Pain relief strategies during immunization

Estratégias para alivio da dor durante a imunização

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ABSTRACT

BACKGROUND AND OBJECTIVES: Vaccine is the most common source of pain in childhood, which can lead to the non-acceptance of immunization. Given that, healthcare professionals must use strategies to manage pain in their practice. The objective of this study was to analyze the non-pharmacological therapies used in clinical trials to manage pain during children's immunization.

CONTENTS: In this integrative review, we searched the LILACS, Medline, BDENF and Pubmed databases, using the keywords “Clinical trial,” “Pain management” and “Immunization,” with the Boolean operator AND. After searching and reading, eight articles were included in this review. The studies analyzed showed different techniques to manage pain, such as the use of movies, toys, facilitated position and parents’ training.

CONCLUSION: The interventions studied proved to be beneficial to manage pain, and they can be performed by a professional or by the parents themselves, supporting the professionals in implementing it in their clinical practice.

Keywords: Child, Clinical trial, Immunization, Pain management.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A vacina é o método mais comum de causa de dor na infância, podendo levar a não aceitação da imunização. Diante disso, os profissionais da saúde precisam usar estratégias para o manuseio da dor em sua prática. O objetivo deste estudo foi analisar as terapias não farmacológicas utilizadas em ensaios clínicos para o manejo da dor durante a imunização de crianças.

CONTEÚDO: Nesta revisão integrativa, buscou-se artigos das bases de dados LILACS, Medline, BDENF e Pubmed, com o uso dos descritores “Ensaio clínico”, “Manejo da dor” e “Imunização”, com o operador booleano AND. Após busca e leitura, oito artigos foram incluídos nesta revisão. Os estudos analisados evidenciaram diferentes técnicas de manejo da dor como uso de filmes, brinquedos, posição facilitada e treinamento dos pais.

CONCLUSÃO: As intervenções analisadas, demonstraram-se benéficas para o manejo da dor, podendo ser conduzidas por um profissional ou pelos próprios pais, amparando, dessa forma, os profissionais para sua implementação na prática clínica.

Descritores: Criança, Ensaio clínico, Imunização, Manuseio da dor.

INTRODUCTION

Vaccines are the most common source of iatrogenic pain in early childhood and are a considerable source of suffering for children subjected to this procedure, as also for their parents and those people responsible for the execution of the vaccination process¹. However, the pain and fear associated with the use of needles had been largely neglected until recently, especially considering these symptoms in early childhood. This means that health professionals need to include strategies for dealing with pain within clinical practice². The International Association for the Study of Pain (IASD) defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage”. Also, pain is always subjective. Each individual person learns the application of the word through his or her own experiences regarding lesions, at the start of life³. Fear of needles also helps to bring about a general non-acceptance of vaccination⁴. There are proven strategies to control anxiety and pain during the immunization process. Interventions are grouped thus: interventions during the procedure itself; physical interventions; and pharmacological interventions⁵. However, little has been said about such strategies with the goal of analyzing the non-pharmacological therapies used in clinical trials for coping with the issue of pain during the immunization of children.

REFERENCES

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The study was conducted based on the following databases: Latin American and Caribbean Health Sciences Literature (LILACS); Nursing Database (BDENF); and Pubmed, through free access on the websites of the Virtual Health Library (BVS) and the Department for Qualification of Higher-Level Personnel (CAPES-Brazil), through controlled descriptors as follows: “Ensaios clínicos”, “Manejo da dor” and “Imunização”, as also their equivalents in the English language, with the Boolean operator AND.

The collection of data took place in June 2017, involving the careful and critical reading of abstracts and then the full text of articles. The criteria applied were the following: 1) Inclusion – publications as from 2007; full text available; text in English, Portuguese or Spanish; research involving children aged 12 or under; use of non-pharmacological therapies; 2) Exclusion – research involving adults; use of animal models; with double indexing on databases. In this stage, we found 44 articles, as shown in figure 1.

After selection, the articles were summarised and then documented based on the title, author, magazine, year and country of publication, and classified based on the level of scientific evidence. Next, we conducted a critical analysis of the results through a descriptive synthesis of studies, showing the objectives, sample, method, strategy and main results. Later, these were discussed and presented.

The sample consisted of eight randomized clinical trials, found on the Medline and Pubmed databases and published between 2007 and 2015.

The studies were classified as showing level 2 of scientific evidence. With regard to language, all the studies were written in English. Five of the studies were carried out in Canada, two in Turkey, and one in the United States of America (USA). Table 1 below shows a synthesis of the articles shown in the study.

The pain caused by the vaccination may lead to changes in the future response to the painful phenomenon, including fear of needles. Even though there are different forms of intervention for pain relief, these are not always used in clinical practice. In the light of this fact, when we analyze the different studies, we have seen evidence of different non-pharmacological strategies for dealing with pain while children are being vaccinated.

Parental involvement during immunization was brought up in most of the articles here considered (A1, A3, A4, and A5). The evidence shows that parents have shown great interest in learning the interventions for pain relief while children are being vaccinated. The interventions with the parents involve an initial course of training, with guidance being given by the nursing team.

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**Figure 1.** Flowchart for identification and selection of articles

**Table 1.** Summaries of the studies included

<table>
<thead>
<tr>
<th>N°</th>
<th>Goal/Sample</th>
<th>Method</th>
<th>Strategy</th>
<th>Main results</th>
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<tbody>
<tr>
<td>A1</td>
<td>To appraise the impact of the implementation of pamphlet and video at outpatient pediatric clinics based inside hospital units. (160 parent-child pairs).</td>
<td>The pediatric outpatient clinics were randomized into two groups (the control group – standard care, and intervention group – review of pamphlets and videos). Materials: Pamphlet and educational video.</td>
<td>Control Group – the parents who attended this clinic did not receive any kind of educational material. Intervention Group – the parents of the children who attended the clinic, as part of this group, reviewed a pamphlet and a video about dealing with pain during the procedure of vaccination. Two months after the first vaccination, they returned, and, at that time, no attention was attracted to either the pamphlets or the video.</td>
<td>The parents who were in the intervention group increased the use of interventions for the management of pain, but there was no reduction in the level of child pain within this group.</td>
</tr>
<tr>
<td>A2</td>
<td>Appraise the level of pain shown by newborns during vaccinations against Hepatitis B, in the facilitated position and the classic position for restraint. 60 newborns.</td>
<td>The newborns were randomly placed in one of two groups (a control group with standard care, and an intervention group using the facilitated position). Materials: facilitated folding position.</td>
<td>Control Group – vaccination carried out in the upright position; Intervention Group – vaccination carried out in the facilitated folding position</td>
<td>The pain intensity scores among the lactating babies in the intervention group were lower than in the control group. While 50% of the lactating babies in the treatment group did not show pain, 93.4% of the lactating babies in the control group showed intense pain.</td>
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CONCLUSION

The analysis of the studies has addressed countless intervention strategies for pain relief during vaccination, whether led by a professional person or by the parents themselves. The different methods of intervention bring approaches based on distraction, especially through the use of toys and children’s films. The studies have also shown evidence of the importance of the participation of the parents during the procedure, after due training or use of an educational tool with pamphlets, videos or other educational programmes, and have shed light on the benefits of the facilitated position for newborns. The knowledge obtained through this study has shown that the implementation of different techniques for pain relief has shown itself to be beneficial for the handling of pain among children of different ages, thereby being a form of support to the professional staff, for use in clinical practice.

REFERENCES

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