

Development and evaluation of an adaptational programme

Occupational Therapy for People with Chronic Health Conditions

By: Ph.D. Cecilie von Bülow

Background

People living with chronic health conditions may experience decreased ability to perform activities of daily living (ADL). That is, they may use increased effort, be inefficient, and have safety risks and need of assistance when performing ADL tasks. Therefore, it seems relevant to develop intervention programmes designed to address ADL task performance problems among people with chronic health conditions. Occupational therapists may improve ADL ability by means of adaptation. While interdisciplinary rehabilitation and physical activity programmes commonly are recommended among some populations, the outcomes of adaptation seem less explored. In this PhD thesis, it was decided to develop a programme addressing adaptation using an educational approach (hereinafter referred to as the ADAPT programme) and evaluate the outcomes in women with a chronic pain condition, fibromyalgia. To target the ADAPT programme to those ADL task performance problems typically observed among women with fibromyalgia, two cross-sectional studies were conducted. The aims were to identify differences in ADL ability and ineffective ADL skills of significance among women with fibromyalgia using the Assessment of Motor and Process Skills (AMPS). In the third study the outcomes of the ADAPT programme were evaluated and compared to a physical activity programme (termed ACTIVE programme). Both programmes were delivered following a two-week interdisciplinary rehabilitation programme.

Aim

Overall, this PhD thesis aimed to develop and evaluate the outcomes of the ADAPT programme aiming at improving the ADL ability in people with a chronic health condition, fibromyalgia.

The objective of study I was to identify subgroups with clinically relevant differences in self-reported and/or observed ADL ability and determine typical ADL profiles among women with fibromyalgia. The objective of study II was to identify frequently reported ADL skill deficits of significance among women with fibromyalgia presenting with typical ADL profiles. Finally, the objective of study III was to investigate and compare the outcomes of the ADAPT and ACTIVE programmes following a two-week interdisciplinary rehabilitation programme in women with fibromyalgia.

Methods

Participants diagnosed with fibromyalgia were recruited from a tertiary outpatient clinic at the Department of Rheumatology, Frederiksberg Hospital, Denmark. Study I: A cross-sectional study in which participants were evaluated with the AMPS (measuring ADL motor and ADL process ability), Fibromyalgia Impact Questionnaire (FIQ) and MOS 36-item Short-Form (SF-36). The AMPS independence cut-offs were used to divide participants into four subgroups. Clinically relevant differences between subgroups were investigated based on the AMPS and the FIQ and SF-36 physical function (PF) subscales. Study II: A cross-sectional study in which AMPS raters identified those ADL skill items, which, based on professional reasoning, were the most limiting to the participant's overall ADL task performance. Descriptive comparisons of types of ADL skill deficits were made between subgroups displaying either decreased or competent ADL process ability. Study III: A quasi-randomised, non-blinded, parallel-group study in which 85 participants were enrolled into a two-week interdisciplinary rehabilitation programme followed by a 16-week therapy programme i.e. the ADAPT programme or the ACTIVE programme. Primary outcomes were observed ADL motor and ADL process ability assessed with the AMPS at four-week follow-up. Efficacy was analysed on a per protocol

basis including participants with an attendance rate of at least 25% in the ADAPT or ACTIVE programme. Responders were defined as participants gaining a clinically relevant improvement in ADL ability.

Project status

Results

Study I: Participants (n=257) in the four AMPS derived subgroups demonstrated clinically relevant differences in observed ADL motor and ADL process ability. While the FIQ PF and the SF-36 PF could be used to differentiate between subgroups with clinically relevant differences in AMPS ADL motor ability, neither of these could be used to differentiate between subgroups with clinically relevant differences in AMPS ADL process ability. Study II: *Moves, calibrates, bends, reaches* and *paces* were identified as the most frequently reported ineffective AMPS ADL motor skills of significance within the total sample (n=188). The ADL process skill items *organise* and *accommodates* were identified as ineffective in the subgroup demonstrating decreased ADL process ability (n=105). Study III: Participants (n=48) included in the per protocol analysis did not differ statistically significant from withdrawers (n=37) at baseline. The improvements in AMPS ADL motor and ADL process ability in the ADAPT and ACTIVE groups were statistically significant. Responder analysis revealed that 63% of the participants obtained clinically relevant improvements in AMPS ADL motor ability and 48% in ADL process ability.

Conclusion

In this PhD thesis a programme addressing adaptation using an educational approach (ADAPT programme) was developed to address ADL task performance problems in a population with a chronic health condition, exemplified in fibromyalgia. The ADAPT programme was developed taking into consideration that women with fibromyalgia typically display decreased ADL motor ability in combination with either competent or decreased ADL process ability when evaluated with the AMPS. Furthermore, the ADAPT programme was developed to teach participants how to compensate for ineffective ADL motor skill items, *moves, calibrates, bends, reaches* and *paces*. Participants were also taught strategies to improve ADL process skills of *organising* and *accommodates*. When participating in the ADAPT programme participants obtained a statistically significant and clinically relevant improvement in ADL ability as indicated by decreased effort, increased efficiency, safety and independence in ADL task performance.

Related publications (links)

Studie I: Differences in ability to perform activities of daily living among women with fibromyalgia: A cross-sectional Study.

Journal of Rehabilitation. Nov;47(10):941-7. 2015. <http://www.ncbi.nlm.nih.gov/pubmed/26488673>

Studie II: Ineffective ADL skills in women with fibromyalgia:

A cross-sectional study.

Scandinavian Journal of Occupational Therapy. Sep;23(5):391-7. 2016.

<http://www.ncbi.nlm.nih.gov/pubmed/26468666>

Studie III: Improving the ability to perform activities of daily living in women with fibromyalgia:

An exploratory, quasi-randomised, phase II study.

Submitted to Scientific Journal 2016.