



Are single-condition single-drug trials ecologically valid in the field of pain?

SASP 2019
04.04.2019

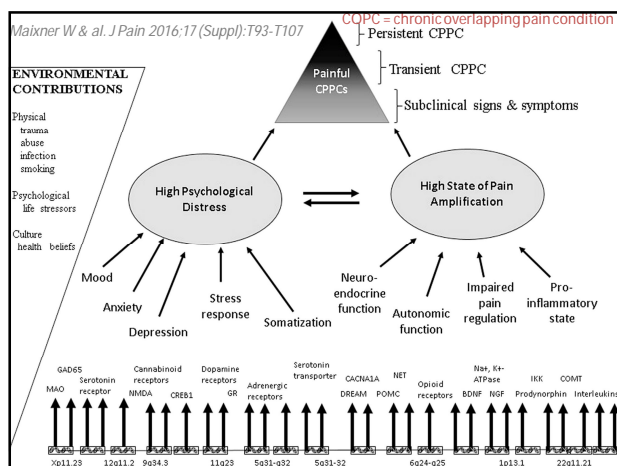
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Potential conflicts of interest

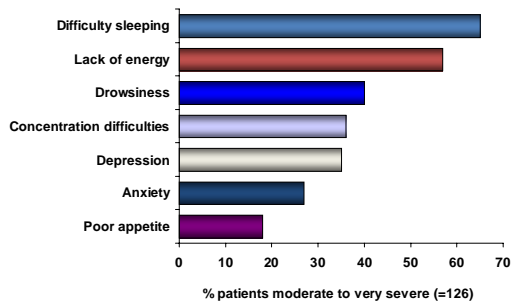
- advisory board memberships:
 - Orion Pharma
 - Pierre Fabre
- working environment: critical

My arguments are that:

- Pain is rarely a single condition
- Analgesic monotherapy is rarely a solution to chronic pain



Patients with Peripheral Neuropathic Pain Experience Significant Comorbid Symptoms



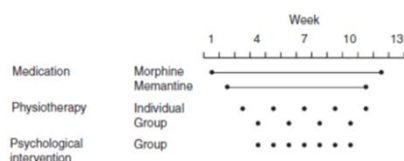
Meyer-Rosenberg & al. Eur J Pain. 2001;5:379-389

Multidisciplinary pain management is the gold standard

- one or several analgesics
- other drugs
- +
- education
- psychological interventions
- physiotherapy

Integrated CPRS intervention

Elomaa M & al. Scand J Pain 2019



Content of the physiotherapy intervention

Week	Techniques
1. Introduction to GMI	Laterality exercise, Individual guidance
2. Laterality exercises (group)	Laterality exercises, guided physiotherapy
3. Mental imagery exposure	Computer assessed mental imagery and use of flashcards with hand posture pictures
4. Mental imagery (group)	Guided physiotherapy, exercises for the affected limb and body posture
5. Start of mirror therapy	Mirror therapy
6. Mirror therapy and previous exercises (group)	Guided physiotherapy, exercises for the affected limb and body posture, mirror therapy
7. Mirror therapy	Mirror therapy, monitoring of the progress
8. Exercise (group)	Mirror therapy, exercises of the affected limb, upper body and posture
9. Control	Practice summary and a plan for an individual exercise program for the affected limb for the future

GMI = graded motor Imagery.

Content of the psychological intervention

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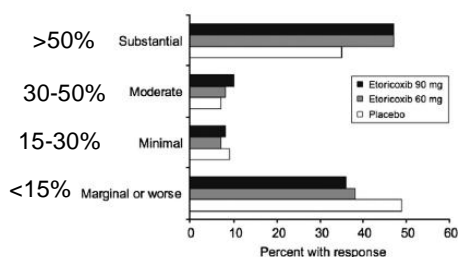
Week	Aims	Techniques
1. Introduction to ACT	Introduction to the treatment. Discussion of pain avoidance and its' consequences, shifting perspective from pain and symptom reduction to valued living	Brief relaxation with focus on breathing
2. Basic attention skills and mindfulness	To increase body awareness and non-judgmental observing skills	Internal and external attention, body awareness and breathing
3. Use of Imagery exposure	To guide the participants to create vivid imagery of personally valued and pleasant activity. Participant practice observing all kind of sensations, both distressing, painful and pleasant associated with activity. Explaining the importance of fully exposing oneself to all aspects of the experience	Creating vivid images for imagery exercises and senseate focus
4. Exposure and mindfulness in ADL	To increase the use of the CRPS hand in daily activities. Mindfulness as exposure exercise in ADL	Mindfulness and exposure in daily activities
5. Cognitive de-fusion and values based action	To clarify and identify personal values and increase flexibility in behavioral repertoire. Discussion and encouragement to increase previously avoided activities. To explore the fusion of emotions, automatic cognitions and learned responses and how they have led to limited behavioral responses	Defusing catastrophizing and vicious circles
6. Values based action and acceptance	To continue experimental learning	Discussion of dealing with pain and its chronic nature
7. Coping strategies setting goals	To help participants to integrate new skills in their life	Discussion of all sessions and use of skills

ACT = acceptance and commitment therapy; ADL = activities of daily living.

Analgesics

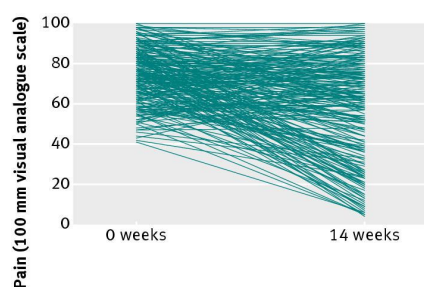
- Work well in some – but not in others
- Analgesics can work in different conditions

Etoricoxib in chronic *low back pain*



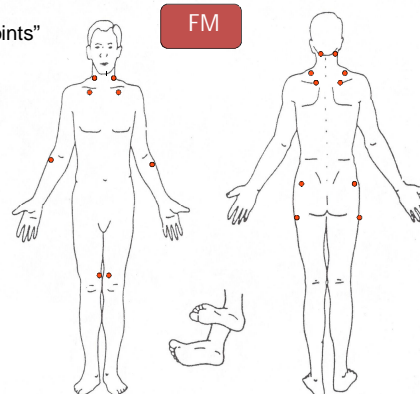
Moore RA & al., 2010

Individual changes in pain over 14 weeks of treatment with pregabalin 450 mg in 200 patients with *fibromyalgia*

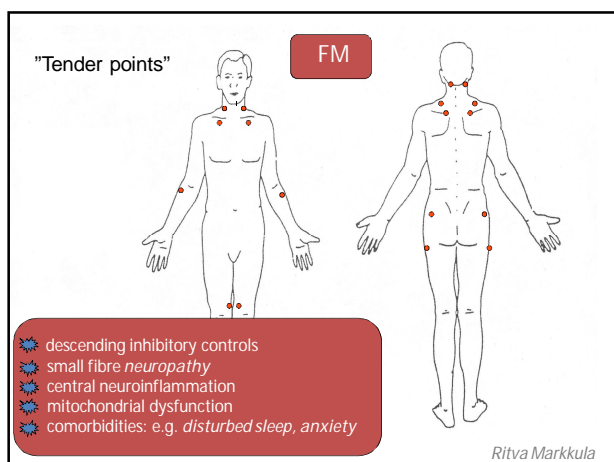


Moore A & al., 2013

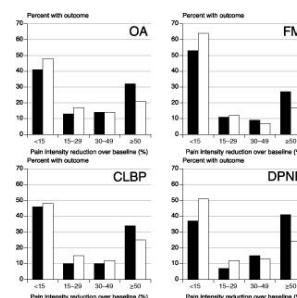
"Tender points"



Ritva Markkula

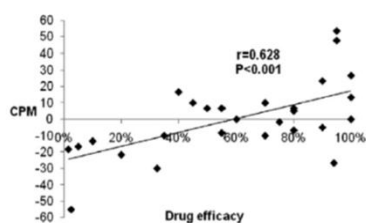


Duloxetine use in chronic painful conditions – individual patient data, responder analysis



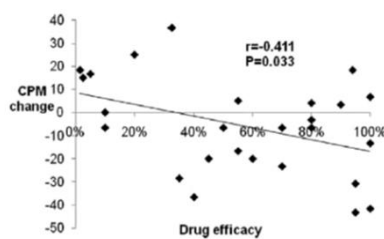
Moore A & al., 2013

CPM predicts duloxetine efficacy in painful diabetic neuropathy



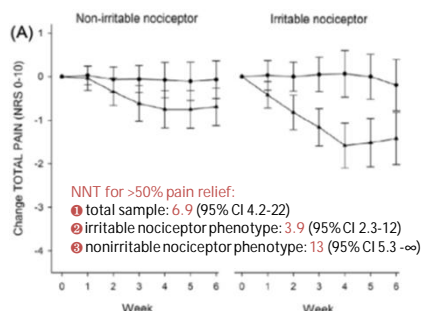
Yarnitsky D et al. Pain 2012;153:1193-98.

Higher benefit from duloxetine is paralleled by improved CPM efficiency



Yarnitsky D et al. Pain 2012;153:1193-98.

The effect of oxcarbazepine in peripheral neuropathic pain depends on pain phenotype



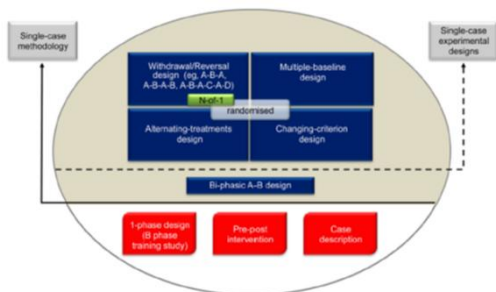
Demant DT et al., Pain 2014;155:2263-73.

More individualized studies:

identifying subgroups
tailoring treatments

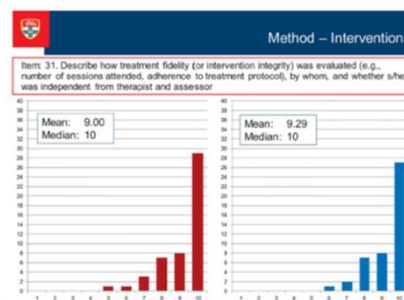
- patients have special resources/problems
- different pain phenotypes and comorbidities
- patients have (pharmaco)genetic differences
- identifying subgroups for
 - tailored treatments as part of clinical work providing data for future research
 - for internet-based interventions and research
- single case studies

Single-case studies



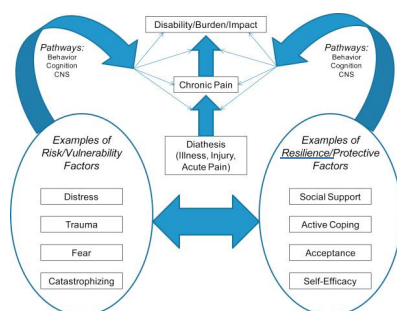
Tate RL & al. Neuropsychological Rehab 2017

Single-case studies



Tate RL & al. Neuropsychological Rehab 2017

Effect of psychosocial constructs and processes on pain-related outcomes



Edwards RR & al., J Pain 2016;17 (Suppl):T10-20.

Health & Behavior Data Symposium

April 26, 2019. 9:00-16:00, Open Innovation House, Otaniemi, Espoo, Finland

<https://www.aalto.fi/hbd19>

Health & Behavior Data

From crowds back to individuals:

The new era of data collection for health and human behavior

A?