63 - PULMONARY REHABILITATION PULMONAR IN CHILDREN WITH ASTHMA: BIBLIOGRAPHIC REVISION

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doi: 10.16887/85.a2.63

INTRODUCTION

According to Casa Grande et al. (2007) although people discuss a lot talking about asthma there isn't still a clinical definition about it. Being considered in various studies as one of the main world chronicle diseases is more common in children of all ages and from different social and ethical classes, with high taxes of morbidity and mortality. It is characterized as a Public Health Problem being necessary adequating actions to its control (PEROSA et al; 2013).

According to Chatkin et al. (2000) associated to a high number of doctors' visit, the hospitalization also increases and correspond to 37% of costs directed to children with asthma crisis. The Health Ministry confirms this information. These ones show that last decade occurred about 300.000 hospitalizations because of asthma in Brazil, being considered the fourth cause of hospitalization in Unique Health System (SUS) and the third cause among children and adolescents. Presenting a cost of R$ 96 million corresponding to hospitalizations in Unique Health System (SUS) (SOUSA et al., 2012).

To Frota; Martins; Santos (2008) the asthma prevalence has increased all over the world, including Brazil, 50% of the children suffer by respiratory system diseases. This one afflicts about 300 million of persons with negative consequences for individuals and society. According to epidemiologic studies as the ISAAC (International Study of Asthma and Allergies in Childhood) the asthma afflicts from 4,7% to 28, 2% of children from 6 to 7 years and 4,8% to 27% of the population from 13 to 14 years (RIO; GALLO; SIQUEIRA, 2002; WEHMESTER et al; 2012).

In persistent asthma patients the physiotherapy will do functional rehabilitation, through adequate exercises that actuate in respiratory muscles mobility, exercises cadenced with respiration as well as correct posture adoption. These intervention turn possible to these patients a reduction in crisis number till 60% of the cases (TAKETOMI; MARRA; SEGUNDO, 2005).

This way it is perceived the importance of knowing the interventions that turn possible the crisis reduction effectively, avoiding this way that the asthma patient becomes restrict in his activities. Therefore, the aim of this revision is to identify the asthma patients' pulmonary rehabilitation programme benefits.

METHODOLOGY

This research is a literature integrative review, that was done by a scientific papers selection published in indexed periodicals at Scientific Electronic Library (SCIELO), database, Scientific Literature of Latin America and the Caribbean (LILACS) and Scholar Google, with data search ocurring from Abril to May of 2014, using the descriptors extracted from HSD (Health Science Descriptors), with base in the Key-words: asthma, physiotherapy and children.

The inclusion criteria to the studies found in databases were: be a case study or intervention, almost experimental studies, having as research participants individuals with asthma submitted to a pulmonary rehabilitation programme, approach these programme benefits, have free access and has been published in Portuguese, english or Spanish. Bibliographic reviews, thesis and dissertations were excluded.

The papers selection from the databases search was done initially by th titles, the ones relates with the objective were chose for the abstract Reading and the ones with important information were completely read.

There were 616 articles; after the titles Reading and the observation of the publication year 547 were excluded, resting 69 articles. After the abstracts reading 45 were excluded, resting 24 that after complete reading resulted in the use of six articles for the revision.

RESULTS

Table 1. Pulmonary Reabilitation in asthmatic children

Autor	Objective	n	Resultados
SILVA *et al* ., 2011	Verify the effect of a physical exercises programme directed to asthmatic children rib cage mobility	14 children	Regarding to the aerial flow obstruction, in the peak-flow test, there was an increase of **14% from 261,43± 33,87 L/min to 298, 57±41,40 L/min. About the Chroni c Respiratory Questionnaire (CRQ) was observed a significant statistical increase of 27% in asthmatic children life quality after the implementation of the rehabilitation programme, from 66 to 84.**
DOMINGUES; ALMEIDA, 2010	Analyze the physiotherapy intervention benefits in patients with respiratory diseases pacientes.	7 patients	From seven patients that were submitted to physiotherapy treatment, no one went to hospital during the treatment and just two of them were in use of medicines, but with lower frequency. All of them related a better life quality in general way, with decrease of crisis and greater spacing among them.
MABA *et al* ., 2012	Present the results of a physiotherapy assistance programme beyond the clinical aspects of a child with asthma.	1 patient	The periodical treatment of physiotherapy guaranteed an stabilization of the case not permitting any case of pneumonia, with an increase of the period inter crisis. There was also a progressive melioration of the pulmonary auscultation and decrease o f secretion elimination episodes. It was observed a melioration of the spirometer parameters of VEF1 and CVF when compared to pre and post treatment, having a gain of 32% and 30% respectively.

LANZA *et al* ., 2010	Identify pulmonary function changes in asthmatic patients with bronquical hipersecretion hospitalized evaluating the forced expiratory volume in the first second (VEF1) and the expiratory flow peak (PEE) after the conventional physiotherapy techniques.	21 children	In the group of tapotage 9/11 patients presented pulmonary auscultation with sparse expiratory wheezes and in the **vibration group 7/10. There weren't differences in the among the phases pretreatment, immediate post (post -I) and after 30 minutes (post -30) in the tapotage and vibration group. The patients were kept eupneic during the protocol realization.**
LIMA *et al* ., 2008	Evaluate inspiratory muscle training (IMT) and respiratory exercises effects in muscle force, Expiratory flow peak (PEE) and serious variables in children with asthma.	50 children	In the comparative analysis was observed a significant increase of maximum inspiratory and expiratory pressures and of pfe previous and after intervention in the inspiratory muscle training (IMT).
DOMINGUES *et al*., 2010	Offer physiotherapic treatment to patients with respiratory diseases.	7 subjects	The physiotherapy obtained satisfactory results in the matter of crisis prevention in four patients (57,14%), that didn't report more crisis during the physiotherapic treatment. The other patients (42,86%) presented about four crisis in the referred period, diminishing, this way, the crisis number during the treatment.

DISCUSSION

According to Dariz; Rech (2013) the asthma is presented with more prevalence in masculine sex from 6 to 7 years and in feminine sex from 13 to 14 years, beyond ISAAC methodology. These patients can present among the asthmatic characteristics diminished respiratory sounds and hyperresonant pulmonary fields, because of the air imprisonment in lungs, due to an expiratory difficulty.

According to Taketomi; Marra (2005) the asthma crisis provokes a lung air retention as well as the increase of residual expiratory volume levels. In these patients the pulmonary physiotherapy aims the functional rehabilitation, through the adequate execution of exercises that actuate in respiratory muscle mobility, exercises cadenced with respiration as well as the adoption of postures that do a facilitation and corrective action of pulmonary ventilation.

The asthma management of treatment and prevention is still not completely defined, from the rib cage mobilization technique was verified an increase of the expiratory flow peak, that can be explained by the fact that this basal region mobility increase corresponds to a fundamental factor for meliorating the pulmonary capacity (SILVA et al. 2011).

According to Pasqualdo et al (2009) the pulmonary rehabilitation programme turn possible a better life quality in asthmatic patients. Evaluating the training modality with detach to a significant increase for these patients, obtaining among the results a significant increase in PEmax and PImax, comproving therfore that the respiratory muscle training promotes significant clinical responses for these patients, due to the proper mechanical action that is increased in the inspiratory muscles, contributing to a greater thoracoabdominal mobility and consequently a mechanical reorganization of all the muscles involved in respiration

Although various asthmatic patients with more severity and less knowledge believe that the physical activity is not beneficial, studies show that these activities, together with respiratory therapies turn possible a better pulmonary function, besides contributing to a cardiopulmonary performance, and this way to asthmatic patients better life quality. (TRAVENSOLO; RODRIGUES, 2006; MABA et al, 2011).

According to Roceto et al (2007) the studies show that the long and expensive pulmonary rehabilitation models, that include many sessions during the week have presented beneficial effects, even when it is a programme with a lower frequency, but well oriented and simple it can bring benefits to the patients, observed by better life quality.

FINAL CONSIDERATIONS

Through this study was possible evidence the importance of pulmonary rehabilitation in asthmatic children, using the physiotherapy as one of the principal methods applied to this disease treatment.

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PULMONARY REHABILITATION PULMONAR IN CHILDREN WITH ASTHMA: BIBLIOGRAPHIC REVISION

ABSTRACT

INTRODUCTION: The diseases of respiratory system are each day more common in children and adolescents lives, especially asthma. OBJECTIVE: Identify pulmonary rehabilitation plans benefits in asthma patients. METHOD: This research is about a bibliographic review that was done through a scientific articles selection from Scientific Electronic Library (SCIELO) data base, Scientific Literature of Latin America and the Caribbean (LILACS) and Scholar Google, with the research occurring from March to April of 2014, using the descriptors extracted from HSD (Health Science Descriptors): asthma, physiotherapy and children, using papers from 2004 to 2014. RESULTS: From 616 articles found out just six were included in the revision. The studies showed that the physiotherapy becomes satisfactory in the matter of asthma crisis prevention. CONCLUSION: The management of asthma prevention and treatment isn't completely defined, therefore is evident that the pulmonary rehabilitation turns possible asthma patients better life quality.

KEY WORDS: Asthma. Children. Physiotherapy.

LA RÉADAPTATION PULMONAIRE CHEZ LES ENFANTS ASTHMATIQUES: REVUE DE LA LITTÉRATURE

RÉSUMÉ

CONTEXTE: Les maladies respiratoires aiguës chaque jour, ils deviennent plus fréquentes dans la vie des enfants et des adolescents, en particulier asma.OBJETIVO: Identifier les avantages de la réadaptation pulmonaire chez les patients asthmatiques. Méthode: Cette recherche présente une revue de la littérature qui a été menée par la sélection des documents à partir de bases de données Bibliothèque électronique scientifique (SciELO), littérature américaine Latino Caraïbes sur les sciences de la santé (LILACS) et Google Scholar, ayant la recherche a eu lieu de Mars à Avril 2014, en utilisant les mots clés extraits DECS (descripteurs en sciences de la santé): l'asthme, la thérapie physique et des enfants, à l'aide des articles des années 2004 à 2014. RÉSULTATS: Sur 616 articles identifiés, seulement six ont été inclus à l'examen. Des études ont montré que la thérapie physique devient satisfaisant dans la question de la prévention des crises chez les patients asthmatiques. CONCLUSION: La gestion du traitement et de la prévention de l'asthme ne sont pas encore totalement défini, mais il est clair que la réadaptation pulmonaire fournit une meilleure qualité de vie chez les patients asthmatiques.

MOTS-CLÉS: Asthme. Enfants. Physiothérapie

REHABILITACIÓN PULMONAR EN NIÑOS ASMÁTICOS: REVISIÓN DE LA LITERATURA

RESUMEN

Antecedentes: Las enfermedades respiratorias agudas cada día se vuelven más comunes en la vida de niños y adolescentes, especialmente asma.OBJETIVO: Identificar los beneficios de la rehabilitación pulmonar en pacientes con asma. MÉTODO: Esta investigación se trata de una revisión de la literatura que se llevó a cabo mediante la selección de los documentos de las bases de datos Scientific Electronic Library (SciELO), América latina Caribe Literatura en Ciencias de la Salud (LILACS) y Google Scholar, que tienen la búsqueda se llevó a cabo entre marzo y abril de 2014, el uso de las palabras clave extraídos del DeCS (Descriptores en Ciencias de la Salud): asma, terapia física y los niños, el uso de artículos a partir de los años 2004 a 2014. Resultados: De 616 artículos identificados, se incluyeron sólo seis en la revisión. Los estudios han demostrado que la terapia física se vuelve satisfactorio en el tema de la prevención de crisis en pacientes asmáticos. CONCLUSIÓN: La administración de tratamiento y prevención del asma aún no están completamente definidos, aunque está claro que la rehabilitación pulmonar proporciona una mejor calidad de vida en pacientes con asma.

PALABRAS CLAVE: Asma. Niños. Fisioterapia.

REABILITAÇÃO PULMONAR EM CRIANÇAS ASMÁTICAS: REVISÃO DE LITERATURA

RESUMO

INTRODUÇÃO: As doenças do aparelho respiratório a cada dia tornam- se mais comuns na vida de crianças e adolescentes, em especial a asma. OBJETIVO: Identificar os benefícios de programas de reabilitação pulmonar em pacientes asmáticos. MÉTODO: Esta pesquisa trata-se de uma revisão de literatura que foi realizada através da seleção de artigos científicos das bases de dados do Scientific Eletronic Library (SCIELO), Literatura Latino Americana do Caribe em Ciências da Saúde (LILACS) e Google Acadêmico, tendo a busca ocorrido de março a abril de 2014, utilizando os descritores extraídos do DeCs (Descritores em Ciência da Saúde): asma, fisioterapia e crianças, utilizando artigos entre os anos de 2004 a 2014. RESULTADOS: Dos 616 artigos encontrados apenas seis foram incluídos na revisão. Os estudos mostraram que a fisioterapia torna-se satisfatória no quesito de prevenção de crises em pacientes asmáticos. CONCLUSÃO: O manejo do tratamento e prevenção da asma ainda não estão completamente definidos, embora seja evidente que a reabilitação pulmonar possibilita uma melhora da qualidade de vida dos pacientes asmáticos.

PALAVRAS-CHAVE: Asma. Crianças. Fisioterapia.