THE EFFECTIVENESS OF MASSAGE TECHNIQUES IN CHILDREN WITH ASTHMA

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Abstract, Background: Asthma is a condition in which the airways are narrowed due to hypersensitivity to certain stimuli that cause inflammation, this narrowing is recurrent and between episodes of bronchial narrowing there is a more normal ventilation state. This narrowing is due to the contraction of the smooth muscles of the respiratory tract, swelling of the mucous membranes, and the formation of excessive mucus deposits. How to deal with asthma is by pharmacological and non-pharmacological. One way of non-pharmacological management to reduce asthma is to provide massage action, it will increase the feeling of comfort and reduce tightness because the lung muscles will be able to move freely. This EBCR aims to determine the effectiveness of massage in children with asthma.

Methods: Used in writing EBCR is by searching for evidence through databases from the Pub Med, Google Scholar, science direct, and Willey databases with the year published on May 21, 2017. The massage is done on the back for about 2 minutes at each point and can repeat the massage at the same point. same after 5 minutes.

Results: Massage has a significant positive and effective effect on reducing asthma in children. It is proven that children feel more relaxed and comfortable and reduce pain after being given massage therapy.

Conclusion: Massage has a significant positive and effective effect on reducing asthma in children.

Keywords: Massage children; massage technique in children; asthma

Background

As a common chronic inflammatory disease of the airways, asthma is characterized by several symptoms, a tendency to recur, reversible airway obstruction, and bronchospasm. Bronchoconstriction produced by shortening of smooth muscle causes airway obstruction and is a hallmark of asthma. Asthma is a global health problem. It is the most common chronic disease of childhood. Although internationally there is wide variation in the prevalence of asthma, it affects more than 300 million people worldwide.(1)

The World Health Survey estimates the global prevalence of asthma in adults to be 4.3%with a 21-fold variation between countries. It is estimated that the number of Disability Adjusted Life Years (DALYs) lost due to asthma worldwide is about 15 million per year, which is about 1% of all DALYs lost. The number of DALYs lost from asthma reflects the high prevalence and severity of asthma, which is equivalent to diabetes, liver cirrhosis, or schizophrenia.(1)

To build and increase awareness, willingness and ability to live a healthy life for everyone in order to realize the highest degree of public health.

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Health is a state of well-being that includes physical, mental and social well-being that is not only free from disease or disability. Health problems that the most common are hypertension, heart disease, stroke and diabetes mellitus, asthma, joint disease (rheumatism and gout), cancer/tumor, and road traffic injuries. (9)

The number of people with asthma reached 27% more women than men, which only reached 14%. For girls, their asthma did not decrease because when they grew up, women experienced a narrowing of the respiratory tract by up to 20%. However, currently the incidence of asthma is more in men due to cigarette smoke pollution. (12)

The World Health Organization (WHO) report in the 2016 world health report stated that the five main lung diseases accounted for 17.4% of all deaths in the world, each consisting of 7.2% lung infection, COPD (Chronic Obstructive Pulmonary Disease) 4, 8%, tuberculosis 3.0%, lung/trachea/bronchial cancer 2.1% and asthma 0.3%. The Global Initiative for Asthma (GINA) estimates that 300 million people worldwide suffer from asthma. The total prevalence of asthma in the world is estimated at 6% in adults and 10% in children (12)

Based on the results of the Household Health Survey (SKRT), asthma is the fourth leading cause of death (mortality) in Indonesia or 5.6%. It is reported that the prevalence of asthma throughout Indonesia is 13 per 1,000 population. The highest incidence of asthma in Central Sulawesi Province is 7.8% and in East Nusa Tenggara 7.3%, while in Bengkulu Province the incidence of asthma is 2.0% (Ministry of Health, 2017). Research conducted by the National Health Interview Survey using the ISAAC (International Study on Asthma and Allergy in Children) questionnaire, said that the consequences of untreated asthma can lead to death. The study said that asthma is the eighth cause of death from data in Indonesia, the prevalence of asthma symptoms jumped from 4.2% to 5.4%.(2)

The cause of asthma has something to do with the body's antibodies that have excessive sensitivity to allergens in this case is Immunoglobulin (Ig). While the allergens referred to here can be either intrinsic or extrinsic allergens. So that asthma can be passed down from parents to their families.(3)

This hereditary factor can also cause disturbances in child development.(4) Children who have asthma need good treatment from health workers because the disease can be experienced continuously even into their adulthood, therefore therapy is highly needed to be given to them, either pharmacological therapy or non-pharmacological therapy. One of non-pharmacological therapy given to children is pursed lips breathing (5)

Physical handling at the time of the attack can be given a massage on the back. Massage is the manipulation of the hands on the soft tissues of the body for the purpose of creating and maintaining health. (6)

Massage is usually most often given in the back area. Back massage can be given for 4 to 6 minutes to be effective. One of the massage techniques that can be done on the back is the effleurage technique. (1)

Methods

The search for evidence was carried out on May 30, 2022 using the Pub Med, Google Scholar, science direct, and willey databases. The keywords used are words that represent the population, namely Massage technique in children and asthma. The search for articles is limited to those published in the last 10 years and full text articles title/abstract. The remaining articles were reviewed based on the inclusion criteria. keywords used are Massage technique in children and asthma

Results and Discussion

Based on the search results performed in the article jia-wu et al.(2017) regarding the effectiveness of massage in children with asthma. Eligible studies were included in this meta-analysis. Studies with 1299 patients were included (range: 58-153) in the review. The risk assessment of bias indicates the risk of bias in the included studies. For random sequence generation,10 studies were considered to be at low risk of bias [21,22,24,26-30,33 34]. In the case of random location hiding, all studies included considered to have an obscure risk of bias [21-34]. In terms of the method of blinding participants and implementers, all studies were classified as high risk of bias.

For the blind outcome assessment method, 7 studies were considered to have which unclear [23, 26, 27, 30-33], but another 7 were classified as high risk of bias group [21, 22, 24, 25, 28, 29, 34]. For incomplete data results and selective reports, all studies including is(n = 208).

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studies including 1099 patients [21–32] compared the efficacy of baseline treatment combined with or without massage treatment in children with asthma.

Comprehensive results show significantly higher efficacy in the massage group than in the control group (RR 1.19; 95% CI 1.13–1.24; p = 0.001; I 2 = 0%,).

The study including 365 patients reported the effect of massage on forced expiratory volume in 1 second (FEV1) in children with asthma [31–34]. In addition, 3 studies with 271 patients reported the effect of massage on maximal expiratory flow (PEF) [32–34]. The results showed that massage-focused therapy could significantly increase FEV1) (SMD: 0.83; 95% CI: 0.58 to 1.08; p = 0.002; p = 0.001; I 2 = 29.7%).

Based on the review of journals that have been carried out, several journals were obtained that are in accordance with the research conducted and then an Evidence Based Case Report (EBCR) was made. The intervention carried out in this practice is massage in asthma patients. Activities undertaken by clients to help clients from health status problems faced by better health status that describe the expected outcome criteria. Implementation is an initiative from an action plan to achieve specific goals. The implementation phase begins after an action plan is drawn up and aimed at the midwife to help the client achieve the expected goals.

Therefore, a specific action plan is implemented to modify the factors that affect the client's health problem. At the beginning of the meeting, it is important for the midwife to establish a therapeutic relationship so as to create effective communication and mutual trust between the two parties that are needed in subsequent midwifery care.
Therefore, at the first meeting with Mrs. L's parents from A were approached first so that the relationship could be established comfortably, after that the author explained the aims and objectives in implementing this midwifery care so that a trusting relationship was established and avoiding client misunderstandings. Mrs. L as the parent of A is willing to give massage intervention to her child and sign the informed consent form.

The first thing to do is to take anamnesis to get subjective data from the patient. Subjective data obtained from interviews in this case, based on subjective data that has been done, namely the mother said she felt her child had been coughing up phlegm since 3 days ago, decreased appetite and shortness of breath. Objective data obtained from tv and physical examination. Namely with N: 96 R:40 with chest examination There is chest wall pulling, there is a hyperresonance sound, there is a wet crackle sound. So it can be concluded that the child is having asthma and the parents say that their child does have asthma and there is a family history of asthma, namely the grandmother.

Asthma is a condition in which the airways are narrowed due to hypersensitivity to certain stimuli that cause inflammation, this narrowing is repeated and between episodes of bronchial narrowing there is a more normal ventilation state. Bronchial asthma sufferers are hypersensitive and hyperactive to external stimuli, such as house dust, animal dander, smoke, and other allergens. Symptoms appear very suddenly, so that asthma disorders can come suddenly if you can't get help immediately, the risk of death can come. Bronchial asthma disorders can also arise due to inflammation that causes narrowing of the lower respiratory tract. This narrowing is due to the contraction of the smooth muscles of the respiratory tract, swelling of the mucous membranes, and the formation of excessive mucus deposits. (5)

In patient a with the problem of tightness is given a massage action, it will increase a sense of comfort and reduce tightness because the lung muscles will be better able to move freely. Evaluation aims to assess effectiveness of intervention or care and to communicate status of a evaluation provides information, thereby allowing revision.

Massage can stimulate the release of norepinephrine and acetylcholine which are mediators of the autonomic nervous system. Sympathetic nerves innervate smooth muscle in the respiratory tract which causes bronchial relaxation and decreased bronchial secretion. The results of measuring APE values in this study are in line with the results of research conducted by Nekooee, et al in 2008 in asthmatic children. Giving massage is given every night before bed for 4 weeks. The results showed an increase in the value of APE (1).

line with the previous theory, treatment with massage methods for shortness of breath can be done. This treatment technique is very safe and without side effects, easy and inexpensive and can treat various types of shortness of breath due to various other reasons. Do massage at points in the back area where there are autonomic nerves consisting of sympathetic and parasympathetic nerves. Massage is done for about 2 minutes at each

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point and can repeat the massage at the same point after 5 minutes. For acute asthma, do therapy at least 3 times a day for 5 consecutive days and after that continue therapy every day until you are fully recovered.(6)

Oxygen is the most vital basic need in human life. The body depends on oxygen to survive. Pulmonary oxygen is adequately received from the environment into the lungs, blood vessels and tissues. Oxygen is also needed in the process of cell metabolism. Lack of oxygen will have a significant impact on the body, one of the worst is death. Oxygenation is a process to get O2 and give off CO2. The physiological need for oxygenation is a basic human need that is used for the survival of body cell metabolism, to maintain life and for the activities of various organs or cells. If more than 4 minutes people do not get oxygen it will result in irreparable brain damage and usually the patient will die. (5)

According to previous researchers, evaluation is an assessment by comparing changes in the patient's condition (observed results) with the goals and outcome criteria made at the time of planning. The purpose of the evaluation is to end the nursing action plan, modify nursing actions, and continue nursing actions. In line with the research conducted by previous researchers with the title Analysis of Nursing Clinical Practices in Asthma Patients with Massage Therapy at Abdul Wahab Sjahrani Hospital Samarinda 2015 asthma The causes can vary and it is known that there is a source of infection, with the main sources being bacteria, viruses, mycoplasma, fungi, various chemical compounds and particles. This disease can occur at any age, although the most severe clinical manifestations appear in children, the elderly and people with chronic diseases. (4)

Conclusions

From the results of a critical review of journal articles for Evidence Based Case Reports (EBCR) it can be concluded that back massage techniques are able to reduce asthma in children and are an effective, easy and inexpensive way without causing side effects.

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