Allergol Immunopathol (Madr). 2014;42(5):476–484

Allergologia et immunopathologia

Sociedad Española de Inmunología Clínica, Alergología y Asma Pediátrica

www.elsevier.es/ai

ORIGINAL ARTICLE

Factors affecting quality of life of asthma patients in Spain: The importance of patient education

E. Martínez-Moragón[a,*], M. Palop[b], A. de Diego[c], J. Serra[d], C. Pellicer[e], P. Casán[f], M.T. Caloto[g], G. Nocea[g], for the ASMACOST Study Group[◊]

[a] *Hospital Universitario Dr. Peset, Valencia, Spain*
[b] *Hospital Sagunto, Valencia, Spain*
[c] *Hospital Universitario La Fe, Valencia, Spain*
[d] *Hospital General de Vic, Barcelona, Spain*
[e] *Hospital Gandia, Valencia, Spain*
[f] *Hospital Sant Pau, Barcelona, Spain*
[g] *Merck, Sharp & Dohme de España S.A., Madrid, Spain*

Received 27 March 2013; accepted 10 June 2013
Available online 2 October 2013

KEYWORDS
Quality of life;
Asthma;
Education

Abstract
Objectives: Assessment of demographic and clinical factors that have an impact on the quality of life (QoL) of patients with asthma in Spain.
Patients and methods: Multicenter, prospective, observational, cohort study, conducted in 40 Spanish Pneumology Units during a 12-month period. Data on sociodemographic, clinical variables, asthma treatment and QoL were collected in a case report form.
Results: 536 patients (64.6% women, mean age: 54) were recruited. Reported QoL was better for patients from Northern and Central Spain as compared with those from the South and the East ($p < 0.001$), students and employed patients as compared with housewives and unemployed ($p < 0.01$), for those who had received asthma information ($p < 0.01$), for those with milder daytime symptoms ($p < 0.01$) and for patients with higher level of education ($p < 0.05$).
Conclusions: Among the factors that have a significant effect on patients' QoL only symptom control and patient education on asthma control are modifiable. Therefore, all the strategies should be tailored to improve such factors when managing asthma patients.

* Corresponding author.
E-mail address: evamartinezmoragon@gmail.com (E. Martínez-Moragón).
◊ The ASMACOST Study Group members are listed in Appendix A.

0301-0546/$ - see front matter
http://dx.doi.org/10.1016/j.aller.2013.06.006

Introduction

Asthma is a global health problem that affects around 300 million individuals of all ages, ethnic groups, and countries. It is estimated that 250,000 people die prematurely each year as a result of asthma.[1] In Spain, asthma prevalence ranges from 4.9% to 14.6% when the diagnostic criteria is based solely on the presence of symptoms indicative of disease, and from 2.4% to 4.7% when the presence of bronchial hyper-response is included for diagnosing.[2–5]

The pathogenesis of asthma involves the interplay of biological, social, and psychological factors.[6,7] Both educational and psychological interventions as a supplemental tool can help the pharmacologic management of asthma, although such interventions are often considered difficult to implement in daily clinical practice.[8]

In recent years we have seen an increased prevalence of asthma in the western world, with consequent rising burdens on health-related costs.[9,10] One action taken to deal with this problem has been to educate patients about their disease in order to promote self-management. Thus, asthma management studies have been shown to reduce the number of hospital admissions, days off work due to asthma exacerbations and improve symptom scores and inhalation techniques.[11–21] However, limited knowledge is currently available on the impact of different demographic and clinical factors on health-related quality of life (QoL).[8,13,17,22]

ASMACOST is an observational study whose main objective was to estimate the economic costs of the management of adult asthma patients in the context of daily clinical practice in Spain.[23] In addition among secondary aims included the assessment of demographic and clinical factors that have an impact on the QoL of patients with asthma in Spain.

Patients and methods

Study design

ASMACOST was a multicenter, prospective, observational, cohort study, conducted in 40 Spanish Pneumology Units. During the 12-month period of the study, 3 visits were scheduled at 0, 6 and 12 months, and data on sociodemographic, clinical variables, asthma treatment and quality of life were collected in a case report form.

Patients were required to give written informed consent before inclusion in the study. The study protocol was approved by the institutional review board of General Hospital of Vic (Barcelona, Spain), and the study was conducted in accordance with the principles of the Declaration of Helsinki.

Study population

Patient inclusion criteria

Adults patients diagnosed of asthma according to GINA criteria and adapted to the Spanish Asthma Management Guidelines, were included in the study.[24,25] Other inclusion criteria included the presence of stable disease (no exacerbations within the last four weeks that have required a change in treatment, that is, use of beta agonist whenever needed); absence of any physical, psychical or language limitation that prevented the correct completion of the case report form.

Patients' sample was stratified according to the following variables: severity of asthma disease: intermittent, mild persistent, moderate persistent; severe persistent; age group: 18–65 years; >65 years; geographical area: North (Galicia, Asturias, Cantabria, País Vasco and Navarra), East (Cataluña, Comunidad Valenciana, Baleares), Central (Rioja, Aragón, Castilla-León, Madrid, Castilla La Mancha), South (Andalucía, Extremadura, Canarias, Ceuta, Melilla).

Variables

Physician-reported

Among the clinical variables included: disease severity according to GEMA 2009 criteria (intermittent; mild persistent; moderate persistent and severe persistent)[25,27]; year since diagnosis; lung function [forced expiratory volume in 1 s (FEV_1) <60%; between 60% and 80% and >80%]; severity of diurnal and nocturnal symptoms and concomitant diseases.

Patient-reported

Socio-demographic data: Age, gender; educational level, job status and geographical distribution (regional location, habitat, size).
Asthma control information: Information received about asthma; participation in an asthma educational plan; asthma self-management.
Self-estimated health status question: Instrument that categorizes the responses using the Likert scale, from 1 (very good health) to 7 (very poor health).
QoL measurements: European Quality of Life-5 Dimensions (EQ-5D): Visual Analogue Scale (VAS); Juniper Mini Asthma Quality of Life Questionnaire (Mini-AQLQ)[26]: it is a validated 15-question, self-administered instrument where the questions are grouped into four domains: activity limitations (4 items), symptoms (5 items), emotional functions (3 items) and environmental stimuli (3 items). The questions are scored on a scale of 1–7 (where 1 is greatest impairment and 7 is least impairment) and grouped in a global score.

Statistical analysis

Sample size: The implementation of a stratified sampling, with a total of 32 strata and 35 patients per stratum, required a total sample of 1120 patients, with an expected follow up loss of 20%.[27,28]
Statistical analysis: For the description of continuous variables, the mean and standard deviation, the median and the interquartile range in the case of asymmetry and the maximum and minimum values observed were used. For the description of categorical variables, the number and percentage of patients per response category were used. The qualitative variables were compared using the chi-squared test and the quantitative variables using the t-Student test or variance analysis after study of variance homogeneity. A multivariate analysis using optimal scaling as regression procedure was also conducted.[29]