

Proceedings of the

# 2nd Musculoskeletal Symposium

– Working with pain



## **Proceedings of the 2nd Musculoskeletal Symposium – Working with pain**

The symposium was organized by the Physiotherapy program at UCN and the Department of Medicine and Health Technology, AAU in collaboration with the Prevent 4 Work Erasmus + EU project.

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## **About Prevent4Work**

The Knowledge Alliance Prevent4Work for Preventing Work-Related Musculoskeletal Disorders aims at establishing a network which will develop innovative educational programmes, adaptive mobile Health (mHealth) tools, high quality evidence-based material and actions that can be implemented in EU to prevent Work-Related Musculoskeletal Disorders, addressing the gap in learning programmes that focus on occupational health, with participation of HEIs, ITC enterprise, educational SMEs and clinical expertise (Prevent4Work Observatory). The target groups are workers and enterprises from different sectors of activity, trainers, health professionals, HEIs and other stakeholders.

## Organizing Committee

**Janni Ørsnes Christensen**, Administrative Assistant  
Department of Physiotherapy - University College of Northern Denmark

**Palle Schlott Jensen**, Assistant Lecturer  
Department of Physiotherapy - University College of Northern Denmark

**Priscila de Brito Silva**, Assistant Lecturer  
Department of Physiotherapy - University College of Northern Denmark

**Morten Sebastian Høgh**, Associate Professor  
Department of Health Science and Technology – Aalborg University

**Steffan Wittrup McPhee Christensen**, Associate Professor,  
Department of Physiotherapy - University College of Northern Denmark  
Department of Health Science and Technology – Aalborg University

**Thorvaldur Skuli Palsson**, Associate Professor  
Department of Health Science and Technology – Aalborg University

## Technical support

Nicolas Mathiesen, Physiotherapist, SEPAS Sport

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**Palle Schlott Jensen**, Assistant Lecturer  
Department of Physiotherapy - University College of Northern Denmark

**Priscila de Brito Silva**, Assistant Lecturer  
Department of Physiotherapy - University College of Northern Denmark

**Morten Sebastian Høgh**, Associate Professor  
Department of Health Science and Technology – Aalborg University

**Steffan Wittrup McPhee Christensen**, Associate Professor,  
Department of Physiotherapy - University College of Northern Denmark  
Department of Health Science and Technology – Aalborg University

**Thorvaldur Skuli Palsson**, Associate Professor  
Department of Health Science and Technology – Aalborg University

## Symposium Program

- 09.00 - 09.10**      ***Welcome and introduction to Prevent4Work***  
Thorvaldur Skuli Palsson, Assoc. Professor at Aalborg University
- 09.10 - 10.00**      ***The Back-UP – an online vocational advice module for musculoskeletal pain patients***  
Dr. Jonathan Hill, Senior Lecturer at Keele University  
**Hosted by** - Thorvaldur Skuli Palsson, Assoc. Professor at Aalborg University and Morten Høgh, Assoc. Professor at Aalborg University
- 10.00 - 10.50**      ***Musculoskeletal pain in the workplace – addressing physical and psychological in the workplace***  
Andreas Holtermann, Professor  
Charlotte Diana Nørregaard Rasmussen, Senior researcher  
The National Research Center of Working Environment  
**Hosted by** - Thorvaldur Skuli Palsson, Assoc. Professor at Aalborg University
- 11.00 - 11.10**      ***The First Ideas Contest Winner – “Pain in your Work”***  
David Villuendas, Physiotherapy undergrad student at San Jorge University

- 11.10 - 11.30**      ***Do physiotherapists use online resources for patient education?***  
Palle Schlott Jensen, Assoc. Lecturer  
Priscila de Brito Silva, Assoc. Lecturer  
University College of Northern Denmark
- 11.30 - 13.00**      ***Lunch break (poster presentations 11.30-12.15)***
- 13.00 - 13.50**      ***The interaction between social pain and stress, identity and motivation***  
Einar Baldvin Baldursson, Assoc. Professor at Aalborg University  
**Hosted by** - Steffan Wittrup McPhee Christensen, Assoc. Professor at Aalborg University and University College of Northern Denmark
- 14.00 - 14.50**      ***Working with pain – What do we know of the risk of using computer and smartphone?***  
Pascal Madeleine, Professor at Aalborg University  
**Hosted by** - Steffan Wittrup McPhee Christensen, Assoc. Professor at Aalborg University
- 15.00 - 15.50**      ***Preventing musculoskeletal pain – why is that not a good idea?***  
Mary O’Keeffe, Academic Senior Research Fellow at University of Sydney

## Summary of the presentations

### **THE BACK-UP – AN ONLINE VOCATIONAL ADVICE MODULE FOR MUSCULOSKELETAL PAIN PATIENTS**

Dr. Jonathan Hill, Senior Lecturer at Keele University

Watch it on P4Work youtube channel:

<https://www.youtube.com/watch?v=iOTROBVhm6o&t=1778s>

### **MUSCULOSKELETAL PAIN IN THE WORKPLACE – ADDRESSING PHYSICAL AND PSYCHOLOGICAL IN THE WORKPLACE**

Andreas Holtermann, Professor; Charlotte Diana Nørregaard Rasmussen, Senior researcher - The National Research Center of Working Environment (NFA).

Watch it on P4Work youtube channel:

<https://www.youtube.com/watch?v=E8ZrGKXwg3Q>

### **THE FIRST IDEAS CONTEST WINNER – “PAIN IN YOUR WORK”**

David Villuendas, Physiotherapy undergraduate student at San Jorge University

Watch it on P4Work youtube channel:

<https://www.youtube.com/watch?v=neobG3tqmV4>

### **DO PHYSIOTHERAPISTS USE ONLINE RESOURCES FOR PATIENT EDUCATION?**

Palle Schlott Jensen, Assoc. Lecturer; Priscila de Brito Silva, Assoc. Lecturer - University College of Northern Denmark

Watch it on P4Work youtube channel:

<https://www.youtube.com/watch?v=26iDOC3Jc2w>

**THE INTERACTION BETWEEN SOCIAL PAIN AND STRESS, IDENTITY AND MOTIVATION**

Einar Baldvin Baldursson, Assoc. Professor at Aalborg University

Watch it on P4Work youtube channel:

<https://www.youtube.com/watch?v=SxsGo-6xrBE&t=64s>

**WORKING WITH PAIN - WHAT DO WE KNOW OF THE RISK OF USING COMPUTER AND SMARTPHONE?**

Pascal Madeleine, Professor at Aalborg University

Watch it on P4Work youtube channel:

[https://www.youtube.com/watch?v=ZOd\\_O\\_0AHpc&t=149s](https://www.youtube.com/watch?v=ZOd_O_0AHpc&t=149s)

**PREVENTING MUSCULOSKELETAL PAIN – WHY IS THAT NOT A GOOD IDEA?**

Mary O´Keeffe, Academic Senior Research Fellow at University of Sydney

Watch it on P4Work youtube channel:

<https://www.youtube.com/watch?v=hY5eaOMgi7c>

## **The Back-UP – an online vocational advice module for musculoskeletal pain patients**

*Dr. Jonathan Hill, Senior Lecturer at Keele University*

Jonathan's talk will be focussed on his research to provide an online vocational advice module for MSK patients (Back-UP) as well as a study to develop and test an online training course for physiotherapists to support them to provide vocational advice to their patients (iSWAP). He will also demonstrate the Back-UP web app, which is a platform being developed to provide back and neck pain patients with an evidence-based care plan following their first contact consultation. The Back-UP software uses the STarT MSK Tool questions to generate a graph showing individual predicted outcomes at 2 and 6 months for pain, physical function and work absence. It also informs the clinician about which treatment options best match the individual's prognosis, to inform treatment decision-making.

He has over 100 publications and is well known for his research in the area of stratified care for musculoskeletal pain. His PhD (in 2007) developed and validated the STarT Back stratified care tool and matched treatments, and following this, he conducted the high-profile STarT Back trial to test the approach in practice (published in *The Lancet* 2011). He is currently leading a large cluster randomised trial to test the clinical and cost-effectiveness of stratified care for the five most common MSK pain problems presenting to UK general practice (Back, neck, knee, shoulder and multi-site pain).

## Musculoskeletal pain in the workplace – addressing physical and psychological in the workplace

*Andreas Holtermann, Professor; Charlotte Diana Nørregaard Rasmussen, Senior researcher  
- The National Research Center of Working Environment (NFA).*

Despite many efforts aimed at reducing work-related musculoskeletal pain (MSK) in Denmark, the prevalence of MSK pain amongst Danish workers remained unchanged over the past many years. This can be related to the initiatives focusing primarily on the prevention of MSK pain by e.g. reducing the physical load with various ergonomic aids, advice and guidance. Today we know that only modifying the physical load at work is not sufficient as accounting for psychosocial aspects in relation to pain at work is equally important. Moreover, it is not enough only to focus on prevention of MSK pain in the workplace. The efforts also need to provide support workers who already are in pain to reduce the risk of their pain developing into a chronic pain condition with increased disability and reduced capacity to work which inevitably results in sick leaves and early retirement. In the talk, we will present findings from studies we have conducted in various job settings where the interventions have focused on engaging the workers actively in processes aimed at reducing the impact of pain on their ability to work. This includes the interaction between physical, psychological and social aspects. We will provide specific examples of educational initiatives aimed at workers and their superiors where the focus has been on prevention and management of pain in the workplace.

In his research, Prof. Holtermann has primarily focused on the prevention of physical load in the workplace, work-related pain and other health-related problems in relation to work. He has arranged several workplace interventions, primarily targeting employees with a short educational background and manual workers.

Dr. Rasmussen is a Physiotherapist by background and has done her research within work environment over the past 10 years. Her research focus has been on specific interventions targeting work-related pain. Additionally, her work has focused on bridging the gap between research and clinical practice by identifying specific tools and methods that can be useful for managing work-related pain.

## The First Ideas Contest Winner – “Pain in your Work”

*David Villuendas, Physiotherapy undergraduate student at San Jorge University*

The First Ideas Contest took place during The 1st Prevent4Work Symposium held in Milan on the 15th of November 2019.

Academics, researchers and general public from all over Europe have been invited to compete with their innovative ideas for education and prevention against WMSDs.

The objective of this Ideas Contest was to promote innovative ideas in the area of Prevention of Musculoskeletal Disorders.

The winner idea was the video “PAIN IN YOUR WORK” presented by David Villuendas. All participants’ videos can be seen in our webpage <https://p4work.com/event/2019-first-prevent-for-work-symposium-and-ideas-contest/>.

The winner of the contest was supported by our partner media company VITECO to produce “PAIN IN YOUR WORK” the 10th educational video available in Prevent-4Work YouTube channel and presented during the 2nd Prevent4Work Symposium.

## Do physiotherapists use online resources for patient education?

*Palle Schlott Jensen, Assistant Lecturer; Priscila de Brito Silva, Assistant Lecturer- University College of Northern Denmark*

Prevent 4 Work (P4Work) is a European project that established a knowledge alliance for investigating the field and developing high-quality educational materials related to work-related musculoskeletal disorders. A scoping review mapped the existing educational resources, showing that they can positively influence absenteeism and pain-related loss of workability, however, there is a gap in knowledge regarding the best content and delivery methods. In Denmark, neck pain (NP) and low-back pain (LBP) are the two most frequent reasons for sick leave, causing a significant burden to the economy. In this context, physiotherapists have a crucial role, including advise to avoid or limit sick leave and continue with daily activities as much as possible. Even though relevant, patient education is time-consuming and consequently inconsistently delivered. Therefore, implementation of more effective delivery method for patient education, such as online technologies should be investigated for supporting patients at risk of long-term sick leave. In this study we aim at exploring physiotherapists experiences using online resources for patient education for patients with non-specific work-related LBP and NP. Authorized physiotherapists with license to practice Physiotherapy in Denmark and work in the private sector with patients with non-specific work-related LBP and NP were identified by members of P4Work and interviewed online. The identified professionals were excluded if they knew the interviewer. A phenomenological approach was used for the interview to gain insight into the subjective experiences of the participants. Our preliminary results include 8 physiotherapists with 10 to 30 years' experience, that were employed or owned a private clinic (which varied in size and number of physiotherapists employed). The participants expressed not to use online resources for patient education, because they either: did not find any relevant content; worried that the content could be misunderstood; or worried that the content was not specific to each patient's needs. In general, the participants preferred to include patient education as part of the consultation in person. The preliminary results indicate that there is a potential for implementing strategies to increase the use of online resources for patient education that will be further explored.

## The interaction between social pain and stress, identity and motivation

*Einar Baldvin Baldursson, Assoc. Professor at Aalborg University*

In his talk, Einar will focus on the interactions between psychological/social pain, identity and work motivation. The role of social media on these interactions will likewise be discussed. The talk will touch on how social pain interacts with stress, identity and motivation. The overall idea is that the dynamics of this process change psychological maintenance systems, so their function is increasingly reversed, resulting in e.g increasing prevalence of chronic pain.”

Dr. Einar B. Baldursson is trained as an Occupational Health Psychologist at the University of Aarhus and subsequently worked for as researcher at the Institute of Psychology, Aarhus University.

After a short period working within the public health care system, he became an associate professor at the Department of Occupational and Organizational Psychology at Aalborg University. One of his key roles there is directing the Stress Clinic at Aalborg University. The goals of the Clinic are to identify stressors and stress reactions in modern work and everyday life. The broader focus on everyday life is a reflection of the understanding, that the boundaries between work and everyday life have been blurred and even disappeared.

## **Working with pain – What do we know of the risk of using computer and smartphone?**

*Pascal Madeleine, Professor at Aalborg University*

This presentation will be based on a number of studies conducted at Aalborg University and a recent book chapter authored by AM Heredia Rizo, P Madeleine and GPY Szeto (Elsevier).

Work-related musculoskeletal disorders (WMSD) are often related to physical activity and represent an increasing socio-economic burden to our societies. A large portion of common occupations involves prolonged sitting and use of visual display units. Such exposure has been linked with a high prevalence of musculoskeletal pain, especially in the neck-shoulder region. This presentation will present our current knowledge concerning:

- origin and mechanisms of pain in the neck-shoulder region.
- individual and work-related physical as well as psychosocial risk factors.
- prevention and management of pain including strengthening exercise programs and ergonomics interventions.

Of special notes, special emphasis will be given to the assessment of biomechanical exposure and recent intervention studies.

### **Biography:**

Pascal Madeleine was born in Toulouse, France, in 1969. He received his PhD and DSc degree from Aalborg University, Denmark. He is currently employed as a Professor in Sports and Ergonomics at the Department of Health Science and Technology at Aalborg University. He is head of the Sport Sciences – Performance and Technology group and director of the Doctoral School of the Faculty of Medicine at Aalborg University. He has published more 240 peer reviewed scientific journal publications and book chapters. His main area of research interests are the development and application of novel methods and technologies in Ergonomics and Sport Sciences.

## Preventing musculoskeletal pain – why is that not a good idea?

*Mary O’Keeffe, Academic Senior Research Fellow at University of Sydney*

Dr. O’Keeffe will in her presentation discuss the case for and against the prevention of musculoskeletal pain, with a particular focus on low back pain. It will argue that how we define an episode of pain and indeed what we mean by prevention could be important in deciding if prevention is a worthwhile goal.

Dr. Mary O’Keeffe is a physiotherapist, trainee journalist, and postdoctoral research fellow based in Ireland. Her research is funded through a European Union Marie Curie fellowship. Mary’s main interests are public knowledge and communication about back pain and the media’s portrayal of medical tests and treatments across healthcare.

## Virtual Poster Presentations

### **SESSION 1 - WORKING WITH PAIN – moderator Priscila de Brito Silva**

Preventive physiotherapy in the workplace - Miguel Gil Sánchez

Role of psychosocial factors in self-reported work-related musculoskeletal disorders: narrative review - Beatriz Carpallo-Porcar

Workplace physiotherapy for musculoskeletal pain relief in office workers: A pilot study - Olatz Flores-Yaben

### **SESSION 2 - MUSCULOSKELETAL PAIN I – moderator Steffan Wittrup McPhee Christensen**

Chronic Musculoskeletal Pain - what should future research priorities? Preliminary results - Kristian Damgaard Lyng

Clinical staff involvement: interviews of patients with back pain consulting general practice - Lise E Hansen

Physical exercise effects on psychosocial factors in non-specific chronic low back pain - Julia Blasco Abadía

### **SESSION 3 - MUSCULOSKELETAL PAIN II – moderator Thorvaldur Skuli Palsson**

Relationship between oral behavior and diagnostic criteria in tension - type headache - Ada González

The consequence of applying telephone reminders in musculoskeletal research - Christina Lyngsø Udby

Pain medication use for musculoskeletal pain among children: prevalence and associated factors - Alessandro Andreucci

## Session 1

# PREVENTIVE PHYSIOTHERAPY IN THE WORK-PLACE

**Miguel Gil Sánchez – contact:** tecumsalud@gmail.com

### **Background and Aim:**

Work related musculoskeletal disorders produce a high absenteeism as a consequence of occupational accidents and diseases. Preventive physiotherapy has a high potential to improve functional habits and ergonomics at work. The objective of this project was to establish a reference model that impacts on the health of workers and companies.

### **Method:**

An individualised face-to-face and online project has been implemented with seven interconnected stages and with an implementation and development period of one year. The method combines intervention in the workplace and online interaction that adapts to the person and their usual work. It provides an environment in which postural and functional habits of workers are evaluated and modified to directly impact on their quality of life and health resulting in a benefit for the company.

### **Results:**

The method focuses on occupations with hazards that include repetitive movements, manual handling, forced postures and associated psychosocial factors. The project reduced absenteeism and we would expect this result to be replicated in the future. In addition, the method requires the collection, in an objective way of information such as medicine consumption, sick leave due to incapacity, and perceived quality of life.

### **Conclusions:**

- I. Preventive physiotherapy in the workplace reduces absenteeism and improves the health of workers.
- II. Regular, individualised workplace-based treatment combined with home-based self-prac supported by online advice as required by the employee, increases adherence to the guidance provided which improves results.
- III. Improving workers' health has a direct impact on companies.

# ROLE OF PSYCHOSOCIAL FACTORS IN SELF-REPORTED WORK-RELATED MUSCULOSKELETAL DISORDERS: NARRATIVE REVIEW

**Beatriz Carpallo-Porcar, Sandra Calvo, Carolina Jiménez-Sánchez. contact:** bcarpallo@usj.es

iPhysio Research Group, Department of Physical Therapy, Universidad San Jorge, Villanueva de Gállego, Zaragoza, Spain.

## **Background and Aim:**

Work-related musculoskeletal disorders (WMSD) have a multifactorial origin. Furthermore, work and individual psychosocial factors are related. However, partial studies are continued by professional sector or anatomical zone. Thus, the aim was to conduct an updated literature review to identify which psychosocial factors are most related to WMSD in general working population.

## **Methodology:**

This narrative review was conducted in four databases: PubMed, Scielo, Web of Science and Cochrane. Two blocks of concepts were analyzed: work factors (job demands, control, social support, security, work satisfaction, effort-reward imbalance, and organization), and individual factors (stress, personality, beliefs about pain, work family and private life conflicts, emotional and self-perceived health).

## **Results:**

180 articles were included, 17 of them were reviews, 38 prospective studies and 125 retrospective studies. Work psychosocial factors were related in 90% of the articles, mainly with the job demand group, although effort-reward imbalance is also highly related. More than 70% of the articles found a relationship between individual factors and WMSD. Mainly highlighted the influence by perceived stress, beliefs about pain and self-perceived ill health. In addition, different relationship factors were found depending on the gender and the anatomical area.

## **Conclusions:**

WMSD have a multifactorial origin. Psychosocial risk factors, also called stressors, are directly and indirectly related through increased perceived stress. The individual characteristics with which each person faces these factors are also related to the appearance and chronification of pain. Therefore, it is necessary to identify and prevent them, in order to improve health in workers.

# WORKPLACE PHYSIOTHERAPY FOR MUSCULO-SKELETAL PAIN-RELIEF IN OFFICE WORKERS: A PILOT STUDY.

Rocío Fortún Rabadán, Carolina Jiménez Sánchez, Olatz Flores Yaben – contact: rfortun@usj.es

## Background and Aim:

Work-related musculoskeletal disorders are the most common occupational disorders in industrial countries, being highly prevalent among office workers. A specific workplace physiotherapy intervention might be effective to relieve musculoskeletal pain in this population. This study aimed to evaluate the efficacy of a multimodal physiotherapy intervention to relieve musculoskeletal pain in office workers.

## Method:

The study followed a pre-post design with a single group and participants were recruited through Universidad San Jorge. Outcome variables were the existence and severity of musculoskeletal disorders (Nordic Musculoskeletal Questionnaire) and the musculoskeletal pain intensity (Numeric Rating Scale). Data were collected (baseline, 4 and 8 weeks) from office workers (n = 24, 19 females). The in-person physiotherapy intervention included education, ergonomic supervision, self-treatment, strengthening, and stretching exercises for 4 weeks. It was followed by a 4-weeks period where workers were guided and supervised in their autonomous performance at the workstations. A repeated-measures ANOVA or Friedman test (with post hoc comparisons) and Chi-squared test were used to compare the study variables.

## Results:

According to the Nordic Musculoskeletal Questionnaire, cervical spine (54%), shoulder (42%), and lumbar regions (37.5%) were the most symptomatic regions at baseline. A great reduction of musculoskeletal pain intensity was observed after the programme in the cervical ( $P < 0.001$ ), shoulder ( $P = 0.006$ ), lower back ( $P = 0.005$ ) regions, and in the overall pain level ( $P < 0.001$ ).

## Conclusions:

Our results show that a multimodal physiotherapy intervention could be useful to alleviate pain in office workers with musculoskeletal disorders.

## Session 2

# CHRONIC MUSCULOSKELETAL PAIN - WHAT SHOULD BE FUTURE RESEARCH PRIORITIES? PRELIMINARY RESULTS

**Kristian Damgaard Lyng, Larsen LB, Arendt-Nielsen L, Ehlers L, Fonager K, Olesen AE, Handberg G, Jensen MB, Palsson TS, Würtzen H, Hoegh M, Birnie KA, Stinson J, Poulin PA, Ziegler C, Moeller LB, Olsen J, Rathleff MS – contact: [klyng@dcm.aau.dk](mailto:klyng@dcm.aau.dk)**

### **Background and Aim:**

Research is often driven by researchers with limited input from end-users. Engaging other end-users such as patients and clinicians ensure relevancy to clinical practice. This study will establish research priorities for the management of chronic musculoskeletal pain from the perspective of patients, relatives, clinicians, and researchers.

### **Methods:**

We will use a modified version of the James Lind Alliance framework for Priority Setting Partnerships and to establish a priority list for future research. Additionally, we will use evidence and gap maps to ensure that the priorities align with the gaps in current or previous research.

### **Results:**

We will present preliminary data from over 650 individual respondents and +2000 individual priorities. This will be presented together with preliminary results from the systematic evidence and gap map.

### **Perspectives:**

The results from this study will ensure the clinical relevancy of future research and act as a new way of involving all end-users and stakeholders into the process of generating research.

# CLINICAL STAFF INVOLVEMENT: INTERVIEWS OF PATIENTS WITH BACK PAIN CONSULTING GENERAL PRACTICE

Allan Riis<sup>1, 2</sup>, Lise E Hansen<sup>2</sup>, Emma L Karran<sup>3</sup>, Jonathan C Hill<sup>4</sup>, Camilla H Merrild<sup>1</sup>, Janus L Thomsen<sup>1</sup> – contact: alr@ucn.dk

1. Center for General Practice at Aalborg University, Aalborg, Denmark. 2. Department of Physiotherapy, University College Northern Denmark, Aalborg, Denmark. 3. UniSA Allied Health and Human Performance, University of South Australia, GPO Box 2471, Adelaide, South Australia 5001, Australia. 4. Arthritis Research UK Primary Care Centre, School of Medicine, Keele University, Staffordshire, ST5 5BG UK

## Background and Aim:

Involving clinical staff members in providing information and education to patients with low back pain (LBP) may improve care in general practice, particularly where patients are expected to be encouraged to stay active and limit sick leave. To help reduce the general practice workload with LBP, policy makers are requesting a shift in the division of tasks within the wider clinical team. However, patients' acceptance of this shift is unknown. The aim is to explore patients' experiences and perceptions of including wider clinical staff members in the management of their LBP in general practice.

## Methods:

This is a semi-structured interview study in Danish general practice. Patients participating in a pilot study of task-delegation to clinical staff (other than General practitioners) will be recruited for in-depth interviews. We use a phenomenological approach to guide the data collection and analysis in order to gain insight into the subjective experiences and perceptions of the patients treated via a new clinical model of care. Sampling is guided by saturation.

## Results:

Education of five physiotherapist as consultants in general practice has been completed. Outreach visits from these consultants to support the involvement of other clinical staff members take place in planned from November 2020. Interviewing of 8 – 12 patients is planned from January 2021.

## Conclusion/discussion:

Knowledge of patients' experiences and perceptions of clinical staff involved in new LBP treatment roles is important to inform the future management of LBP in general practice, particularly in the context where clinical roles for wider general practice team are expanding.

# PHYSICAL EXERCISE EFFECTS ON PSYCHOSOCIAL FACTORS IN NON-SPECIFIC CHRONIC LOW BACK PAIN

**Julia Blasco Abadía – contact:** [julia.blasco.abadia@hotmail.es](mailto:julia.blasco.abadia@hotmail.es)

## **Background and Aim:**

Chronic low back pain (CLBP) is the most prevalent and disabling musculoskeletal pain condition. CLBP has a multifactorial nature, however, it is not possible to identify an underlying pathology for 90% of cases. Psychosocial factors such as depression, anxiety, and catastrophism being key elements have been shown to worsen that condition. Additionally, exercise has been shown effective in decreasing these factors. The aim of this study is to assess whether a physical exercise-based intervention has a positive effect on decreasing the presence of psychosocial factors in people with non-specific low back pain.

## **Methods:**

PRISMA recommendations for systematic reviews and meta-analyses have been followed to improve the quality of this review. A search of randomized clinical trials was conducted in PubMed, Scopus, Cochrane, and Web of Science databases. Studies should involve physical exercise intervention and evaluation of psychosocial factors. The search strategy consisted of 5 blocks of words: study design, pain typology, location, intervention, psychosocial outcomes. Methodological quality was assessed with the PEDro scale.

## **Results:**

After the systematic review process, 1527 articles were found among all databases, of which 21 were selected for our study. The average of the assessed studies was 5.7 over 10 (moderate quality). Psychosocial factors decreased in most studies comparing physical exercise typologies, but without significant differences between groups.

## **Conclusion:**

In conclusion, physical exercise is a treatment of choice in the reduction of psychosocial factors associated with non-specific low back pain. There was no consensus on the most effective typology, frequency, and duration.

## Session 3

# RELATIONSHIP BETWEEN ORAL BEHAVIOUR AND DIAGNOSTIC CRITERIA IN TENSION-TYPE HEADACHE

Ada M González-González – contact: glez.ada@hotmail.com

### Background and Aim:

Tension-type headache (TTH) is the most common primary headache. Although its pathophysiology, affected muscles and diagnostic criteria are known, the implication of oral behaviour (OB) is not well defined. Therefore, the objective of this study was to analyse the relationship between TTH and OB.

### Methods:

34 patients diagnosed of TTH completed the "Oral behaviour checklist" before and after receiving treatment for temporalis muscle myofascial trigger points.

### Results:

A direct correlation was reported between OB and TTH. Pain perceived as 'tension' was related to the items: 'clenching your teeth' ( $r=0.435$ ,  $p=0.010$ ), 'holds your jaw forward or one side' ( $r=0.537$ ,  $p=0.001$ ), 'bites, chews or plays with your tongue, cheeks or lips' ( $r=0.450$ ,  $p=0.008$ ) and 'maintains or bites objects between his teeth: pipe hair, pens, pencils, nails ...' ( $r=0.346$ ,  $p=0.045$ ). 'Headache not limiting the usual activities' is related to 'place your tongue between your teeth' ( $r=0.361$ ,  $p=0.036$ ).

### Conclusion:

OB is directly related to the perception of pain as tension and the non-limitation of usual activities in TTH. Due to OB is related with the perception of pain as tension, but not with the limitation of usual activities in TTH, we recommend evaluate OB in patients with TTH to reduce headache pain by performing multimodal physiotherapy: manual therapy, biobehavioral and therapeutic exercise.

# THE CONSEQUENCE OF APPLYING TELEPHONE REMINDERS IN MUSCULOSKELETAL RESEARCH.

**Christina Lyngsoe Udby<sup>1,2</sup>, Allan Riis<sup>3,4</sup>, Janus Laust Thomsen<sup>4</sup>, Nanna Rolving<sup>5,6</sup> – contact: c.udby@rn.dk**

1. Aarhus University, Department of Public Health; 2. Department of Physiotherapy and Occupational Therapy, Aalborg University Hospital; 3. Department of Physiotherapy, University College of Northern Denmark; 4. Center for General Practice at Aalborg University; 5. Diagnostic Centre, Silkeborg Regional Hospital; 6. DEFACTUM, Central Denmark Region, Denmark

## **Background and Aim:**

Musculoskeletal research is often undertaken using patient-reported outcomes from questionnaires. Achieving a high response rate often demands expensive and time-consuming methods like telephone reminders. However, it is unknown whether telephone reminders change estimates or only affect the response rate within patient populations with low back pain (LBP). The aim was to compare the self-reported outcome on LBP-related functional ability between patients responding before and after receiving a telephone reminder.

## **Methods:**

This is an ancillary analysis of data from a prospective cohort study with self-reported questionnaires from 816 adults with chronic LBP. Two e-mail and one telephone reminder were used to contact non-respondents at follow-up after 52 weeks. Patients were categorized in two groups; 1) Patients responding before a telephone reminder was applied and 2) Patients responding after the telephone reminder. A 30% improvement in the Roland Morris Disability Questionnaire score after 52 weeks was applied to define a positive outcome.

## **Results:**

695 patients (85.2%) responded. 643 patients were classified in Group 1 and 52 patients were classified in Group 2. We found no between-group difference in outcome or baseline characteristics. 41.3% of the patients in Group 1 and 48.9% in Group 2 had a positive outcome ( $P=0.297$ ). However, non-respondents were significantly younger, more often unemployed, more often smokers, more often bothered from co-morbidity and reported higher depression scores than respondents.

## **Conclusions:**

In the present study, applying a telephone reminder had no influence on outcome estimates or baseline characteristics.

## WINNER OF THE BEST POSTER PRESENTATION

# PAIN MEDICATION USE FOR MUSCULOSKELETAL PAIN AMONG CHILDREN: PREVALENCE AND ASSOCIATED FACTORS

Nabil Al-Janabi <sup>1</sup>, Anne Estrup Olesen <sup>2,3</sup>, Christian Straszek <sup>1,4,5</sup>, Clara Guldhammer Vad <sup>1</sup>, Michael Skovdal Rathleff <sup>1,5</sup>, Alessandro Andreucci <sup>1</sup>  
– contact: glez.ada@hotmail.com

1. Center for General Practice, Aalborg University. 2. Department of Clinical Pharmacology, Aalborg University Hospital. 3. Department of Clinical Medicine, Aalborg University. 4. Department of Physiotherapy, University College of Northern Denmark. 5. Department of Health Science and Technology, Faculty of Medicine, Aalborg University.

### Background and Aim:

Musculoskeletal pain (M) is common among children and adolescents. M is often managed with pain medication, despite the lack of evidence regarding harms and benefits. The aim of this systematic review was to assess the prevalence of pain medication use for musculoskeletal pain among children and adolescents and the factors and side effects associated with use.

### Methods:

Three databases (EMBASE, CINHALL and PsychINFO) were systematically searched to identify studies examining the prevalence, factors and side effects associated with the use of pain medication for musculoskeletal pain in children and adolescents (aged 6-19 years). The included studies were assessed for study quality and data were extracted.

### Results:

The search initially provided 15895 studies. After screening titles, abstracts and full-texts, 17 studies were included. In school settings, 8-33% of children and adolescents used pain medication for musculoskeletal pain, and 67-75% of children and adolescents in sports clubs and from pain clinics used pain medication. The most consistent factors associated with pain medication use were increasing age, female gender, pain characteristics and psychological factors. Only two studies reported on the duration of use and only one study on side effects.

### Conclusion:

Between 8 and 75% of children and adolescents use pain medication for musculoskeletal pain with the highest prevalence in sports clubs and pain clinics. Future studies should collect information on the type, duration of use pain medication and side effects to confirm these findings.



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