Internet-Delivered Acceptance and Commitment Therapy Added to Multimodal Pain Rehabilitation: A Cluster Randomized Controlled Trial

Nina Bendelin* [1], Björn Gerdle [1], Marie Blom [1], Martin Södermark [1] and Gerhard Andersson [2,3,4]

[1] Pain and Rehabilitation Centre, Department of Health, Medicine and Caring Sciences, Linköping University, Sweden; [2] Department of Behavioural Sciences and Learning, Linköping University, Sweden; [3] Department of Biomedical and Clinical Sciences, Linköping University, Sweden; [4] Department of Clinical Neuroscience, Karolinska Institute, Sweden. * Presenting author: nina.bendelin@liu.se

Introduction

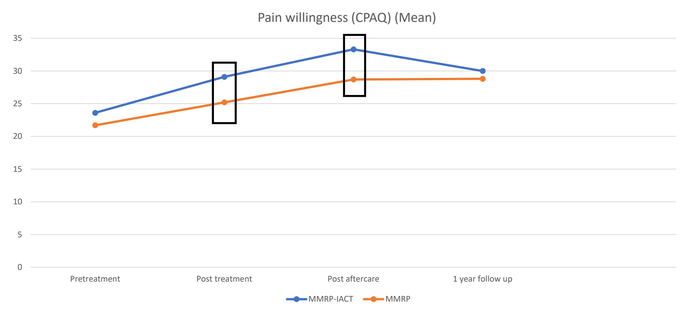
Internet-delivered interventions hold the possibility to make pain rehabilitation more accessible and adaptable by providing qualified individualized psychological care to chronic pain patients in their homes. Acceptance and commitment therapy (ACT) has shown promising results on psychological functioning and pain acceptance. Also, Internet-delivered ACT (IACT) as stand-alone treatment has shown small to large effect sizes on pain-related outcomes as pain interference, pain intensity and disability, and on psychological outcomes as acceptance, anxiety, depression, catastrophizing and fear-avoidance. IACT added to multimodal pain rehabilitation program (MMRP) in primary care has, so far, not shown better results than MMRP alone. It is yet to find out if IACT can enhance the result of MMRP in specialist care.

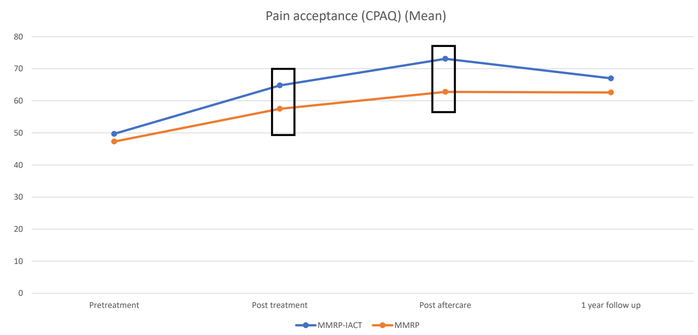
The aim of this cluster randomized controlled study was to investigate the effects of adding IACT during and after MMRP in specialist care on psychological outcomes.

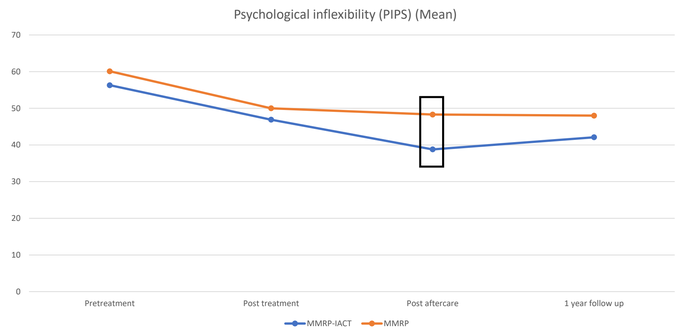
Figure 1: Illustration of two interventions from Acceptance and Commitment therapy; the quicksand metaphor and The Bull's eye exercise. Illustrator: M. Södermark.

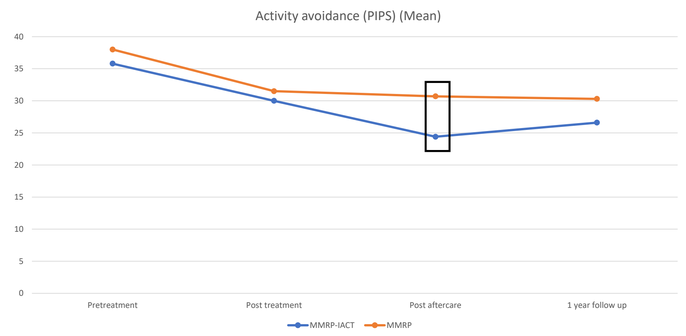
Methods

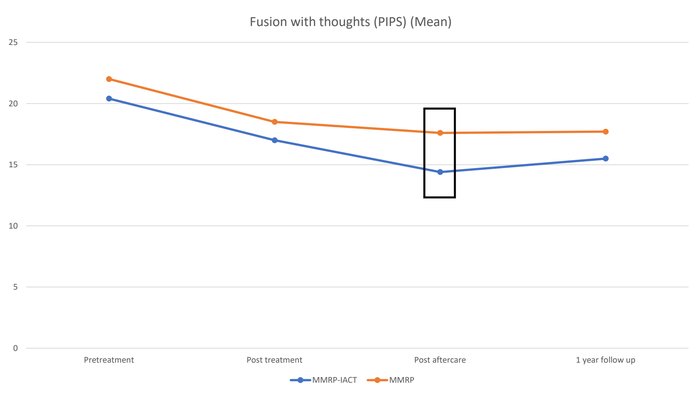
In total, 122 patients who enrolled in a specialist pain clinic were cluster randomized groupwise to either MMRP (n = 12 groups) or to MMRP with added IACT (n = 12 groups). The IACT addition included 6 weeks of treatment during MMRP and 11 weeks of aftercare following MMRP. Additional exercises and educational material were posted weekly online. Audio recorded exercises in present moment, interactive worksheets and multimedia presented ACT exercises complemented MMRP. Self-report measures of pain acceptance, psychological inflexibility, self- efficacy, and psychosocial consequences of pain, were collected at four occasions: prior to and post MMRP, post aftercare intervention and at 1 year follow-up.

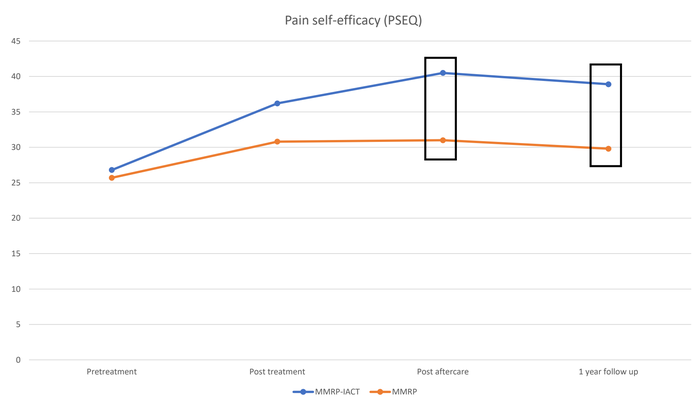


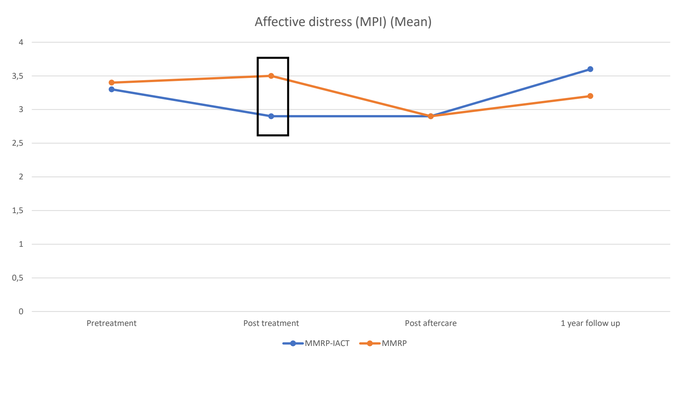












Results

Medium treatment between-group effects were found on pain acceptance (CPAQ: Pain willingness scale) in favor of the group who received IACT added to MMRP, at post treatment (d = 0.50) and at post aftercare (d = 0.60).

Large effects were seen on psychological inflexibility (PIPS) (d = 0.96) and self-efficacy (PSEQ) at post aftercare (d = 0.82).

A medium effect size was seen on affective distress (MPI) at post treatment (d = 0.58).

Moreover, a medium effect on self-efficacy (PSEQ) was found at 1 year follow-up (d = 0.66).

Dropout was extensive with 25% dropping out at post treatment, an additional 35% at post aftercare, and 29% at 1 year follow-up.

Conclusions

- IACT added during MMRP may enhance the treatment effects on pain-related psychological outcomes.
- IACT as aftercare may strengthen the long-term effect of MMRP.
- Adding a second pain treatment, IACT, to an already extensive pain treatment, MMRP, could be perceived as too comprehensive and might hence influence completion negatively.
- Further research on adverse events and negative effects could be helpful to improve adherence.
- Next step of implementation trials could focus on adding IACT before MMRP to improve psychological functioning and after MMRP to prolong its effect