

DISTRACTION IS NOT EFFECTIVE AT REDUCING PROCEDURAL PAIN IN CHILDREN



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## **Introduction**

Pain is defined as physical displeasure that may be caused by invasive medical procedures on intermuscular tissues. Some of the procedures that are widely known to cause pain include intramuscular injections, venipuncture, lumbar punctures, biopsy, finger pricks, port access, and aspiration. As a result, most of these procedures are highly feared by children and become a rigorous exercise in administering. Unfortunately, most of the aforementioned procedures are required for the diagnosis of quite a number of ailments (Furness, Phelan, et al. 2019).

## **Contribution Of Quantitative and Qualitative approaches to Research**

### **Qualitative approaches**

Distraction remains one of the most thoroughly evaluated components of anti-pharmacological pain-relieving procedures. The theoretical explanation for the effectiveness of this method is its ability to diverting the child's attention away from the pain of the procedure or painful stimulus. Research indicates a human brain features a very limited capacity for focus attention in stimuli on the body. It is argued that setting up other ways of attracting attention while engaging in a painful medical procedure may leave the brain with little capacity to attend to the painful stimuli.

There are a large number of distraction strategies that have been used to distract attention on children. Most of the methods, including music, Virtual Reality, cartoon movies, or even party blowers, have been accessed in multiple dimensions (Atzori, 2019). Notably, the effect of distraction on a patient during a procedure is short-lived and has sometimes been observed to have no significant effect at all. The method is, however, appealing to many medics since it is

time and cost-effective too. For instance, a distraction on a child can be done by narrating funny stories to them before the needle is inserted. Such a procedure may therefore not require any expensive equipment.

There are also distraction settings that may require equipment. For instance, if immunization is being carried out in a school environment, a television set may be used to keep kids distracted. Cartoon distraction has been found useful in making it easy to distract a child's attention from the caregiver. This gives the caregiver time to finish their procedures with minimal difficulty.

### **Quantitative Approaches**

Published articles, grey literature, and dissertations from developed strategies in MeSH(Medical Subject Headings) terms of various databases. Keywords such as distraction, pain relief, and non-pharmacological pain relief were used. In the research, there were no limitations in terms of dates or even countries. In this research, a total of eight databases were reviewed. They include:-

- i. PsycINFO (1806e2016)
- ii. ProQuest Dissertation and Theses (2001e2016)
- iii. Cochrane Library (1992e2016)
- iv. Embase (1974e2016)
- v. Cumulative Index to Nursing and Allied Health Literature (CINAHL) (1982e2016)
- vi. Allied and complementary Medicine (1985e2016)
- vii. Medline (1946e2016)

ClinicalTrials.gov

In the research, unpublished studies were avoided as they are prone to publication bias.

### **Data Extraction**

In this research, data extraction was executed manually using electronic and paper records.

### **Results**

From the research, over 299 studies have been identified. Notably, about 106 are duplicates and were therefore removed from the study, leaving about 153 titles to the study. In most of the studies, the painful procedures that children were subjected to include lumbar puncture and port access (Inan & Inal 2019). Whereas in the publications reviewed, there was no explicit evidence any substantial pain relief on patients that distraction offered, it was noted that it is a method that has traditionally been used to ease the administration of many medical procedures on children (Kuo, Pan et al. 2018).

One of the ways by which pain levels were noted here is by getting self-reported pain levels. In the study, different pain scales used include - visual analogue scale, colour analogue scale, Wong-Baker Faces Scale. One study indicated median pain scores while others generally indicated low pain scores too. In some cases, some analysis was generally ignored if results were found to be outside the range of the scores. In both the intervention report and the self-assessment report, there wasn't any significant difference in results obtained (Jibb, Birnie et.al 2018).

### **Comparison of Qualitative approaches to Quantitative approaches**

The subsequent comparison of qualitative and quantitative approaches is vital and essential so as to critically evaluate the effectiveness distraction in pain management. A consideration of the quantitative approach draws reference on the previously highlighted study.

In the self-reported pain analysis, it was noted that distraction does not have a significant effect on the pain. Indeed, participants of the study agree that while distraction assisted them go through the procedure with ease, the pain was predominantly there (Newell, Keane et.al 2019).

The findings from the behavioural measures indicate that the effect of distraction was inconsistent from person to person. Notably, a nurse may focus on the insertion of the needle more than paying attention to the fluctuations in the child's behaviour. Although a parent may be subtler to the changes in the child's behaviour, the research finds the results generally subjective and varies from one observer to another. In congruence to the results of this research, the efficiency of distortion on procedural pain reveals very little assistance in the reduction of pain during a procedure. Whereas the self-reported measures indicate that someone may have an easier time if distracted during the procedure, proponents of this debate agree that distraction is not effective (Molleman, Tielemans et.al 2019).

In comparison, with reference to qualitative approaches to the research, a number of earlier reviews were in support of the effectiveness of distraction in behavioural measures. This, however, goes against recent reviews and research papers by a number of scholars. One factor that could have led to the adoption of distraction was the fact that self-reports and behavioural measures were used over time. Behavioural measures are sometimes biased as they are based on an individual's observation abilities. As such, the child may suffer more under procedures due to misinterpretation of the observer.

Another qualitative approach to distraction depicts Pulse rate as one of the most familiar physiological indicators that this review considers essential. There isn't a significant effect of distraction on pulse rates. It's worthwhile to note that this study does not dismiss the fact that pulse rate doesn't go down with distraction on a child during a medical procedure (Hoffman,

Meyer et al 2019). The drop observed is relatively small compared to falls in pulses when sedatives and anesthesia are used on a sick child during a medical procedure. Pulse rates, however, have a limitation since they can be affected by several factors. For instance, pulse rates are also attributed to by fever, exertion, pain, or even distress.

### **Discussion and relevance to future nursing practice**

While distraction may not be as highly effective as most methods of pain eradication during a medical procedure, there are several factors to consider. For instance, the age of a child may need to be considered before determining an effective distraction strategy. As such, Children aged six and below may be easily distracted as opposed to older children (Fisher, Zigler et.al 2018).

Treatment regimens and diagnostic procedures in many cases involving children are, however, often invasive and also painful. Adequate and proper management of such pain in some cases has been challenging, owing to the limited availability of funds or even appropriate medications. While some scholars indicate that distraction as a low-cost technique can be used in provision for intervention for management of pain, there is very little evidence linked to it. Indeed, distraction is not effective when it comes to pain management in children.

Studies show that persistent and any unrelieved pain that is subjected to a patient is detrimental to their social, psychological, and physical well-being. Further to this, pain relief has a close relation to the satisfaction of the patient and is, therefore considered a fundamental human right. It is therefore imperative to consider effective pain management of a procedure at the onset.

Typically, most pain management procedures are both non-pharmacologic and pharmacologic. In some settings, pain management is solved via integrative Medicine while in some others, it is not administered at all. Further, depending on the procedure, there may be pharmacological solutions, including non-steroidal anti-inflammatory drugs, general anesthesia, and sedatives. Notably, in some developing countries, most of these drugs are not available, and nursing practitioners are therefore opting for methods such as distraction on the patient.

Distraction is a non-pharmacologic intervention that is widely being considered as an alternative pain management option. Nevertheless, pediatrics are somehow not sure about the effectiveness of the method and remain largely elusive about it. Indeed, some of the medics have preferred foregoing the methods wholesomely. Additionally, there lacks research that still adopts distraction as a highly effective non-pharmacologic intervention.

The application of this knowledge is vital for nursing practitioners in their current and future nursing practices. The consideration of alternative pain management options is, therefore, necessary as registered nurse will have the complete knowhow of pain management especially in children. The consideration of better alternatives other than distraction is a strategical approach towards the provision of quality care and this should be implemented in most medical facilities. Relying on the recommended evidence based practices will, therefore, improve the output of drug administration in children and effectively manage pain when administering treatment to children.

### **Conclusion**

The research paper, in a significant way, met its objectives and has been able to show beyond a reasonable doubt that distraction is not an effective pain-relieving method for children. This is more so during medical procedures that are painful or those that may cause discomfort to the body. Notably, distraction may assist the child to focus momentarily on some activity as the nurse completes a procedure (Ali, Sivakumar et al 2018). While this is advantageous to the practitioner in the sense that the exercise goes smoothly, the child still feels the pain and may have a negative perception of medical procedures in the future. Indeed, in some instances, the child may view the nurse as deceptive. Such incidences have seen parents discontinue vaccine schedules for children, a factor that poses a significant risk to a child's health in the future.



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### References

- Ali, S., Sivakumar, M., Beran, T., Scott, S. D., Vandermeer, B., Curtis, S., ... & Hartling, L. (2018). Study protocol for a randomised controlled trial of humanoid robot-based distraction for venipuncture pain in children. *BMJ Open*, 8(12), e023366.
- Atzori, B., Hoffman, H. G., Vagnoli, L., Messeri, A., & Grotto, R. L. (2019). Virtual reality as distraction technique for pain management in children and adolescents. In *Advanced Methodologies and Technologies in Medicine and Healthcare*(pp. 483-494). IGI Global.
- Fisher, M. T., Zigler, C. K., & Houtrow, A. J. (2018). Factors affecting procedural pain in children during and immediately after intramuscular botulinum toxin injections for spasticity. *Journal of pediatric rehabilitation medicine*, (Preprint), 1-5.
- Furness, P. J., Phelan, I., Babiker, N. T., Fehily, O., Lindley, S. A., & Thompson, A. R. (2019). Reducing pain during wound dressing in burn care using VR: A study of perceived impact and usability with patients and nurses. *Journal of Burn Care & Research*.
- Hoffman, H. G., Meyer, W. J., Drever, S. A., Soltani, M., Atzori, B., Herrero, R., ... & Patterson, D. R. (2019). Virtual Reality Distraction to Help Control Acute Pain During Medical Procedures. In *Virtual Reality for Psychological and Neurocognitive Interventions* (pp. 195-208). Springer, New York, NY.
- Inan, G., & Inal, S. (2019). The Impact of 3 Different Distraction Techniques on the Pain and Anxiety Levels of Children During Venipuncture. *The Clinical journal of pain*, 35(2), 140-147.

Jibb, L. A., Birnie, K. A., Nathan, P. C., Beran, T. N., Hum, V., Victor, J. C., & Stinson, J. N.

(2018). Using the MEDiPORT humanoid robot to reduce procedural pain and distress in children with cancer: a pilot randomized controlled trial. *Pediatric blood & cancer*, 65(9), e27242.

Kuo, H. C., Pan, H. H., Creedy, D. K., & Tsao, Y. (2018). Distraction-based interventions for children undergoing venipuncture procedures: a randomized controlled study. *Clinical nursing research*, 27(4), 467-482.

Molleman, J., Tielemans, J. F., Braam, M. J., Weitenberg, B., & Koch, R. (2019). Distraction as a simple and effective method to reduce pain during local anaesthesia; a randomized controlled trial. *Journal of Plastic, Reconstructive & Aesthetic Surgery*.

Newell, A., Keane, J., McGuire, B. E., Heary, C., McDarby, V., Dudley, B., ... & Caes, L. (2018). Interactive Versus Passive Distraction and Parent Psychoeducation as Pain Management Techniques During Pediatric Venepuncture. *The Clinical journal of pain*, 34(11), 1008-1016.