

Chapter 9 Summary

This thesis describes the results of the Dutch Mite Avoidance Study. DUMAS is a multicentre trial to the effects of impermeable encasings in house dust mite allergic patients with asthma, AEDS or rhinitis. The primary goal of this part of the study was to evaluate the effect on symptoms of allergic rhinitis. The second goal was to investigate the prevalence of rhinitis in patients with asthma or AEDS. Finally, the effect of comorbidity on quality of life was investigated.

Chapter One describes the assessment of the diagnosis of allergic rhinitis, the pathophysiology and therapeutic options. The prevalence of allergic disorders is increasing; although the exact reason is still unknown, one of the most important theories nowadays is the lack of a strong regulatory anti-inflammatory response due to the decreased amount of infections in childhood.

Therapeutic options are local or systemic medication and the avoidance of allergen; in the past a stay at high altitude in a dust mite free environment had good results in asthma patients. Under the assumption that creating an environment at home characterised by low levels of house dust mite allergen would lead to the same results, encasings were introduced. Numerous studies in asthma and AEDS showed contradictive results; the effect of encasings in rhinitis has never been the subject of research.

Comorbidity is an increasing problem: although studies are few in number, recent reports indicate that patients nowadays suffer from more than one atopic disorder. Beside the consequences for daily practice, it also may have consequences for the quality of life of allergic patients.

Chapter Two describes the outline of the study. Patients, aged 8 to 50 years with house dust mite allergy and allergic rhinitis, asthma or AEDS participated in a double blind, placebo controlled trial. Generic and disease specific quality of life questionnaires, visual analogue scales and daily symptom score were used to evaluate quality of life and symptom severity at baseline and after 4 and 12 months; nasal provocation, lung function tests and the Leicester sign score were performed at baseline and after 12 months.

A trained student took dust samples of mattress, bedroom floor and living room floor at baseline and after 4 and 12 months.

Chapter Three describes the effects of impermeable encasings in patients with allergic rhinitis. Although a significant threefold reduction in allergen exposure was seen in the intervention group, scores on VAS, daily symptom score and nasal provocation did not differ from the placebo group. Analysis in high risk subgroups i.e. patients exposed to high levels of house dust mites, severe complaints or highly sensitized to house dust mites did not alter results. Our patient group was very heterogeneous with respect to severity of complaints, but representative for the everyday patient seen in patient clinics or general

practice. It is possible that encasings still have an effect in a highly selected group but as a mono intervention in the general population it is not effective.

Chapter Four describes the results of the study to the general quality of life of the adult patients of the study group with rhinitis, asthma or AEDS. SF-36 scores were lower in females and patients with asthma but the intervention had no effect at all.

Chapter Five describes the prevalence of allergic rhinitis in patients with asthma or AEDS. Nasal complaints were described by 92% of the asthma patients and 85% of the AEDS patients. Adding a positive nasal provocation as a requisite for the diagnosis allergic rhinitis did not change these numbers significantly. The severity of nasal complaints in patients with AEDS or asthma was less than in patients with rhinitis only. This is contradictory to what was always thought, that comorbidity represented an advanced state of the atopic syndrome with more severe complaints. It is possible that the presence of asthma or AEDS in a patient clouds the nasal complaints.

Chapter Six describes the effects of comorbidity on quality of life scores in the adult patients. SF-36 scores were significantly lower than in the general Dutch population. Patients with rhinitis and asthma and patients with rhinitis, asthma and AEDS tended to score lower than patients with rhinitis only. The diagnosis asthma had a significant negative effect on SF-36 scores while the diagnosis rhinitis and AEDS had no effect at all; the VAS asthma and sleeplessness had a significant, inverse relationship with the SF-36 scores; otherwise stated, a high VAS score is associated with a low SF-36 score, indicating diminished quality of life. The most likely explanation is that the VAS represents the severity of complaints as experienced by the patient and therefore has a better relationship with the SF-36. Moreover, our population comprised a large percentage of patients with rhinitis so a comparison to non rhinitis patients is difficult.

Chapter Seven describes the relationship between the SF-36 and the RQLQ. The RQLQ contains one item with non nasal complaints; this item shows considerable overlap with a few subscales of the SF-36. Other items of the RQLQ have no significant overlap with the SF-36. It is therefore worthwhile to use both questionnaires in quality of life research.

Final conclusions

- 1) Impermeable encasings diminish exposure to house dust mite allergen. Despite this reduction in exposure, symptoms of allergic rhinitis are not significantly different in intervention and placebo group
- 2) The prevalence of allergic rhinitis in patients with asthma or AEDS is high, respectively 92 and 85%
- 3) Quality of life measured by a generic quality of life questionnaire, the SF-36, was significantly lower in the study population than in the general Dutch population.

The VAS asthma and the VAS sleeplessness (as a representative of AEDS) have a significant, inverse relationship with the SF-36 scores. The severity of nasal complaints, measured by visual analogue scale and daily symptom score, in patients with asthma or AEDS was less than in patients with rhinitis only, contrarily to our expectations.