

# Chapter 1

## General introduction





## Case

Since 1.5 years, a 26-year old female co-worker in a florist shop suffers from scaling and fissures on both hands. The complaints have been increasing over time. About a year ago, she visited her general practitioner (GP) for these complaints. After thorough inspection, the GP prescribed an emollient which temporarily improved her situation. Nevertheless, since six months her complaints have been aggravating again, now with attendance of vesicles. She decides to visit her GP again, who now refers her to a dermatologist.

During the anamnesis the dermatologist learns that his patient is not on sick leave, although she admits that she can not fulfil some of her work activities. She has troubles with arranging flowers and the eczema aggravates when working with some flower types. She has never met her occupational physician.

The dermatologist performs the standard allergological tests, which show no results. He diagnoses his patient with irritative contact eczema, as a result of excessive wet work and hand washing. He prescribes a different emollient and a corticosteroid and instructs her how to apply them, and provides her with written information about hand eczema and possible causes and solutions. The dermatologist wonders if additional occupational health care, including more specific information and coaching on the use of preventive measures and eventually adaptations at the workplace, would result in a better prognosis for this patient. He would appreciate a discussion of the situation with other health care professionals.

Hand eczema often has a chronically relapsing course with a poor prognosis, resulting in a major burden for patients, their employers and society[1]. It is a prevalent disease according to long-term registrations by general practitioners. Prevalence ranges from 25 to 66 cases per 1000 patient years. Point prevalence varies from 5 to 10% and incidence rates from 4 to 7%[2,3]. Hand eczema accounts for 90% of the occupational skin diseases and is in the top three of registered work-related disorders[1,2].

The pathological mechanism of hand eczema is often multifactorial. Both endogenous and exogenous factors play a role in its pathomechanism. Even meticulous avoidance of contact factors does not grant cure. Less than 50% of the patients have been reported to be cured after 5 years[4].

Significant numbers of patients suffer from this disease and are hampered in their daily activities and work. The physical and psychosocial burden for patients with skin diseases is comparable to patients with other chronic diseases, like multiple sclerosis and migraine, and even higher than patients with diabetes mellitus[5]. High costs are related to medical consumption and productivity loss and sick leave. In the Netherlands, annual costs of medical care, absenteeism and disability pensions due to occupational skin disease in employees in 2001 were estimated at € 98.1 million[6].

Despite the high individual and economic burden, the current usual care by dermatologists is thought to be suboptimal. It does not include consultation with the general practitioner or occupational physician, and the people involved in the workplace. Hence, suboptimal care for patients with occupational skin disease may lead to long-term absenteeism and ultimately to permanent disability with unnecessarily high costs[7]. Patients need instruction and information on topical therapy, aggravating factors and preventive measures. Usual care cannot provide for this, because of the limited time and expertise available at most outpatient clinics[8,9]. Patients are in need of extensive counselling to improve their situation, as hand eczema has a complex aetiology and runs a dynamic but chronic course. There is a need to develop cost-effective interventions, aiming at optimal topical treatment, avoiding relevant contact factors at home and in the working environment as much as possible, and optimal compliance to proper skin care instruction to reduce clinical severity of hand eczema. Introducing new care will give rise to several questions from health care professionals like dermatologists, general practitioners and occupational physicians, patients, researchers and policymakers. The next chapters of this thesis will address their following questions.

Questions asked:

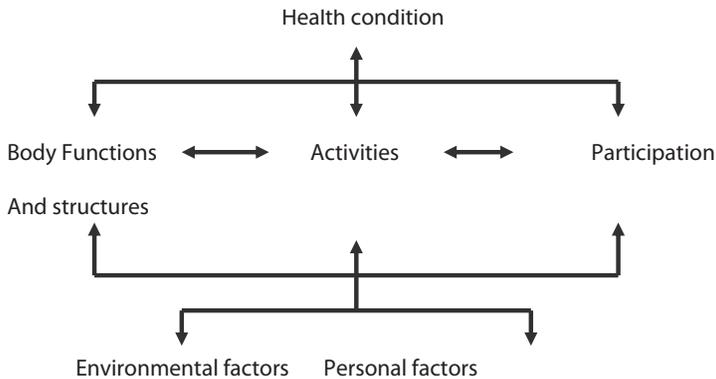
**Health care professionals ask themselves the question: ‘What is known about the effectiveness of primary and secondary prevention options for workers with hand eczema?’**

Management of patients with chronic hand eczema is difficult and often unsatisfactory. As a result, over the last few years there has been a growing interest for primary and secondary prevention of hand eczema. Although aspects of prevention programmes overlap, most studies focus on preventing hand eczema within a certain profession known for an increased risk. A systematic review gives insight in the available literature, and is a useful instrument to compare and summarize the outcomes and generalize results of different studies.

Chapter 2 systematically reviews the effectiveness of prevention and treatment options for patients with hand eczema.

**Researchers ask themselves: ‘What are important aspects in the design of a study evaluating a multidisciplinary intervention for patients with chronic hand eczema?’**

The management of chronic hand eczema remains a major concern. Usual care by a dermatologist is suboptimal. Therefore, there is a need to develop cost-effective interventions for the treatment of hand eczema. Different models can be used as a theoretical framework in the development of new interventions. In this study, the International Classification of Functioning, disability and health (ICF) was used as the conceptual model in the development of the integrated care program [10].



In line with the ICF, this integrated care program should not only aim to improve clinical signs, but it should also focus on increasing social participation. Despite being essential to ensure optimal avoidance of relevant contact factors at home and in the working environment, usual care does not include consultation with an occupational physician and coordination is lacking. Patients are in need of extensive counselling to improve their situation, and need instruction and information on topical therapy, aggravating factors and preventive measures. Usual care does not provide for this. Integrated care should be coordinated by a care manager, and should aim to achieve behavioural change in the patient, by means of counselling using a cognitive-behavioural approach. Thereby, the patients' coping with hand eczema should improve and his self-management should increase. The ultimate goal of integrated care should be to optimize the patient's quality of life and social functioning at home and at work.

Integrated care can be described as a system intervention where multiple systems are incorporated. First the health system, where health care professionals cooperate to improve not only clinical signs, but also strive towards an increase in participation. This enables consensus about the treatment and the advice given. Next, the private and work systems are incorporated in the integrated care program. By focusing on personal factors to increase self-management and coping strategies, and by focusing on environmental factors in the workplace, every actor in the environment is actively involved to reach a similar goal: improvement of participation. In order to achieve a systematic change in all systems, personal as well as environmental factors should be addressed in the treatment.

Chapter 3 describes the design of the HAND study in which an innovative intervention is described which will be compared to usual care for patients with moderate to severe, chronic hand eczema.

**Health care providers (nurses, clinical occupational physicians, dermatologists) ask themselves the question: 'What is the feasibility and applicability of integrated care? Patients and representatives ask: 'Are patients satisfied and what is the burden of this care for patients compared to the benefits?'**

When implementing new interventions, it is important to evaluate the implementation process and feasibility aspects of the intervention. A process evaluation addresses how well the intervention is received and can reveal barriers and facilitators for implementation in daily care. A process evaluation may also give care providers and policymakers insight about the application of the findings of an intervention study to their own setting, population or country.

Identification of the different actors, such as patients, health care professionals and policymakers, as well as the identifying the barriers and facilitators for implementation at innovation-, professional- and context level are important aspects of a process evaluation. Finally a process evaluation can help to explain study findings and is useful for a per protocol analysis.

Chapter 4 describes the feasibility of the integrated care program. The implementation, satisfaction and expectations of patients and health care professionals are ideally investigated with mixed methods: both quantitative and qualitative.

**Health care professionals (nurses, clinical occupational physicians, dermatologists) ask themselves the question: 'Is integrated care for patients with chronic hand eczema effective compared to usual care after 26 weeks?'**

Because usual care by a dermatologist is suboptimal for patients with hand eczema, an integrated care program was developed, aiming to optimize the patient's quality of life and social functioning. The integrated care was coordinated by a care manager and provided by a multidisciplinary team consisting of a dermatologist, a specialized nurse and an occupational clinical physician. The primary outcome measure was clinical assessment of hand eczema using the Hand Eczema Severity Index (HECSI). Other outcome measures were quality of life, patient's global assessment of hand eczema and sick leave.

Chapter 5 will present the results of a randomized, controlled trial comparing the integrated care program with usual care after 26 weeks.

**Policymakers ask themselves: 'Is integrated care cost-effective compared to usual care on a long term basis?'**

With the ever increasing costs of healthcare, it is necessary for policymakers, health insurance companies and health care professionals to make choices in healthcare. In an economic evaluation, both the costs and consequences of two or more interventions are compared. The evaluation aims to answer the question if an intervention has better 'value for money'

compared to other existing treatment options. Economic evaluations give insight in the distribution of the costs for society over direct medical costs and the indirect costs caused by productivity loss and sick leave. To our knowledge, no economic evaluations have been carried out with regard to interventions for hand eczema.

Chapter 6 will present the results of an economic evaluation of the integrated care program from a societal perspective.

Finally, chapter 7 presents the general discussion on this thesis. The main research findings, methodological considerations and recommendations for future research will be discussed in this chapter.

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