Research on the Application of Whole-Course Nursing Intervention in the Atomization Treatment of Infant Asthma

Jiahang Liu

Zhongshan Hospital Xiamen University, Xiamen, Fujian, 361000, China

【**Abstract**】To understand the application effect of whole-course nursing intervention in the aerosol treatment of children with asthma. Methods: A sample of 64 children with asthma who received aerosol treatment was selected and randomly divided into a control group and an experimental group, with 32 cases in each group.The control group was given routine nursing care, and the experimental group was intervened with a full-course nursing model on the basis of routine nursing care to observe the clinical efficacy of the two groups of patients.Results: The total effective rate of the experimental group was significantly better than that of the control group, and the difference was statistically significant ($P<0.05$).Conclusion: In the aerosol treatment of children with asthma, strengthening the whole course of nursing intervention can help regulate the mental state of patients, improve their treatment compliance, and improve the prognosis of patients. It is worthy of widespread clinical promotion and application.

【**Keywords**】full nursing intervention; childhood asthma; nebulization treatment

1 Introduction

As a common clinical disease, asthma is prone to children, and atomization inhalation treatment is mostly used in clinical practice. When children with asthma receive atomization treatment, they cannot cooperate with the treatment due to their poor compliance. In order to ensure the clinical efficacy, nursing intervention is particularly important. In order to explore the whole nursing intervention in pediatric asthma atomization treatment application value, the author of 64 cases of atomization treatment of asthma children parallel control study, according to the results of some technical discussion, through exploring and research, improve the children with asthma atomization treatment nursing problems, improve the efficiency of nursing.

2. Overview of the clinical manifestations and aerosol inhalation treatment methods of pediatric asthma

2.1 Clinical manifestations of pediatric asthma

The incidence of asthma around the world is between 0.1% and 32%. The reasons may be related to genetic inheritance, age, geographical location, climate, environment, race, industrialization, urbanization, interior decoration, living standard, eating habits, etc. Start or urgent or slow, infant asthma often has 1~2 days before the upper respiratory tract allergy symptoms, including nasal itching, sneezing, runny nose, rubbing the nose and other manifestations and

gradually appear cough, wheezing. The onset of older children is often more sudden, often starting with a cough, followed by wheezing, dyspnea and so on.[2]

2.1.1 Symptoms and signs during the acute onset period

The main symptoms of asthma acute attack are cough, wheezing, dyspnea, chest tightness and so on. The typical presentation is episodic expiratory dyspnea with wheezing. Mild attacks when most of the attack of cough and chest tightness as the main manifestations. In severe attacks, children are agitated, sitting, breathing, panting, pale, nose flapping, lips and nails blue, cold sweat, speaking words can not be continuous."Three concave signs" are obvious, chest and abdominal abnormal movement, thoracic swelling, percussion showed overclearing, breath prolongation, most of them have extensive expiratory phase-based wheezing. If the airway obstruction is serious, the breathing sound can be significantly weakened, and the wheezing sound will weaken or even disappear. If the heart rate increases rapidly, the jugular vein irritability, strange veins and other signs can appear. In serious cases, it can be complicated with heart failure, resulting in extensive moderate and small blisters in the lung floor, liver enlargement and edema. Acute asthma symptoms can be resolved over hours to days after treatment with bronchodilators or spontaneously.

2.1.2 Symptoms and signs in remission

The signs and symptoms of most children in remission all disappeared. Some children have conscious chest tightness, lung auscultation breath sound weakened, but often no wheezing.

2.2 Overview of aerosol inhalation treatment methods

Abulization treatment mainly refers to aerosol inhalation therapy. Aerosols are tiny solid or liquid particles suspended in the air. Therefore, atomization inhalation therapy is to use the atomization device to disperse the drug into tiny droplets or particles, so that it is suspended in the gas, and into the respiratory tract and lung, to achieve the purpose of clean airway, humidifying airway, local treatment and systemic treatment.

3 Nursing intervention methods for atomization treatment of pediatric asthma

3.1 General care

To create a safe and comfortable medical environment, require soft indoor light, regularly open Windows every day ventilation, keep indoor air fresh, the indoor temperature is generally kept at 18-20℃, the relative humidity is 50% to 60%, it is strictly prohibited to place allergic flowers and articles in the room, so as not to aggravate the condition [4].

3.2 Psychological nursing care

According to the age and characteristics of the psychological counseling, patiently explain the importance and necessity of atomization inhalation to the children and their families, and let the children observe other children under treatment, relieve the fear of the children, and strive for the cooperation of the children and their families to improve the effect of atomization inhalation.

Strengthen health education and publicity. Some parents in the children's condition slightly better that self stop or reduce medicine, resulting in the recurrence of the disease. Nursing work should often communicate with parents, eliminate concerns, let parents actively cooperate with the treatment. In addition, attention should also be paid to the different characteristics of each child with asthma for psychological care, to prevent generalization and formulaic.

3.3 Housing selection

When atomization inhalation, it is best to choose the sitting or semi-lying position, not the supine position, so that the diaphragm drops relatively and the chest cavity expands. Expand the gas exchange volume. To relieve discomfort. The ateral position was adopted for children with vague consciousness and respiratory weakness.

3.4 The atomization inhalation method

According to the age and condition of the child, 121 device or mask were selected. Older children can use mouth suction, told children to use lips

Take the 13 holder on the sprayer, and take a deep breath slowly, inhale in the 121 chamber as much as possible, and exhale through the nostrils. Face mask inhalation can be used for infants.

3.5 Nursing care of children with poor coordination

In order to ensure that drugs enter the respiratory tract, for young children, mainly to guide parents to use toys, laugh, divert attention and other ways to avoid the crying of children, to overcome the double inspiration after crying. The maximum amount of aerosol suction and the aerosol particles are easy to enter the deep respiratory tract. For the children with severe crying who does not cooperate with the treatment, it is appropriate to distract their attention or take the suction treatment after their sleep, so that the children can successfully complete the course of treatment

3.6 Precautions for atomization inhalation treatment of children

(1) Rse the mouth before atomization to remove secretions and food residues in the mouth to prevent the liquid from stimulating the airway during atomization inhalation.

(2) After each atomization, rinse the mouth in time. The mask inhalalso need to wipe the fog beads below the mouth and nose, so as to prevent residual fog droplets to stimulate the mouth and nose skin, so as not to cause skin allergy or damage.

(3) Do not eat and drink for 30 minutes after each atomization treatment.

(4) After each atomization treatment, please clean the atomization mask and drug tank, but the ventilation pipe does not need washing.

(5) the atomizer should be cleaned in time after it is used. It can be soaked in warm water for half an hour and then cleaned. After drying, it should be dried in a clean bag and use it again next time. Make sure that one set, one for one person, to prevent cross-infection. Aerosol is an auxiliary treatment of respiratory diseases, not a specific drug. In the process of atomization inhalation,

attention should be paid to the observation of the breathing situation of the patient. If there is any discomfort, at any time, call doctors and nurses to deal with it accordingly.

4 Practical study on nursing intervention in pediatric asthma

4.1 Clinical Case Overview

A total of 64 children with asthma admitted to our hospital from March 2012 to March 2014 were selected as the study objects, all met the clinical diagnosis criteria of asthma in Practical Pediatrics (7th edition) [1], and excluded serious heart, liver, kidney and other organ diseases and other interfering diseases; including 33 males and 331 females, aged 3~12 years, mean age (4.14 ± 1.05), duration 1d to 1 month, mean duration (4.31 ± 1.64) d. Using the randomized parallel control method, 64 children were randomly divided into two groups of 32 each. The difference of general data between the two groups was not significant (P> 0.05), which was comparable.

4.2 Study Methods

4.2.1 Treatment methods

Both groups of children given to shu (Australia AstraZenecaPtyLtd production, imported drug registration standard H20090903) plus can must (French Laboratoire Unite production, imported drug registration standard H2012054) for atomization treatment: children under the age of five give may 1 plus can must half, over the age of five, twice a day, heavier three times a day, asthma acute phase can increase quantity, strengthen the intervals of an hour after the first time.

4.2.2 Nursing methods

The control group gave routine care: keep the ward environment comfortable and quiet, assist the children to take the sitting or semi-lying position, keep the respiratory tract unobstructed, prevent infection, etc. The experimental group administered the whole-process nursing intervention based on the control group nursing: ① Health education and psychological nursing: to explain the disease-related knowledge to the children and their families, To clarify the advantages and methods of atomization inhalation treatment, Encourage children to contact and feel the temperature and intensity of atomization airflow, Give targeted psychological counseling; ② Pre-atomization care: strictly follow the aseptic operation, Give adequate medication, To prevent drug volume waste during inhalation, Select the sitting position, For the adequate expansion of the lungs, Increase the gas exchange volume; ③ Aatomization care: clean the mouth, Provide the correct breathing mode guidance, Do not apply the mask over the eyes, Avoid the fluid intrusion into the eyes, Monitor the heart rate and breathing, Ensure a smooth airway, Assist in patting back and sputum; ④ Post-atomization care: closely observe the changes of the condition, Clean the face, Assist in back and sputum extraction, Pay attention to diet, medication and other guidance, And told the timely return visit, Ensure the quality of life of the children [5].

4.3 Judgment of efficacy

The criteria for clinical efficacy: significant effect: cough, dyspnea and the blood oxygen saturation is increasing; effective: disappear in the main clinical signs and symptoms, and the blood oxygen saturation is increasing; invalid: none of the above indicators change significantly.

4.4 Application of statistical methods

SPSS19.0 Statistical software for the above data analysis, measurement data by mean ± standard deviation (X ± S), t test, count data for χ 2 test, P <0.05 is statistically significant.

4.5 Study Findings

In the experimental group, 23,7, and 2 invalid, the total effective rate was 93.75%; in the control group, 12,10,10 invalid, the total response was 68.75%, the difference was statistically significant (P <0.05), as shown in Table 1.

Table 1 Comprehensive comparison of the two groups [case (%)]

group	Example number	excellence	effective	of no avail	total effective rate
experimental group	32	23（71.88）	7（21.87）	2（6.25）	30（93.75）
control group	32	12（37.50）	10（31.25）	10（31.25）	22（68.75）
x^2	-	7.630	0.572	6.564	6.564
p	-	0.006	0.286	0.011	0.011

5 Discussion

Whole-course nursing intervention is the product of the development of physiological-psychological-social medicine nursing model to a certain stage, which has important application value in clinical practice, especially in atomization treatment. Some scholars believe that in the process of receiving atomization treatment, the whole process nursing intervention, and strengthen psychological nursing and health education and dietary guidance, can help stabilize the stability of children's mood, improve their clinical treatment compliance, ensure the satisfaction of children's families, and play a crucial role in improving the prognosis of children [3]. The results of this paper show that the total response rate of the experimental group is significantly better than that of the control group, indicating that strengthening the whole-process nursing intervention of asthma children receiving atomization treatment is helpful to improve the clinical treatment effect and ensure their quality of life. Then the whole nursing intervention mainly adheres to the children as the center, strictly implement the aseptic operation specification before atomization, select the appropriate atomizer, and take a comfortable position, distract their attention by means of music and stories; strengthen the condition monitoring of children, ensure the airway, give correct breathing guidance, ensure the deep inhalation; after atomization, help health knowledge to develop good habits, and urge them to return in time. To sum up, in the process of atomization inhalation

treatment for children with asthma, strengthening the whole process of nursing intervention can stabilize the mood of children, eliminate the fear of children, improve their treatment compliance, and ensure the clinical treatment effect, which is worth further clinical promotion and application.

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