RESEARCHING THE QUALITY OF LIFE IN PATIENTS WITH SEASONAL ALLERGIC RHINITIS PRACTICING SELF-TREATMENT

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ABSTRACT

Allergic rhinitis (AR) is the most common allergic ailment in which the combination of symptoms and accompanying complaints can lead to severe deterioration of patients’ quality of life. It is a known fact that AR disturbs the patients’ daily physical and emotional condition and their social activities; it limits the cognitive capacity and can cause depression and anxiety. The purpose of this study is to assess the impact of the seasonal allergic rhinitis on the quality of life in patients who apply self-treatment and do not follow a physician-prescribed therapy. Seventy-one patients of AR symptoms who do not follow a physician-prescribed therapy but seek advice in pharmacies have been monitored during the pollen season. Their quality of life has been studied with the help of a generic questionnaire SF-12V2 validated for Bulgaria; it studies patients’ physical, mental and psychosocial functions and offers summarized assessments of their physical and mental health. The research established that the respondents do not perceive AR as a factor that impacts their overall physical health in a significant way. They assess their physical condition to be slightly above the norm measured against the scale of the applied tool. All indices concerning the patients’ mental health are below the norm, which is an indicator that seasonal AR creates
certain obstacles before the social functionality; it influences the emotions and the overall mental health.

**KEYWORDS:** Allergic rhinitis (AR), generic questionnaire SF-12V2.

**INTRODUCTION**

AR is amongst the most frequent allergic diseases which affects up to 30% of the total population and its growing frequency worldwide is continuously proven by researches. AR is inflammation of the nasal mucosa, which provokes in the predisposed individuals enhanced nasal reaction to diverse non-specific and specific environmental stimuli. The etiology for the development and expression of AR atopy is still unclear. Some of the possible factors are: changes in the individual’s living style, higher exposure to allergens, environmental pollution, frequent infections and stress. Of significant importance is the interaction between environmental factors and individual’s sensitivity.

The patients suffer from the ailment-accompanying symptoms: sneezing, rhinorrhea, nasal congestion. The contemporary views on AR accept the standpoint that the patient’s burden caused by the ailment reaches far beyond the disease’s classical symptoms. The burden is connected with the serious negative impact on the patients’ welfare caused by daytime drowsiness and fatigue, exhaustion, change in the mood, depression, anxiety, decreased working capacity, diminished cognitive power and mental problems which, quite often, remain underrated. The isolated reporting of objective symptoms and parameters is not sufficient to estimate the burden that a specific disease exerts on the individual’s health. In order to obtain a comprehensive view on the patients’ state of health, the quality of their lives needs to be assessed. SZO (1946) defines the quality of life as a state of complete physical, mental and social welfare and not just as absence of a disease or handicap. Medical specialists are becoming increasingly interested in the assessment of the quality of life when it is influenced by an ailment and its treatment. The health related quality of life (HRQOL) depends on the manner in which the patients perceive their ailment and measure the disturbances, which have significant impact on their lives.

In the contemporary classification of AR under ARIA, the burden of the ailment is determined not by the burden of the symptoms themselves but by the manner in which they influence the patient’s life: whether they hamper their day-to-day activities, work, education,
and sleep and cause discomfort. It is exactly this impact on the patients’ welfare that qualifies rhinitis as mild, moderate or severe. According to Bousquet data, the severity of rhinitis has greater significance for the quality of life, not for its length.\[5\] On the other hand, the subjective assessment of the quality of life depends on the individual’s idea about what welfare is and their expectations connected with the applied therapy. Certain studies conducted on AR patients confirm that the intensity of the symptoms does not necessarily correlate with the conclusion that the quality of life has been deteriorated; this situation further emphasises the relativity of individual assessment.\[17\]

The integrated and comprehensive approach to the patient, the ailment symptoms, the quality of life and satisfaction provide for a comprehensive assessment of the AR burden and the success of its treatment.

**OBJECTIVE**

To assess the impact of seasonal AR on the quality of life in patients who seek consultancy in pharmacies and apply self-treatment with OTC drugs.

**MATERIALS AND METHODS**

The research was conducted in the territory of pharmacies in the city of Varna when medicinal products for AR treatment have been dispensed upon consultancy with the pharmacist. The survey covers patients aged between 20 and 45 years old of AR symptoms who do not apply a doctor-prescribed therapy but, instead, seek consultancy in the pharmacy. (This is the age group with the greatest morbidity rate.) The selection of this age group has been further determined by the intention to assess the quality of life of patients who are in their most active age. The survey was conducted for the period March – June 2015 and the time interval has been selected to cover the pollen season, which poses the greatest risk to trigger the acute phase of the disease. The patients’ quality of life has been measured with the help of generic tool SF12 v2 (short version of SF 36). SF-12V2 Health Survey is a questionnaire validated for Bulgaria, intended to assess the physical and mental health, and the social functions in the recent four weeks. The results have been calculated with the help of specially developed software. SF-12V2 is a health-research questionnaire of 12 questions providing information in eight areas; its intention is to assess the physical condition, social functions and mental state, and contains two summarised indices on the physical and mental state.
The SF-12V2 questionnaire is based on the data obtained from the Quality Metric 2009 Norming Study conducted in the USA in 2009 by the The National Research Corporation (NRC). It served as basis for the scale used in this survey; the norm of 50 points has been set for the studied health indices wherein the minimum value is 20 and the maximum value is 80. The higher the rating, the better the quality of life.

The objective of the survey and the format of the applied tool have been explained to the participants. The respondents gave their consent to participate in the survey and received instructions how to fill-in the printed questionnaire; after that they replied in writing to the questions referring to the assessment of their life quality.

RESULTS

The survey covered 71 patients of acute AR symptoms provoked by seasonally occurring allergens.

The overall result concerning the AR impact on the physical health (PCS) is being formed from the assessment of
- Physical functioning (PF) assessed through measuring the degree of hindrance imposed on the usual physical activities such as household chores, cycling, climbing stairs, etc, caused by the disturbed physical health;
- Role physical (RP) – diminished ability to perform professional duties, limitations in the type of work;
- Bodily pain (BP);
- Assessment of the perception for the general health (GH);

The result for the Mental Component Summary (MCS) includes:
- Daily activities with role emotional (RE) assessed through the level of hindrance in daily activities caused by emotional issues: depression, anxiety;
- Vitality (VT);
- Mental health (MH);
- Social functioning (SF) that measures the degree to which the physical health and emotional issues hamper social contacts;

The results for the summed-up assessments of the physical and mental health as well as the individual components participating in its formation, respectively marked in different colours, are represented in Fig. 1.
Fig. 1. Test results obtained with SF-12V2, concerning the quality of life.

ABBREVIATION

PCS = Physical Component Summary  
MCS = Mental Component Summary  
PF = Physical Functioning  
RP = Role Physical  
GH = General Health

BP = Bodily Pain  
VT = Vitality  
SF = Social Functioning  
RE = Role Emotional  
MH = Mental Health

The results show that the summed-up score of the physical health is positive and stands at 1.53 points above the norm. The highest score has been noted for the General Health indicator (53.04) followed by the Bodily Pain indicator of 52.65 (also above the norm). This result shows that the respondents do not consider AR as a factor that significantly deteriorates their physical functioning.

All indices concerning the respondents’ mental health are below the norm, which shows that the ailment poses a risk for the social functioning, role emotional and mental health. The summed-up score for the mental health is 41.05, which indicates a below-the-norm value. Most affected is the “emotional functionality” indicator – it has been assessed at 38.64, which
is 29.4% below the norm. “Vitality” scored the second lowest result followed by “social functioning.” The “mental health” indicator is of least decrease – 4.7 points below the norm.

The summarised results from the assessment of the Physical Component Summary (PCS) and the Mental Component Summary (MCS) compared to the norm are presented in Fig. 2.

![Fig. 2. Summarised results for the physical and mental health.](image)

In 66% of the respondents, the Physical Component Summary is within the norm and for the remaining 34% it is above the norm.

Greatly prevalent are the patients (92%) for whom the mental welfare is below the norm measured by the scale of the applied tool. The mental health is within the norm in only 8% of the respondents.

The survey results show that 74% of the respondents are in risk of depression, compared to the norm of 20% allotted for risk patients, calculated for the general totality of the Quality Metric 2009 Norming Study, which has served as basis for the SF-12V2 questionnaire. The survey shows that for the general totality the “risk of depression” index is by 54% above the norm.

![Fig. 3 Share of patients in risk of depression.](image)
DISCUSSION
The survey established that, in respondents' opinion, the AR symptoms do not significantly affect their general health. We consider that the seasonal nature of the ailment is a prerequisite for the respondents to perceive their condition as transient; this attitude places the summarised assessment of the physical health slightly above the norm set by the SF-12V2 generic tool. A number of other surveys establish that AR patients assess their overall physical health as significantly deteriorated compared to the control group of healthy patients.\[13\] It has been established that the AR-related symptoms have a significant impact on the individuals’ daily activities and diminish their productivity by average 20% in the days when the acute AR symptoms reach a peak. Over 80% of the patients with moderate/severe allergic rhinitis report deteriorated daily activities, compared to 40% of the patients with mild allergic rhinitis. The acute AR symptoms may require, for limited periods of time, much greater effort in the performance of daily activities; this extra effort causes, in its turn, easy fatigue, deteriorated concentration and memorizing ability, disturbed self-confidence and depressive conditions.\[9\]

The strongly decreased value of the “Role Emotional” index and the established high share of patients in risk of depression (54% above the norm) raises the question about the impact of the AR acute phase on the patient's mental condition. A number of researches demonstrate the decreased mental welfare of AR patients.\[9\] The mental problems reported by respondents include: fatigue; feeling miserable; irritability; depressive mood; discomfort caused by the symptoms.\[11\] Other researches in the area establish a high level of anxiety in patients with allergic ailments, reaching up to 87, 5%.\[20\] According to certain authors, the increased anxiety that has been observed in seasonal allergic conjunctivitis and rhinitis is related to the burden of somatic suffering. Once the symptoms of the allergic inflammation are under control, the degree of anxiety significantly decreases. Direct ratio has been established between the anti-allergic treatment and the anxiety reduction.\[19\] It has been established that poorly controlled allergic rhinitis has psychological impact on the patients and seriously influences the quality of their lives.\[3\]

The burden of AR is the patients’ major motivation to seek medical help and undertake treatment. Many patients with seasonal AR apply self-treatment with symptom relieving medications during the acute symptomatic stage. We consider that the main reason for the decreased mental welfare of the majority of respondents is the lack of prevention and non-
taking of controlling medication which can significantly reduce the frequency and severity of symptom occurrence. In the cases when AR patients seek consultancy in the pharmacies, the pharmacist’s role is to offer suitable controlling therapy available as OTC drugs. According to the ARIA guidebook, the pharmacists have to assess the AR severity, to assist the patient’s choice, to dispense suitable OTC drugs and give instructions for their proper application, to monitor the course of treatment and, if necessary, to direct the patient to a physician.\(^2\)

AR has a significant impact on the patients’ social life.\(^{11,12}\) AR patients are exposed to social isolation and reduced activity, and feel embarrassed because of their condition. Their visits to friends and relatives are limited; same refers to their stay in the open-air (e.g. taking walks in parks and gardens) and visiting public premises (e.g. social venues and restaurants).\(^{4,14}\) This survey confirms the disturbed social function of AR patients (established by other authors as well) through the observation of SF values of nearly 5 points below the norm.

The survey established that least affected (4.7 points below the norm) is the “mental health” index. Other surveys demonstrate the AR influence on numerous aspects of the cognitive function. It has been proven with certainty that during the season of allergic provocations the AR patients show diminished memory capacity, poorer concentration and lower speed of decision making.\(^{12,18,21}\)

The comparative assessment of the influence that the various ailments have on the quality of life, places AR in a leading position as a factor influencing patients’ welfare. It has been established that in 4 out of the 8 areas surveyed with SF 36 – general health (GH), vitality (V), social functioning (SF) and mental health (MH), the AR patients demonstrated considerably lower indices of QOL compared to hypertension patients.\(^8\) Another QOL comparative research confirms the lower values in AR patients compared to 5 other ailments – hypertension, congestive heart insufficiency, diabetes type 2, acute myocardial infarction and clinical depression.\(^{10}\)

The deteriorated quality of life depends directly on the level of allergenic exposure and allergic inflammation of the respiratory system.\(^{16}\)

Through the improvement of the awareness values and education how to avoid the provoking factors and through self-monitoring and self-control, the patients can contribute for the
improvement of their general physical and mental state and of the quality of life, which is connected to these conditions.

CONCLUSION
This survey confirms the concept that AR nasal symptoms and the complaints associated with them are a risk factor for the patients’ emotional welfare, social activities and overall mental state. AR is an ailment, which is often perceived as trivial and is underestimated by the patients as being a serious health problem. The negative impact of the ailment on the mental welfare can remain underestimated and hidden behind the seasonal nature of the symptoms and the seemingly good overall physical condition. The measuring of the health-related quality of life is a necessary and reliable factor for the assessment of patients’ health as a state of physical, mental and social welfare. The successful therapeutic approach requires education of patients and adequate prevention of clinical symptoms. The need is for an integrated and comprehensive approach to patients, symptoms and overall control of the ailment.

REFERENCES


