A study to assess the effectiveness of manual pressure on lumbar region to reduce pain during Intra Muscular Injection among Infants

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ABSTRACT

Pain is an undesirable tactile and emotional experience related with real or potential tissue harm. Pain prompts people to seek health care more often than any other symptom. It is one of the most important areas of care because people cannot function fully when they are in pain. Pain prompts people to seek health care more often than any other symptom. Painful procedures in the hospital are blood collection, intramuscular injection and intravenous injection etc. this procedural pain is relieved by non pharmacological measures. Procedural pain is the most common cause for pain during provision of nursing care. So as the part of nursing profession, it is our responsibility to use effective strategies to reduce procedural pain. Especially in infant’s routine immunization, bruises and childhood illness mean that pain is a part of everyday experiences of all children and infants. Because infants cannot describe their pain and emotions, it is important to observe the behavioural response of the children to assess the pain. So the present study is done to determine the effectiveness of manual pressure on lumbar region to reduce pain during intramuscular injection among infants in selected hospital, Thiruvalur: Quantitative approach with quasi experimental design was adopted to conduct this study with 60 infants who were selected with purposive sampling technique. The data was collected using structured questionnaire to assess the demographic variable and FLACC pain rating scale for assessing the pain level. The results of the study are out of 60 samples (56.6%) had moderate pain and (43.4%) had mild pain in the experimental group.

INTRODUCTION

Pain is an abstract involvement in two correlative perspectives. One is a restricted sensation in a specific body part; the other is a unpleasant quality of varying severity or ending the experience. Pain is a vital capacity of the human body, including nociceptors and the CNS to transmit messages from harmful stimuli to the brain. The instrument for neuropathic torment is particular as it is brought about by injury to the sensory system itself and can happen without the nearness of harmful stimuli. Pain prompts people to seek health care more often than any other symptom. It is one of the most important areas of care because people cannot function fully when they are in pain. Pain is a complex phenomenon. It is elicited by threatened or actual tissue damage that stimulates pain sensitive receptors (Betty and Lebona, 2016; Kara and yapucugüneş, 2016; Hatfield et al., 2008).

As per international association of pain (2014) just
6 rates of pediatric emergency clinic use pain controls for shots, and 2.1 rates of an expected 80 million infusions are played out every year with pain control. Interruption for minor to direct procedural agony is free or cheap, simple to perform and is a successful technique for pain control. Various modalities exist to diminish procedural pain, from topical sedatives up to complete profound sedation (Ahmadi et al., 2011).

Research has shown that the infant do feel and remember pain. Induced pain from diagnostic tests or therapeutic procedures is most frequently referred to as procedural pain. Each infant has an individual pattern of capability and reactivity to painful procedures. Children’s experience of pain is perceived as one of the most unpredictable human stressors, which may have ramifications for later pain related conduct and observation. Notwithstanding on increment in investigate on pain in kids, concentrates despite everything report hospitalized children encountering unsuitable degrees of pain (Taddio et al., 2008).

Procedural pain is the most common cause for pain during provision of nursing care. So as the part of nursing profession, it is our responsibility to use effective strategies to reduce procedural pain. The most common cause for procedural pain is injections. Usually patients are anxious and have fear of injections, because of the reason it should cause pain. Here comes the importance of practicing nursing as an art (Nasiry et al., 2013).

Intramuscular injections are a typical complex technique used to give medicines into the huge muscles of the body. In spite of the fact that there is huge research crossing more than eight decades, on the methodology and techniques of administering medications by the IM, guidance’s and clinician practice don’t generally reflect evidence based practice. As indicated by World Health Organization, Intramuscular injections is, "An administration of medications parenterally through a skin hole by a syringe and a needle deep into an high muscle of the body for prophylactic or remedial purposes" (Derya et al., 2015).

As per WHO, injections are the most commonly and repeated clinical strategies, with an expected 12 billion regulated all through the world on a yearly premise. Of these 5% or less are for immunization and rest are given for remedial purposes (Nakashima et al., 2013).

Sunseamol et al. (2016) led an examination on viability of ice application v/s manual pressure at L4 preceding intramuscular injections in decrease of pain among children (15-18) months in selected immunization clinics at Mangalore. It is a comparative study. Evaluative quasi experimental post tests only control group design was used. 90 samples selected for the study by purposive sampling technique. The data obtained by baseline proforma and FLACC scale. There is a significant difference between the behavioural response to pain among children with manual pressure at L4 area and ice application. Study concluded that manual pressure is effective than ice application (Sunseamol et al., 2016).

Chemicals released as a response to the pain stimuli also influence whether the gate is opened or closed for the brain to receive the pain signal. This prompts the hypothesis that the pain signs can be meddling with stimulating the periphery of the pain site, the proper sign conveying nerves at the spinal line or specific comparing zones in the cerebrum stem or cerebral cortex. It is for the most part that perceives the pain door can be closed by stimulating nerves answerable for conveying the touch signal which empowers the alleviation of pain through back rub, pressure, cold packs, needle therapy, electrical absense of pain and furthermore the utilization of vibration (Sadeghi et al., 2013). So the present study is done to determine the effectiveness of manual pressure on lumbar region to reduce pain during intra muscular injection among infants in selected hospital, Thiruvalur.

MATERIALS AND METHODS

Quantitative approach with quasi experimental design was adopted to conduct this study with 60 infants, 30 experimental and 30 control group of a age group between 1-4 months who were selected with purposive sampling technique. The data was collected using structured questionnaire to assess the demographic variable Demographic variable consist of age, gender, weight, religion, relationship with the care giver, past experience to injection, child reaction towards health personnel, breast feeding status, vaccine dose, significant member restraining the child. The tool FLACC pain rating scale consists of behavioural responses such as facial expressions, leg movements, activity, and duration of the cry and consolability for assessing the pain level (Merkel et al., 1997). Samples are selected by purposive sampling techniques. Data collection was done in the Thiruvalur govt hospital after getting permission from the head of the department. The study investigator explained to the parents about the study objectives, rational and requirement of consent to participate in the study. The investigator then provided instructions to the
parents to fill the demographic data of the infants participating in the study. The pressure is given by the thumb on the L4 vertebrae on the lumbar region for 30 seconds prior to the intramuscular injection. After explaining the investigator measure the behavioural response of the pain among infants between the experimental and control group by using the FLACC pain rating scale. Chi square test was used to test the association between the categorical variables. P< 0.05 was taken as statistically significant.

RESULTS AND DISCUSSION

The present study results depicts that out of 60 samples in the experimental group (56.6%) had moderate pain (43.3%) had mild pain and none had severe pain. (Table 1)

The present study results depicts that out of 60 samples in the control group the level of pain perception was (86.6%) had severe pain (13.4%) had moderate pain and none had mild pain. (Table 2)

In regard to association between the demographic variables the results reveal that there was significant association between the behavioural response to pain among infants in the experimental group with weight of the child, child reaction towards health personnel, child breast feeding status ($x^2=12.381,8.294,17.543$) at P<0.05 level of significance whereas other variables are not significant.

The present study results depicts that out of 60 samples in the experimental group (56.6%) had moderate pain (43.3%) had mild pain and none had severe pain. This study is supported by similar study which was conducted by Salari et al. (2018) on Comparison of skin traction, pressure, and rapid muscle release with conventional method on intramuscular injection pain: A randomized clinical trial. The aftereffects of the investigation are pain intensity in creative technique and regular strategy was $1.17 \pm 0.75$ and $2.78 \pm 1.61$, individually. The difference was statistically significant ($P = 0.001$). The minimum pain intensity in inventive technique was 0 and most extreme was 4, in the interim in traditional infusion, the least and most elevated torment force was 0 and 6 respectively (Salari et al., 2018).

Another comparative examination directed in Öztürk et al. (2017) to assess the effect of the application of manual pressure before the administration of intramuscular injections on students’ perceptions of post injection pain: a semi-experimental study. The discoveries exhibit that students experienced essentially less pain when they got injections with manual pressure than the standard injection method. The post injection normal pain score in the correlation bunch was higher than that in the experimental group ($p < 0.05$) (Öztürk et al., 2017).

In the present study there is an association between the behavioural response to pain among infants in the experimental group with weight of the child, child reaction towards health personnel, child breast feeding status ($x^2=12.381,8.294,17.543$) at P<0.05 level of significance.

The study concluded that manual pressure on lumbar region was effective in reducing pain during intra muscular injection among infants.

CONCLUSIONS

Procedural pain is the most common cause for pain during provision of nursing care. So as the part of nursing profession, it is our responsibility to use
effective strategies to reduce procedural pain. The results showed that manual pressure on lumbar region was effective in reduction of pain during IM injection.

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**Conflict of Interest**

None.

**REFERENCES**


Öztürk, D., Baykara, Z. G., Karadag, A., Eyikara, E. 2017. The effect of the application of manual pressure before the administration of intramuscular injections on students’ perceptions of postinjec-