

Heterogeneity in the experience of chronic pain

Citation for published version (APA):

Waardenburg, S. (2022). *Heterogeneity in the experience of chronic pain: unravelling the biopsychosocial context and the quantification of treatment success*. [Doctoral Thesis, Maastricht University]. Maastricht University. <https://doi.org/10.26481/dis.20221214sw>

Document status and date:

Published: 01/01/2022

DOI:

[10.26481/dis.20221214sw](https://doi.org/10.26481/dis.20221214sw)

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
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CHAPTER 9

IMPACT PARAGRAPH

This chapter describes how to create an impact on society by utilizing the knowledge gained from this thesis. This can be achieved by applying multiple approaches to transfer knowledge to a wide audience, not only through peer-reviewed journals, but also through conferences and presentations. Moreover, the knowledge can be taken into account by hospital services and processes in order to implant them in society. This chapter discusses a couple of options.

The prevalence of chronic pain is estimated at 18% of the Dutch population and will increase in the upcoming years due to aging.[4] The complexity of chronic pain transcends medical and therapeutic disciplines accentuating the urge of multidisciplinary care for patients. On the individual level, a decrease in physical, psychological and societal abilities reduces the quality of life.[1; 15; 16] Chronic pain negatively impacts patients and their nearby relatives, imposing financial burden on multiple levels. For example, patients show an increased use of healthcare services, but are also at risk of work incapacity, a decrease in income, and early retirement.[15] All considered, this leads to total (in)direct cost in the Netherlands alone of 20 billion euros per year, exceeding many times the cost of diabetes, heart failure and cancer combined.[14]

Clinical implications

The objective of this thesis was to improve our understanding of the way pain is experienced by chronic pain patients and to unravel the diversity present between pain patients. The results of this thesis may help healthcare professionals take more patient characteristics into account for clinical decision making. Our understanding of differences between the sexes in their experience of chronic pain improved substantially. This thesis showed consistency with earlier findings of the literature that average higher pain intensity is among women, but our thesis also showed female patients having lower averages than men for factors like pain catastrophizing, depression and anxiety, indicating better scores.[2; 5; 8] When observing sex differences in fear avoidance, we have found that men have higher scores of fear avoidance on average, yet their scores are not related to pain intensity, while the contrary happens in women: when fear avoidance increases, so does pain intensity. However, the causality between fear-avoidance and pain intensity in women needs to be established. Then, these findings may give indication that treating fear avoidance in women may help reduce pain intensity, while this may not be the case in men. Regardless of causality, men with high levels of fear-avoidance need counseling for the avoidance of activities due to the fear of pain, as fear-avoidance may lead to physical disuse and interference in daily activities. Moreover, whether high fear-avoidance in men at baseline influences (negatively) pain treatment outcomes is also unclear as of yet. Therefore, this

information is of relevance to clinicians and to researchers. The implementation of these results will take place by peer reviewed publishing and by sharing the knowledge on pain conferences like the International Association for the Study of Pain in Toronto upcoming September. Moreover, presentations for pain specialist has been given on symposia like the Science Café of the department of Anesthesiology and Pain Medicine of the MUMC+. Besides, this thesis will help to disseminate these findings to a wider (lay) public, bringing fear-avoidance to the attention of the multidisciplinary team of the MUMC+ will be done by participating in the meetings set for the multidisciplinary team. There, a proposition for referral to the rehabilitation department can be made when high levels of fear avoidances are encountered in chronic pain patients.

In this thesis, the impact assessment of the socio-cultural construct (education, employment, relationship and age) on patient reported outcomes revealed in pain intensity, depression, anxiety, pain catastrophizing and pain interference. These disparities were in most cases larger for men than for women, for instance, we have shown a larger average decrease in pain intensity for men than for women, with an increase in level of education.[18] Moreover, this thesis specifies that within the chronic pain population the more vulnerable populations, like the low educated and unemployed, have a more severe pain experience than the overall chronic pain population, besides the fact of being men or women.[5; 6; 9; 13; 18] Even though the reasoning for these results remain unrevealed, this thesis suggests that the heterogeneity found in the chronic pain population may be partly explained by a patients' socio-cultural status in combination with their sex.

The clinical implication of these findings are of great importance, as these vulnerable groups may experience greater difficulties in accessing and understanding information about pain, yet as well in self-management, making health decisions and the use of the health care system, due to presence of low health literacy.[3; 7; 10; 11] In clinical practice and in pain management, attention needs to be given to this bottleneck as it can hinder treatment success. Hence, in the clinical decision making process, clinicians may emphasize the information provided to the patient.[1] Moreover, referral to supplementing services such as medical social work may help the (vulnerable) patient in their pain management and develop themselves to the fullest extent possible. Informing the chronic pain patient of these supplementary services can be achieved through clinician referral, by pamphlets in the waiting room and online advertising of the pain center website. Moreover, to give prominence to the services of the medical social workers, they will be invited to a chronic pain team meeting held every Tuesday, to inform about their services and assess which chronic pain patient can profit most.

Furthermore, this thesis shows that the pain reduction necessary to be satisfactory about an intervention varies according to study design and baseline pain intensity. Thus, it is difficult to generalize at what amount of pain relief a patient with chronic pain is satisfied with, and thus when an intervention can be labeled as successful.[19] This may even be more difficult for a fifth of the chronic pain patients attending our tertiary pain clinic that have a combination of depression or anxiety, pain catastrophizing and pain severity. These chronic pain patients have a lower chance of attaining treatment success like patient satisfaction, pain relief and a decrease in pain interference. This combination of pain symptoms that we labeled 'complex' should be recognized by specialist and patients before initiating treatment, as the combination of these symptoms may guide treatment decision and is therefore relevant for pain physicians, other healthcare professionals, and patients.

Dissemination of the results will be conducted by peer reviewed publishing, pain congresses like the European Pain Federation in Dublin 2022, as well, the information was shared on the Spring symposium of the department of chronic pain of the MUMC+. Moreover, this thesis will help to disseminate all the results aforementioned among chronic pain patients, families, caregivers and associations of chronic pain patients.

Pain management

The mission of chronic pain care is to pursue and ensure that as many chronic pain patients as possible are in control and retain, promote or regain ownership of their own functioning.[1] To promote this, certain transformation is necessary within pain management strategies, and this thesis provides knowledge for this change. The first feature needed is a more personalized care path, by identifying (risk) factors that a specific pain patient has. Second, care should be guided and based on the likelihood of success on patients outcomes, thus an assessment should be made of predictors of those pain outcomes and the effect of interventions. Insights into these two features can be gained by the application of a Value-based Healthcare Approach and applied as an instrument to support clinical decision making.[12; 17] Consequently, the knowledge on how pain experience differs for pain patients is of importance, like the knowledge gained in this thesis on sex differences, the impact of the socio-cultural construct and possibilities of treatment successes.

The first step in dissemination is to gather all relevant stakeholders, like patient, clinician, hospital, IT and private companies that have knowledge on the approach. With the aim to provide insight in the accessibility and performance of care by mapping clinical processes, reduce registration burden through the reuse of data (data efficiency) and expose bottlenecks that patients may experience in receiving care.

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