

Pawłowski Piotr, Łopuszyńska Marta, Korpornicka Beata, Jakubowska Klaudia, Nalepa Dorota. Asthma Nursing Care Management and Study Guide. Journal of Education, Health and Sport. 2017;7(12):368-377. eISSN 2391-8306. DOI <http://dx.doi.org/10.5281/zenodo.1146589> <http://ojs.ukw.edu.pl/index.php/johs/article/view/5208>

The journal has had 7 points in Ministry of Science and Higher Education parametric evaluation. Part B item 1223 (26.01.2017).

1223 Journal of Education, Health and Sport eISSN 2391-8306 7

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The authors declare that there is no conflict of interests regarding the publication of this paper.

Received: 01.12.2017. Revised: 15.12.2017. Accepted: 31.12.2017.

Asthma Nursing Care Management and Study Guide

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Introduction and purpose of the work. Bronchial asthma is one of the most endangering civilizational diseases of the 21st century. Studies show that the number of patients with bronchial asthma around the world is 300 million and it is constantly increasing. The actions taken by the nurse towards the patient depend on the duration period of the disease and the health condition of the patient, as well as the range of the expected aid. The aim of all those actions is supporting and aiding the patient to gain and sustain an optimal level of functioning

with the disease in everyday life. Defining the types of actions that ought to be taken by the nurse towards the patient suffering from bronchial asthma.

Material and method. A case study method was applied. A modified guide for collecting patient data was used, the scale according to Dutch Consensus Prevention of Bedsores (CBO), Barthel scale, the ACTTM – Asthma Control Test as well as the author’s test that verifies the patient’s skills and knowledge in the preparation for self-care.

Results and conclusions. To reduce the risk of the disease exacerbations the nurse can suggest the patient some methods of the elimination of allergens from the environment as well as introduce and teach her the methods of stress management, because these are the main problems in the patient that can lead to the exacerbation of the disease. The main tasks of the nurse in educating the patient are the eradication of knowledge deficiencies related to the PEF self-control and the elimination of allergens.

Key words: bronchial asthma, nursing care

Introduction and purpose of work

In recent years the incidence of bronchial asthma and other allergic diseases has increased. Such a tendency has been observed especially in highly developed and well-industrialized countries. There are many concepts explaining the causes of this process, and one of them is the impact of increasing pollution of the environment in which a human exists and functions [1]. The multicentre study conducted by the ISAAC (The International Study of Asthma and Allergies in Childhood) in 45 countries of the world showed that bronchial asthma affects 3.6% of the population in industrialized regions on average [2]. Bronchial asthma constitutes a serious social and economic issue. If untreated or treated insufficiently, it significantly deteriorates the quality of life of patients, is the cause of frequent hospitalization, disability and even deaths. A person who is suddenly struck with an asthma attack, being fully aware of this fact, faces a threat. In a moment there appear a huge number of problems that completely change this person’s functioning. They manifest themselves in all areas - from mobility

difficulties, inefficiency in self-care to the inability to breathe and fight for every breath. The patient with a dyspnea attack is often unable to signal their problems. Having difficulties in communicating, they cannot express their needs and define expectations. All these only intensify nervousness, irritability and anxiety, which leads to even greater dyspnea. The nurse, who has the necessary knowledge, can predict and faultlessly diagnose the patient's condition as well as recognize their needs and problems. All the above enable her to meet the patient's needs to some extent. Owing to her capabilities, powers and competences she can eliminate the patient's problems or alleviate ailments, preventing their accumulation and escalation. Efficient, controlled and competent conduct of the nurse affects the anxiety decrease in the patient, which helps to improve breathing [3]. The aim of the study was to determine the type of tasks the nurse should undertake in care of the patient with bronchial asthma.

Material, method and results

The case study was conducted during two meetings with the patient, in May 2013 in Lublin, in the patient's home environment. The subject studied was a 23-year-old woman diagnosed with bronchial asthma. The patient was informed about the purpose of the examination, its anonymity and agreed to participate in it. The following research tools were used: the scale according to Dutch Consensus Prevention of Bedsores (CBO), Barthel scale, the ACTTM – Asthma Control Test) as well as the author's test that verifies the patient's skills and knowledge in the preparation for self-care. The patient's blood pressure and pulse were taken, and also the measurement of number of breaths per minute was performed.

On the grounds of the information gathered, nursing diagnoses were formulated, the purpose was determined, actions were planned, and it was checked whether the actions brought a definite effect.

Diagnosis 1: Lowering the effectiveness of treatment due to irregular use of prescribed medication.

Aim: Intensifying the effectiveness of treatment.

Nursing care plan:

- Detecting the reason for irregular use of medication.
- Making the patient aware that irregular use of medication is ineffective and may lead to the exacerbation of the disease symptoms, and thus to severe complications.
- Drawing the patient's attention to the proper procedures of the prescribed medication use:

- ✓ in the case of intraoral medication e.g. whether a medication should be taken before, during or after a meal,
- ✓ in the case of inhaled medications teaching the patient the proper ways of its administration,
- Informing the patient about the necessity of equal time intervals between the subsequent medication doses to achieve the highest cure effectiveness possible.
- Communicating the patient information on the proper action in the case of omitting one of the prescribed medication doses.
- Encouraging the patient to display the information on the necessity of medication intake, or setting a reminder e.g. on the telephone.

The results of the actions undertaken:

- The patient was educated on the necessity of regular medication intake and it seemed she was motivated to do so because she displayed the reminder.

Diagnosis 2: The risk of the occurrence of a paroxysmal, dry and tiring cough connected with the existence of a larger quantity of allergens in the patient's environment resulting from the lack of sufficient knowledge on the ways of their elimination from the patient's environment.

Aim: Diminishing the risk of the occurrence of a paroxysmal cough and providing the entire knowledge on the ways of eliminating allergens from the patient's environment.

Nursing care plan:

- Observing the patient with respect to cough intensification.
- Reminding the patient of the necessity of prescribed anti-inflammatory medication use.
- Communicating the patient information on the ways of eliminating allergens from her environment by:
 - ✓ removing objects that tend to accumulate allergens excessively, e.g. carpets, curtains, bedcovers,
 - ✓ frequent ventilation of rooms, replacement of bedding with antiallergic one,
 - ✓ maintaining the proper room temperature without overreaching 19°C as well as the air humidity of about 50 %,
 - ✓ avoiding visits in the countryside and parks in the periods of excessive pollen shedding,

- ✓ paying attention to the necessity of changing clothes after arriving home from the outside,
- ✓ paying attention to thorough hair washing during an evening bath,
- ✓ avoiding places with irritant substances that stimulate cough e.g. cigarette smoke.

The results of the actions undertaken:

- the patient was educated on the possibility of disposal of excessive quantity of allergens in her environment

Diagnosis III: The appearance of white lesions on the oral mucosa resulting from inhaled glucocorticosteroids intake causing discomfort during meal consumption.

Aim: Removing white lesions from the oral mucosa

Nursing care plan:

- Thorough observation of the oral mucosa lesions.
- Advising the patient on thorough rinsing of the oral cavity with boiled up water before and after every medication use.
- Paying attention to proper oral hygiene, regular toothbrushing twice a day at the minimum (preferably after every meal if there is such a possibility), paying attention to thorough removal of food debris out of the oral cavity.
- Encouraging the patient to rinse the oral cavity at bedtime with the use of sage or chamomile tea.
- Avoiding consumption of salty, sour, spicy and hot dishes likely to cause irritation.
- Painting mucosa lesions with the use of specialist preparations like Aphtin.

The results of the actions undertaken:

- The white lesions were removed from the oral mucosa by the application of the abovementioned methods

Diagnosis 4: Difficulties with falling asleep as well as early morning waking up caused by intensification of the disease symptoms.

Aim: Facilitation of falling asleep and normalization of awakening

Nursing care plan:

- Eliminating all the existing allergens from the patient's bedroom, e.g. by replacing the bedding with antiallergic one, ventilating the bedding at bedtime.

- Ventilating the patient's bedroom thoroughly at bedtime.
- Ordering the patient to try to lie in the semi-Fowlers position to facilitate respiration.
- Reminding the patient of taking the evening dose of the anti-inflammatory medication.
- Placing bronchodilators at hand.

The results of the actions undertaken:

- The quality of sleep became higher.

Diagnosis 5: Difficulties with stress management resulting from a multitude of duties at school and home.

Aim: Lowering the level of stress and its frequency in the patient's life.

Nursing care plan:

- Discussing the cause of stress with the patient.
- Calming the patient down.
- Encouraging the patient to discuss with her family the issues of help and delegation duties. Informing the patient that stress can stimulate an asthma attack, so all the stressful situations ought to be possibly eliminated.
- Encouraging the patient to learn different relaxation techniques and putting one of them in real practice.
- The results of the actions undertaken:
- The stress and anxiety level became downright lower

Diagnosis 6: Lack of the PEF self-control resulting from knowledge deficiency on the basics of the test, its procedures and interpretation of the findings.

Aim: Teaching the patient the rules of the proper PEF self-control.

Nursing care plan:

- Explaining the procedure and purpose of the test to the patient.
- Selecting the accurate peak flow meter for the patient.
- Informing the patient on the proper technique of performing the test: when it ought to be performed, how many times a day, how to perform the right expulsion of breath; what number of expulsions ought to be performed to achieve accountable findings.
- Explaining the patient what findings are most significant together with the reason for their significance.
- Presenting the range of norms to the patient and teaching her the ways of interpreting the obtained findings.

- Explaining the patient what types of findings can prove the risk of exacerbation occurrence.
- Performing the PEF together with the patient to resolve any doubts concerning it.

The results of the actions undertaken:

- The patient was prepared for self-control and self-care.

Discussion

Bronchial asthma due to its chronic and changeable course can affect the overall life situation of the patient. On the other hand, a range of factors involved in the situation may influence the course of the disease itself. The study by Bateman and co. proves that despite the application of modern treatment, not all the patients are enabled to control the symptoms of the disease in full [4]. It can be assumed that a worse control of the symptoms has an unfavorable impact on the patients' quality of life. Recent years have shown more attention paid to the problem of symptom control in bronchial asthma. The concept of treatment efficiency based on defining the degree of the disease control was included in the modifications to the GINA directives. The classification of asthma severity degree based merely on the frequency of symptom occurrence and the findings of functional tests of the respiratory system does not consider several aspects essential to the patient. For instance, it does not cover maintaining full life activity, undesired effects of long-lasting treatment or the necessity of making use of ad hoc aid [4]. The treated patient had no control over the symptoms of the disease, because she took her medication at irregular intervals. Raising the asthmatic patient's awareness and educating them is a real challenge in the profession of the nurse. Educating patients undoubtedly constitutes a crucial element in the procedure of asthma treatment and conditions active participation of patients in the treatment process [5, 6, 7, 8, 9, 10, 11, 12]. Above all, patients ought to: access the information on the ways of elimination of allergens and irritants, be able to detect and treat asthma exacerbation, learn the technique of inhaled medication intake as well as the PEF. The patient ought to receive personal written directives concerning the right conduct both in the period of remission and exacerbation of the disease. An interesting form of education is interactive methods, i.e. the so called 'Schools for the asthma affected', run by some centers supporting the abovementioned patients. A prevailing number of authors acknowledge an important role of interactive education methods in decreasing a stress level and severity of asthma symptoms, especially in patients affected by chronic serious asthma [5, 8]. The success in treatment depends on the intensity of cooperation with the patient and their motivation to realize recommendations, resulting from their current state of knowledge of the

disease as well as their confidence in the efficiency and safety of the actions undertaken [13]. The patient who is unaware of the nature of the disease and the purpose of its treatment is neither able to avoid the factors exacerbating the symptoms of asthma nor consciously realize its treatment plan. On more than one occasion, such patients neglect inhaled steroid therapy, limiting themselves to taking medication for dyspnea, applied on an ad hoc basis. The GINA 2006 directives highlight educating patients to be one of the most indispensable elements of managing the disease. The results of the study by Young and co. constitute a clear proof that the disease awareness and pro-health activities are capable of stress and anxiety reduction intensifying dyspnea in most cases [7]. The study by Dolinar and Stevens shows that systematic monitoring of the disease can be perceived by the patient as an additional complication lowering the quality of their life [6, 12]. The results of the study by the other authors only showed that effectively provided pro-health education motivates the patient for self-control and active participation in their therapy [5, 7, 8, 9, 10], which, as a result, reduces the number of exacerbation cases, ad hoc medication consumption, and the number of unscheduled medical interventions.

Despite being an incurable disease, bronchial asthma can be totally controlled without limiting everyday life activities on condition that it is detected early enough and treated effectively.

Conclusions

The following conclusions were drawn from the study:

1. Health education provided by the nurse can largely benefit the patient's physical activity and efficiency.
2. Education also influences her emotional state in a positive way and protects her against the development of mental disorders.
3. To reduce the risk of the disease exacerbation, the nurse advised the patient on the methods of eliminating allergens from her environment and educated the patient with

respect to stress management, because the aforementioned constitute the two main issues leading to the possible exacerbation.

4. Within the scope of treatment tasks, the nurse conducts the observation and control of the frequency of medication intake by the patient. The aim of the tasks is to ensure the best possible effects of the treatment.

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