

Knowledge of risk factors and guidelines for the management of asthma. The educational role of the nurse

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Abstract

Purpose: The aim of the study was to determine the level of knowledge concerning risk factors for the development of asthma and worsening of the course of the disease among patients, as well as achieving a better understanding of the educational role of the nurse in improving the quality of life of patients suffering from the disease.

Materials and methods: The study was a questionnaire study involving 100 patients suffering from asthma. 59 of them were diagnosed as having an allergic and 41 a non-allergic asthma. In the main they were patients suffering from moderate to severe asthma, who had attended the outpatient allergology clinic for many years.

Results: Analysis of the results obtained demonstrated the significant effects of asthma for the lives and health of the patients questioned. This was reflected in the high number of people registered as unable to work and receiving invalidity benefits, and influenced the activity of the majority patients in various spheres of life. A number of respondents demonstrated poor knowledge of the risk factors for asthma and ways of eliminating the illness. The majority of patients had a good knowledge of the names, doses and ways in which they should take their prescribed medication as well as showing an understanding of the principles of taking additional medicines as necessary. Their knowledge of the principles of anti-inflammatory treatment, which is a basic factor in the treatment of patients with asthma was, however very poor.

Conclusions: Among patients suffering from asthma there is a great need for health information. The majority of respondents expressed a willingness to take part in training sessions to be run by nursing staff. The focus of these educational sessions should be on improving the patients' knowledge about asthma as a chronic inflammatory disease, helping to eliminate and limit risk factors for the disease, treatment principles and avoiding the side-effects of prescribed medication.

Key words: asthma, risk factors, education, nurse's role.

Introduction

Chronic respiratory diseases remain an ever-increasing problem for modern medicine. In recent decades there has been a worrying tendency for the incidence of these diseases to grow, which is directly reflected in the increase in the costs of health care [1]. Asthma is one of the most common chronic conditions of the respiratory system. Epidemiological data show that in Poland 5.4% of adults and 8.6% of children suffer from asthma [2]. The incidence of asthma is increasing all over the world, especially in industrialised countries. Asthma causes a significant burden, not only by increasing the costs of health care, but also through reducing the ability of patients to work and limiting their participation in social and family life [3].

A fundamental aspect in the management of asthma is in the education of patients, with the aim of establishing their co-operation in its treatment, avoiding or limiting exposure to risk factors that may exacerbate the condition, developing individual treatment plans and ensuring the availability of continuous care [4].

Nursing personnel may run educational programmes that are beneficial [5]. Modern nursing practices cannot be limited to meeting the patient's needs, but must be capable of active co-operation with patients, accompanying and advising them

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Received 19.01.2005 Accepted 05.02.2005

Table 1. Characteristics of the group of patients examined

	Allergic asthma	Non-allergic asthma
No. of patients	59	41
Gender F/M	40/19	22/19
Mean age	47±25 years	55±22 years
% of patients registered as unable to work due to invalidity	37%	20%
Degree of severity (%) Severe/moderate/mild	48/22/30	29/34/37
Family history of asthma	39%	39%
Mean no. of years treatment in outpatient allergology department	12±8 years	8±10 years

Table 2. Assessment of patients' knowledge of the principles for treating asthma

Researcher's assessment	Allergic asthma		Non-allergic asthma	
	Good	Poor	Good	Poor
Knowledge of names and doses of medication and ways in which anti-asthma medication should be taken	85%	15%	91%	9%
Knowledge of principles relating to how the rescue medication should be taken	76%	24%	78%	22%
Knowledge of the principles of anti-inflammatory treatment	31%	69%	20%	80%

on matters of disease prevention and improving their health, as well as helping them come to terms with their illness.

Materials and methods

Materials were collected by means of a diagnostic survey. The research technique used was a questionnaire and observation. A free observation method without the use of categories was applied in the research [7]. The questionnaire was designed especially for the purposes of this research and consisted of three parts: questions relating to personal details, history of the illness and treatment received; questions pertaining to knowledge of risk factors, their elimination and the principles of appropriate treatment; questions concerning nursing care and education. The questions used were open-ended, giving the respondent freedom in formulating his/her response. The anonymity of the respondents was preserved in filling in the questionnaire.

The study was carried out in the outpatient clinic of The Allergology and Internal Medicine Department of The Medical University of Białystok between May and October 2004. A total of 100 patients participated in the study.

Statistical analyses

The statistical analysis consisted of descriptive methods and appropriate correlational tests for quantitative and qualitative characteristics of the data. In order to provide a picture of the structure of the individual replies to the questionnaire, the endorsement of individual categories of answers were calculated in percentage terms for the entire sample. In many instances, respondents were able to choose more than one reply, which led to so-called questions with multiple answers.

Results

The research questionnaire was completed by 100 patients with a diagnosis of asthma, of whom 59 suffered from an allergic asthma and 41 a non-allergic asthma. The age range for the patients was between 18-75 years. Characteristics of the sample are presented in *Tab. 1*.

A very important aspect of the questionnaire were the questions relating to the way in which asthma influences patients' ability to work, their studies and their activities of daily living. 71% of those with the allergic and 59% of those with the non-allergic asthma replied that the disease has a negative effect on their ability to work. Over 80% of the patients in both of the examined groups considered that asthma has an unfavourable, limiting effect on their physical activity.

Tab. 2 shows the results of the analysis of responses to the questions concerning knowledge of the principles of the appropriate treatment for asthma.

An evaluation of the patients' knowledge of the risk factors involved in asthma, their elimination and the effects of allergens are presented in *Tab. 3*. Patients with the allergic asthma most frequently drew attention to risk factors such as respiratory infections, house dust and pollens. Patients with the non-allergic asthma referred most frequently to respiratory infections, house dust, cold air, physical exertion and tobacco smoke as significant risk factors. Patients with the allergic asthma reported most frequently that they are sensitive to allergens such as house dust mites (42%), grass and cereal pollens (15%) and animal fur (11%). 12% of the patients were unable to name allergens to which they are sensitive. A comparative analysis of patients' responses concerning the allergens to which they are sensitive and their case notes revealed that there was agreement in 56% of cases, partial agreement in 17% and lack of agreement in 27% of cases.

Table 3. Assessment of the risk factors and ways of eliminating allergens in the groups examined

Researcher's assessment	Allergic asthma			Non-allergic asthma		
	Good	Moderate	Poor	Good	Moderate	Poor
Knowledge of risk factors	22%	49%	29%	26%	32%	42%
Knowledge of ways in which to eliminate allergens causing sensitivity	25%	25%	50%			

Table 4. Analysis of the need for training by nurses amongst the respondents

Type of educational programme	% Patients choosing given educational programme	
	Allergic asthma	Non-allergic asthma
General information on asthma	88%	79%
Principles for taking medication	80%	72%
Avoiding side-effects of medication	66%	65%
Ways of eliminating risk factors and allergens causing sensitivity	90%	65%
Ways of giving up smoking	4%	12%

76% of patients with allergic and 93% with the non-allergic asthma declared a willingness to participate in an educational programme. The majority of respondents considered that nurses working with asthma patients should spend more time on the education of patients. *Tab. 4* shows the results of the analysis of responses to the question concerning what kind of information should be included in an education programme for patients with asthma.

Discussion

Current guidelines for the management of asthma place great emphasis on the importance of appropriate training and education of those suffering from the disorder [8]. The participation of patients in evaluating and monitoring their symptoms is essential, as is avoiding factors which may release allergens to which the patient is sensitive and understanding the principles of treatment and need for systematic medication. Appropriate care in this condition is determined by having an appropriate knowledge of the principles of treatment, avoiding the side-effects of drugs and ensuring that they are taken correctly [4].

Analysis of the responses to the questionnaire demonstrated that the majority of patients are over the age of 40 and have a long personal history of asthma. A very large number of the patients in both of the groups examined consisted of people registered as unable to work due to invalidity. This points to the need for intensifying the process of education, eliminating risk factors and individualising treatment methods. It is very important to ensure that the type of work undertaken by patients is suited to their possibilities. These measures would help to reduce the number of patients registering as disabled as a result of having asthma, and a number of those already registered as being unable to work due to invalidity would be able to return to work [9].

Asthma has a great influence on the physical activity of patients. This influence is already apparent in pre-school children, and for children of school age is associated with their

frequently having to be excused from lessons in physical education. A very common problem is that the type of exercise and the place in which it is carried out are not suited to the capabilities of the child. Lack of physical activity and participation in sports has an unfavourable influence on the overall profile of psychosomatic development of children and young people [10]. It is necessary to initiate appropriate measures in order to increase physical activity, a process which involves selecting suitable forms of physical exercise and sports activities [11].

Asthma is a chronic condition which takes its course over a number of years. In order that the treatment process should proceed appropriately, it is essential that patients have an appropriate knowledge of the condition. The analysis of responses to questions aimed at achieving an understanding of patients' knowledge in connection with the treatment of asthma did not allow any definite conclusions to be drawn. The majority of patients know the names, doses and ways in which they are supposed to take the medication which was prescribed during the visit to the outpatient clinic. Equally, most respondents are well informed as regards taking additional, rescue medication as necessary in order to relieve episodes of dyspnoea and coughing. Nonetheless, asthma is a chronic inflammatory respiratory condition, which requires the necessity of long-term treatment with anti-inflammatory medication [12]. The results of the present study show that patients' knowledge in this area is extremely limited. In consequence, they may decide to stop taking their medication or fail to take it regularly, or they may have fears about side-effects of the treatment, all of which are likely to have a negative influence on the state of their health.

The results presented demonstrate a number of patients have insufficient knowledge of the risk factors affecting asthma and those which may worsen the course of the disease. Certain patients were unable to provide a single risk factor associated with asthma. Moreover, patients with the allergic form of the condition possessed very limited knowledge about allergens which may cause sensitivity, indicating the need for educational interventions in this area. Furthermore, the fact that a number of patients in this group revealed an understanding of their

condition which is not congruent with their case notes is of additional concern. This is particularly so, since elimination of the pertinent allergens and avoidance of risk factors in combination with effective pharmacotherapy may improve the control of asthma [13].

According to the results obtained in this study, nursing staff run training sessions for patients all too rarely, whilst the need in this area is great. Training of this kind should include above all information on the principles of treatment, ways of taking medication, ways of avoiding side-effects of the treatment, and for those with the allergic asthma, ways of avoiding and eliminating allergens as well as the principles of immunotherapy. Patient education is one of the paths towards improving the quality of life of people with asthma. An education programme that is properly carried out leads to the reduction of health care costs by reducing the number of specialist appointments and significantly influences the health status of the patient, his subjective well-being and quality of life. It also leads to an improvement in patients' satisfaction with health care services [14].

Conclusions

1. Patients' knowledge concerning the nature of the illness and the influence of risk factors in connection with the occurrence and course of the disease is inadequate.

2. The significant influence that asthma has on the patient's ability to work and his/her activities of daily living indicates the necessity for better control of the disease.

3. Respondents' knowledge concerning principles of treatment for asthma as a chronic inflammatory disease does not guarantee appropriate co-operation with and adherence to the advice of doctors.

4. Patients with asthma have a great need for information on health care. The majority of respondents expressed the wish

to participate in an educational programme in this area run by specially trained nurses.

5. The educational programme designed to help patients cope with self-care in asthma should be focused on improving their knowledge of risk factors, treatment principles and ways of avoiding side-effects of the medication taken.

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