issue [3]. This is because children are not alien to pain and they experience painful events as early as the first days of birth due to blood sampling, vaccination, and during childhood due to the prevalence of childhood diseases and accidents [4]. According to

existing evidence, considerable number of children that are under venous treatment suffer from moderate to severe pain as well as high levels of distress during the respective procedure [1], which is not just an annoying feeling, but may also cause confusion in the child, because he often does not understand its cause [5]. Moreover, fear of pain and injury is one of the most important problems in the hospitalized children. If relieving measures are not taken when performing painful procedures, it would cause the child to assume all activities of the treatment group and nursing staff as painful and associated with injury, and he would always carry this fear [6]. Pain management failure also has many consequences such as anxiety, disturbance in

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communication, sleep disorders, motor limitation, loss of appetite, restlessness, reduced quality of life, increased costs of health care and hospitalization [3]. While pain control is recommended as the integral part of quality of children nursing care, and the nurses play basic role in pain control and evaluation during hospitalization [7], many reports have been recorded concerning obstacles of effective pain management. Obstacles such as community's attitude toward pain perception, incorrect perception of the children pain, inadequate knowledge, inadequate use of pain evaluation tools, lack of organized standards and pain management guidelines, lack of family-centered care [1], lack of uniform and expert pain evaluation [2] have been reported in this regard.

In a paper, published articles during 1994 - 2015 were reviewed. In children pain management area, eight challenging fields were introduced including limited theoretical knowledge and inadequate skills of nurses, personal beliefs of nurse, organizational obstacles, characteristics of children and their parents, lack of professional interactions, ambiguous role of nurses in pain management, lack of involvement of parents or children in pain management, and lack of local models for pain management [3]. Moreover, obstacles for implementing non-therapeutic methods of pain control in children in the perspective of nurses were investigated in other works. Research findings showed that the main obstacles included long working hours, time shortage, and heavy workload, and shortage of nursing staff [7].

Considering methods that reduce the pain caused by aggressive interventions in children is one of the important priorities in the nursing profession [8] and pain relief is a major responsibility of physicians and nurses who take care of children [1]; also considering feeling of relaxation and comfort of nurses during painful procedures that are repeatedly carried out by the nurses on the child in the hospital is a great step, if they can be achieved, to make a closer connection between the patient and the nurse [9], the current research aims at identifying and examining the problems

of nursing staff in the use of pain control methods.

## Materials and Methods

The current research is a cross-sectional study, which was conducted on nurses working in children wards of Shahid Madani Hospital in Khoramabad (the only public children's hospital of the city). All nurses in general, infection, and children emergency wards in this hospital, with at least six months of working experience in respective wards, who were willing to participate were entered into the research (n = 40). Data collection was done using a two-part questionnaire. The first part included personal information such as age, gender, educational level, marital status, parental status (having or not having children), working experience in children wards, and type of employment. The second part of the questionnaire included techniques for reducing injection pain in children [9]. This questionnaire contained 25 items about problems and obstacles for utilizing techniques of reducing injection pain in children in the form of four areas as personnel-management (6 items), educational (7 items), motivational (8 items), and equipment-environmental (4 items).

Success rate of nurses with each of the respective problems and obstacles was evaluated based on five-point Likert scale from totally agree to totally disagree. Internal consistency was used for evaluating reliability of the questionnaire, and Cronbach's alpha coefficient was calculated as  $\alpha = 0.86$ , which was confirmed.

Following gaining conscious consent and providing adequate explanations regarding confidentiality of information, the questionnaires were completed by the participants. Data analysis was done using descriptive statistics including frequency, frequency percentage, and chi-square test

## Results

Mean and standard deviation of age of samples was 32.7(7) at age range of 23 - 47

years old. About 97.5% were female and 2.5% were male. Eighty-five percent had Bachelor of Science (BS) degree, 2.5% had associate degree, and 12.5% had high school diploma (paramedic). About 72.5% were married and 27.5% were single. About 57.5% had children and 42.5% had no children. The minimum working experience in the pediatric ward was 6 months and maximum was 27 years, 57.9% had more than 5 years work experience in the pediatric ward, 26.3% had between one and five years work experience and 15.9% had work experience less than one year. About 42.1% of the samples were officially employed, 21.1% were semi-contractual and 31.6% were contractual and project-based, and 5.2% worked over-time and corporative.

The main problem in using injection pain reduction techniques at personnel management area was related to lack of proportion in the number of nurses versus number of patients and lack of specific instructions in this regard. Lack of availability of pain measurement tool and lack of retraining courses were the major problems at educational area. Lack of playing tools and dissatisfaction of nurses with their income and working times were the main problems in equipment-environmental and motivational areas, respectively (Table 1).

Table 1. Frequency of nurses' problems in using techniques for reducing injection pain in children

The target area	The problems	Frequency (%)
Personnel-management	lack of time	22(55%)
	Lack of specific guidelines in this area	21(52.5%)
	Lack of autonomy in the use of pain relief methods	17(45.5%)
Educational	Unavailability of pain measurement tools	22(55%)
	Fear of the complications of pain relief	21(52.5%)
	Believing that the reaction of children to injections is more due to fear, than pain	17(45.5%)
Equipment-environmental	Insufficient equipment to apply pain relief methods	22(55%)
	Insufficient equipment for gaming and entertainment	21(52.5%)
	Lack of proper environment and special injection room	17(45.5%)
	Lack of participation of colleagues in applying pain relief methods	17(45.5%)
Motivational	Nurses' inadequate satisfaction with income	22(55%)
	Nurses' inadequate satisfaction from working hours	21(52.5%)
	Nurses' inadequate satisfaction with work shift	21(52.5%)
	Nurses' inadequate satisfaction with welfare facilities	17(45.5%)

Results of research indicated that nurses face various obstacles in different dimensions in using pain reduction techniques for injection in children.

The main problem at personnel-management area was related to lack of proportion in the number of nurses versus number of patients. Research findings by Mohebbi and Azimzadeh were consistent with findings in the current work, and increasing the number of personnel was mentioned as the major solution for non-therapeutic administration of pain in the perspective of nurses [7]. While there is no formal chart for reporting and recording the pain [10], lack of

instructions in this regard was mentioned as the second personnel-management obstacle in the current research. Alahyari et al. also found similar results [9]. Albertyn et al. believe that pain management should be viewed as a priority of health care delivery, and it requires distribution of protocols and regulation of minimum standards [11]. Thus, organizing pain management with preparation of appropriate and required instructions seem necessary.

Shortage of time was raised as a hindering factor, which is consistent with finding by Alahyari et al. that conducted a similar study on the nurses working in medical pediatric center and Valiasr Hospital in Tehran [9]. It is also

consistent with the findings of Dehnavian and Mohammadpour [10].

In addition, Katende and Mugabi studied perception of nurses about obstacles for using relief strategies in children venous injection pain management. Shortage of time was mentioned as the main obstacle reported by the nurses [1]. Mohebbi and Azimzadeh also reported shortage of time as the main problem in pain management in the study [7]. Reviewing the task description of nurses may help in the realization of medical environments for eliminating some affairs from nursing tasks and may provide more time for nurses to deal with children in this regard.

In terms of educational area, inadequate or unavailability of pain measurement tool in the pediatric ward was mentioned as the main problem. Mohebbi and Azimzadeh also reported unavailability of pain measurement tools in the pediatric ward as one of the main obstacles for pain management in children [7].

It is one of the main stages of effective pain management. According to the reviewed literature on pain management obstacles in children, lack of local models for pain management was mentioned as one of the important obstacles [2, 12], and lack of effective pain evaluation as one of the challenging obstacles for achievement of effective pain control [2].

Inefficient pain evaluation and its inappropriate management have always been present and lead to considerable costs for the patients, their families, and health care system [13]. Pain assessment tools should be available for pain evaluation and efficiency of interventions. If this tool is to be useful, its usage, perception and scoring should be easily done by the health staff [14], and such criterion should be selected that is relevant to the age, culture, ability, and interest of the child. Self-reporting criteria are the most acceptable criteria for pain measurement in children.

According to experts' opinions, Usher self-reporting criterion is more appropriate to be used by children at school age compared to other criteria [15]. This criterion facilitates

emotional communication between the health team members and children and provides them with experiences on the children's pain [16]. In addition, the nurses in this study, which denotes low level of their knowledge, reported lack of retraining courses on pain reduction techniques for injection in children as the main problem.

Inadequate educational training, lack of awareness of recent research findings, lack of constant retraining courses were reported as the main obstacle in the view of nurses regarding pain control in the research by Mohebbi and Azimzadeh [7]. Using tools relevant to the age for investigating pain in pediatric wards and training their application to the nurses in ongoing training programs and holding seminars and congress would be effective in this regard. Regarding the third dimension, i.e. environmental-equipment area, inadequate playing and entertainment tools and lack of equipment for using pain reduction techniques were mentioned as the major obstacles. Lack of necessary facilities at the ward and lack of specific room for aggressive procedures were also reported in the work of Mohebbi and Azimzadeh [7]. There should be at least one room for implementing painful procedures, and it should be considered that the room, where the painful procedure is done, should have proper temperature and there should be various books, toys, and even music discs for diverting attention of the child from the pain during implementation of painful procedure [18].

It can be recommended to health staff that even when this equipment is not available, they can use other pain relief techniques especially non-therapeutic methods that require minimum means, such as massage, though diversion, music therapy, heat and cold application, etc. Using games is also one of the important parts for communicating with the children. Playing and game can be spontaneously done alongside the bed, and there is always no need for much tools or taking more of the nurse's time. The nurses can keep small toys or bottles in their pockets to quickly use them if necessary [18].

In the motivational dimension, the most mentioned problem was related to the inadequate satisfaction of nurses with income, working hours, working periods, and welfare facilities in the ward. Mohebi et al. [7] also reported lack of adequate motivation in the study. Findings by Allahyari and Alhani were also consistent with the findings in the current work [9]. According to motivational theories, increasing wage for competency is one of the motivational factors [19], which should be taken into consideration. Studies on pain management are evolving in a slow trend. It seems that disagreement and controversy on pain management area goes on, and the main challenge in effective management of patients' pain is implied in the problems related to the translation of clinical knowledge and research [20]. Low number of samples was one of the limitations in this research. It is suggested that the study is repeated with larger sample size in other environments.

## Conclusion

Results suggested the problems of nursing in utilization of injection pain reduction techniques in different dimensions. It seems that formulation of instructions on the pain and putting it in the nursing task description, holding training courses, providing appropriate environment and equipment for utilization of pain reduction techniques, as well as improving occupational conditions of nurses can be useful in this regard. It should be acknowledged that effective pain management is a complicated process.

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