



ORIGINAL ARTICLE

Use of digital media for the education of health professionals in the treatment of childhood asthma[☆]



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KEYWORDS

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Abstract

Objectives: Inhalation therapy is the main treatment for asthma and its adequate use has been a factor responsible for disease control; therefore, the aim of the study was to determine whether a digital media tool, which features portability on mobile phones, modifies the assimilation of the inhalation technique.

Methods: A total of 66 professionals working in the health care area with the pediatric population were selected. They were submitted to a pre-test on their knowledge of inhalation therapy. The professionals were randomized into two groups (A and B). Group A received a media application on their mobile phones showing the steps of inhalation therapy, while group B received the same information in written form only. A post-test was applied after 15 days. The results (pre- and post-) were analyzed by two pediatric pulmonologists.

Results: Of the 66 professionals, 87.9% were females. Of a total possible score of ten, the mean score obtained in the pre-test was 5.3 ± 3 , and in the second test, 7.5 ± 2 ($p < 0.000$). There were no significant differences when comparing the two groups ($p = 0.726$). The nurses had the lowest mean scores in the initial test (2.3 ± 2); however, they were the group that learned the most with the intervention, showing similar means to those of other groups in the second test (6.1 ± 3).

Conclusion: There was significant improvement in knowledge about inhalation therapy in all professional categories using both methods, demonstrating that education, when available to professionals, positively modifies medical practice.

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PALAVRAS-CHAVE

Asma;
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Uso de mídia digital na educação de profissionais de saúde para tratamento da asma infantil**Resumo**

Objetivos: A Inaloterapia representa a principal forma de tratamento da asma e seu uso adequado tem sido fator responsável pelo controle da doença, desse modo o objetivo do estudo foi determinar se uma ferramenta de mídia digital, dotada de portabilidade na forma de telefonia móvel, modifica a assimilação da técnica inalatória.

Métodos: Foram selecionados 66 profissionais que atuam na área da saúde com população pediátrica. Estes foram submetidos a um pré-teste sobre seus conhecimentos de inaloterapia. Os profissionais foram randomizados em dois grupos (A e B). Grupo A recebeu em seu telefone móvel um aplicativo de mídia com os passos da inaloterapia, enquanto grupo B recebeu as mesmas informações apenas de forma escrita. Após 15 dias, realizou-se um pós-teste. Os resultados (pré e pós) foram analisados por dois pneumologistas pediátricos.

Resultados: Dos 66 profissionais, 87,9% eram do sexo feminino. Num escore total possível de dez, a média das notas obtidas no pré-teste foi de $5,3 \pm 3$ e as do segundo teste $7,5 \pm 2$ ($p < 0,000$). Não houve diferenças significativas comparando os dois grupos ($p = 0,726$). Os profissionais de enfermagem apresentaram a menor média nas provas iniciais ($2,3 \pm 2$), porém, foi o grupo que aprendeu mais com a intervenção, apresentando média similar aos outros grupos na segunda prova ($6,1 \pm 3$).

Conclusão: Houve melhora significativa no conhecimento sobre inaloterapia em todas as categorias profissionais usando ambos os métodos, comprovando que a educação quando disponibilizada aos profissionais, modifica positivamente a prática médica.

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Introduction

Asthma has an important role in pediatric clinical practice due to its prevalence. It currently affects roughly 300 million people worldwide.¹

In Brazil, considering the overall prevalence of 10%, it is estimated that there are 20 million asthmatic individuals. A total of 160,000 hospitalizations were recorded in 2011, making asthma the fourth most frequent cause of hospitalization in the country.¹

Several drugs and different routes of administration have been used for adequate disease control. The inhalation route is currently the most frequently used and studied for use both during crises and for maintenance drug therapy.²

Several factors may modify the pharmacokinetics of medication: age, breathing pattern, use of spacers, and aspects related to the correct use of the technique.³

The most commonly used inhalation devices in the pediatric population are pressurized metered-dose inhalers (MDI). These, when used in children, require the use of a spacer that minimizes the need to coordinate breathing and reduces the deposition of particles in the oral cavity, reducing side effects.

Applying the adequate technique using the MDI with spacer is not a consensus among health care professionals. Few know how to perform or properly teach the technique to their patients. According to literature data, technical adequacy rates can range from 15% to 69% among these professionals, considering different professional areas.⁴ Studies comparing success rates and assimilation technique have been more successful regarding strategies that

include a process of continuing education and periodic revision.⁵

Although one study⁴ has demonstrated improved technique among health professionals who receive adequate information and those who review it frequently, there is no suggestion in the literature for a simple, effective, and low-cost way to provide this training.

Furthermore, the importance of performing the inhalation technique is still seldom discussed during medical training, lacking adequate emphasis in textbooks that are not specific to the area, and focusing such knowledge only on specialists.

Considering the idea of improving asthma control and treatment through health professional and patient education, the authors developed a mobile application for continuing education directed at the adequate use of inhalers in the pediatric population, thereby creating a teaching tool available to all professionals.

The aim of this study was to evaluate the knowledge of different health professionals on the use of inhalation therapy and determine whether the digital media tool, available for the Android (Google Inc, CA, USA) and/or iOS platform (Apple Inc, CA, USA) for use in mobile phones, modifies the assimilation of the presented content, thus more comprehensively disseminating knowledge on inhalation therapy.

Methods

At the initial stage of research development, a video was created disclosing the correct technique for using the

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