

# CHAPTER 8

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**Summary**

The central aim of this thesis was to describe the diagnosis and prognosis of hand and wrist problems in general practice. Consultation frequency, predictors of consultation, diagnosis and management, impact of hand and wrist problems, and the course and prognosis of the problem were described.

In **Chapter 1** we described background information about hand and wrist problems. Subsequently our objectives were introduced and an outline of this thesis was provided.

In **Chapter 2** we described how often adults with hand or wrist problems consult their GP and for which problems, and we analysed potential predictors of consultation. The study was part of a population-based cohort study. A self-administered general questionnaire about physical symptoms and health was distributed among a random sample of adults registered with five general practices in The Netherlands. We selected responders who indicated that they had had hand or wrist problems in the past month (n=537). Consultation data were extracted from computer-based medical records covering a period of one year after sending the questionnaire. The association between potential predictors and consultation rate was studied using logistic regression analyses, adjusting associations for potential confounding by age and sex.

Only 6.0% consulted their GP for hand or wrist problems specifically; 76% consulted for other reasons, mostly musculoskeletal, respiratory, and circulatory problems. The median consultation frequency was 3 visits. Only frequency and impact of the hand problem on everyday activities were significantly associated with consultation for hand or wrist problems specifically. Anxiety, depressive symptoms and poor health predicted consultation for other reasons. We concluded that few people with hand or wrist problems consult their GP for these symptoms, despite significant pain and limitations in physical functioning. Consultation rate is high however, and seems to be driven by other mental or physical health problems.

In **Chapter 3** we described the diagnoses made by GPs in patients with hand or wrist problems, and we described management for specific diagnostic categories. Furthermore, we determined the association between diagnostic information and two outcomes: persistent symptoms and specialist referral. GPs recruited patients with hand or wrist problems and completed a standardised form recording information about patient history, observations, palpation, physical tests, diagnoses and management. Patients were sent a questionnaire at baseline, 3 and 12 months

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containing questions on characteristics and symptom severity. Logistic regression analyses were used to determine the association between diagnostic information and the odds of persistent symptoms or specialist referral.

GPs asked 301 patients with hand or wrist problems to participate in this study. A total of 267 patients (89%) consented and completed the baseline questionnaire. GPs returned information on diagnosis and management decisions for 266 patients. A full registration form including all details on history and physical examination after the first consultation was available for 241 patients. Mean age was 49.3 (SD 16.0) years, and 74% were female. The three most frequently recorded diagnoses were osteoarthritis (17%), tenosynovitis (16%), and nerve entrapment (13%). Wait-and-see (30%) and painkillers (24%) were most often advised. Higher probability of persistent symptoms at both 3 and 12 months was associated with being female, higher age, long baseline symptom duration, and higher baseline pain intensity score; positive DeQuervain test was associated with lower probability of persistent symptoms. Having a recurrent problem was associated with the odds of specialist referral. We concluded that in primary care information about physical signs, and physical tests are of importance to make a diagnosis in patients with hand or wrist problems, but provide less prognostic information.

**Chapter 4** described wrist and hand problems presented to the GP in terms of severity of symptoms, and their impact on physical, emotional and social functioning. Furthermore, patient and disease characteristics across different diagnostic categories were described and factors related to the severity of hand or wrist problems were studied. Patients consulting their GP with hand or wrist problems were sent a questionnaire containing questions on socio-demographic variables, characteristics of the complaint, physical activity and psychosocial factors. The GP recorded information on medical diagnosis. We studied the cross-sectional association between a variety of factors and severity of hand or wrist problems, using the Symptom Severity Scale as outcome measure.

Mean age of the 267 participants who completed the baseline questionnaire was 49.3 years and 74% were female. The characteristics of patients varied slightly across diagnostic categories. Patients with osteoarthritis were on average the oldest, and patients with repetitive strain injury the youngest participants. Patients suffering from rheumatoid arthritis were less often female, scored slightly higher on pain, the pain coping strategy 'worrying', anxiety, distress, and somatization and were less physically active according to the Dutch Norm for Healthy Activity compared to

patients with other diagnoses. Patients with a ganglion had the lowest score on severity of symptoms. Patients diagnosed with repetitive strain injury had increased scores on static posture/repetitive movements, sitting and visual display units (VDU) work, and they were most physically active. Furthermore, patients with more than one diagnosis were more often female, and had slightly increased scores on the pain coping strategies 'pain transformation', and 'distraction' compared to patients with only one diagnosis. Significantly higher scores on severity of hand or wrist problems ( $p$ -value $<0.10$ ) were found for patients who did not have paid work, had longer duration of symptoms, diagnosis of entrapment, higher pain intensity, higher body mass index, and higher scores on worrying reported. We concluded that primary care patients with hand or wrist problems report more pain and reduced function compared to a randomly selected reference sample. Impact on other aspects of perceived health appeared to be limited. Severity of hand symptoms seems to be associated with socio-demographic, physical, and psychosocial factors, more than with medical diagnosis.

In **Chapter 5** we determined the clinimetric properties of two questionnaires assessing hand symptoms (Symptom Severity Scale) and physical functioning (hand and finger function subscale of the AIMS2) in a Dutch primary care population. The first 84 participants of our prospective cohort study completed the Symptom Severity Scale and the hand and finger function subscale of the Dutch-AIMS2 twice within 1 to 2 weeks. The data were used to assess test-retest reliability (ICC) and smallest detectable change (SDC, based on the standard error of measurement (SEM)). To assess responsiveness, changes in scores between baseline and the 3 month follow-up were related to an external criterion to estimate the minimal important change (MIC). We calculated the group size needed to detect the MIC beyond measurement error.

The ICC for the Symptom Severity Scale was 0.68 (95% CI: 0.54-0.78). The SDC was 1.00 at individual level and 0.11 at group level, both on a 5-point scale. The MIC was 0.23, exceeding the SDC at group level. The group size required to detect a MIC beyond measurement error was 19 for the Symptom Severity Scale. The ICC for the hand and finger function subscale of the Dutch-AIMS2 was 0.62 (95% CI: 0.47-0.74). The SDC was 3.80 at individual level and 0.42 at group level, both on an 11-point scale. The MIC was 0.31, which was less than the SDC at group level. The group size required to detect a MIC beyond measurement error was 150. In our heterogeneous primary care population the Symptom Severity Scale was found to be a suitable instrument to assess (changes in) the severity of hand symptoms, whereas

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the hand and finger function subscale of the Dutch-AIMS2 was less suitable for the measurement of (changes in) physical functioning in patients with hand and wrist problems.

**Chapter 6** described the course of a new episode of hand and wrist problems in general practice, and identified predictors that are associated with poor outcome at short-term and long-term follow-up. Patients consulting their GP with hand or wrist problems (no prior consultation in preceding 3 months) were sent a questionnaire at baseline, 3, 6 and 12 months of follow-up. Potential predictors included socio-demographic variables, characteristics of the complaint, physical activity and psychosocial factors. GPs recorded information on symptoms, signs and medical diagnosis. Main outcome measure was insufficient improvement of symptoms using the Symptom Severity Scale at short-term (3 months) and long-term (12 months) follow-up.

23% of the 248 patients reported complete recovery after 3 months, increasing to 42% one year after first presentation. Higher probability of poor outcome at 3 months was associated with being female, a low pain intensity at baseline, and lower personal control at baseline; at 12 months it was associated with higher age, being female, having complaints for longer than 3 months at baseline, low scores on the coping strategy 'reducing demands', and a higher score on somatization. Discriminative ability of the models was moderate with an area under the curve after bootstrapping of, respectively, 0.60 and 0.69. We concluded that more than half of all patients reported residual symptoms at one year. Whilst poor outcome was difficult to predict, age, gender, duration of symptoms, and psychosocial factors were associated with poor outcome of hand and wrist problems.

In **Chapter 7** an overview of the main findings was given. Next, three questions arising from the study were argued. The first question was 'Is it important to make a medical diagnosis in general practice?'. Our results showed that the diagnosis had influence on management decisions, but may not directly impact on prognosis. With our data we could neither confirm nor refute the hypothesis that it may be more effective to treat simply on the basis of symptoms and signs alone rather than on a medical diagnosis. More research could be aimed at the clinical reasoning of physicians when collecting diagnostic information, making a diagnosis, and making management decisions, and how this can influence the course of hand and wrist problems. The second question was 'Are hand and wrist problems really a problem?'. The answer

could be no, because scores on most aspects of perceived health and functioning were not very high in our population sample, and the percentage of patients consulting their GP for hand/wrist problems was low. It is also justified to say that the answer is yes, because many people who consult for hand or wrist problems still have problems after one year, and scores for bodily pain and physical functioning are poorer than in a reference population. The last question was 'Is it possible to accurately predict the outcome of hand and wrist problem?'. It was also difficult here to give a clear answer. On the basis of all the information from the baseline questionnaire it was not possible to reliably predict the outcome of hand and wrist problems. However, simple information on sociodemographic and characteristics of the hand/wrist problem available to the GP during consultation seemed useful for making an estimate of the prognosis. Finally, we discussed several methodological issues, including GP selection, patient selection and participation, and the quality of the data. Next to the methodological considerations we proposed some implications for general practice and research.