Intervention Component Analysis

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Occupational therapy interventions to increase Time-use, activity and participation and promote health: A systematic review
Overview of Presentation

• Outline of ICA
  How we used it in our review

Summary of its utility
Intervention Component Analysis

• Developed by EPPI-Centre, UCL. (Evidence for Policy and Practice Information)

https://eppi.ioe.ac.uk/cms/

• Developed to bridge the gap between evidence of effectiveness of interventions and Practical application of the interventions (clear procedural details)
Two stages of method

First stage

Aims to identify how interventions differ from one another

Two distinct and parallel processes

<table>
<thead>
<tr>
<th>Effectiveness synthesis</th>
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<tbody>
<tr>
<td>Assessment of risk of bias</td>
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<tr>
<td>Narrative analysis</td>
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</table>

<table>
<thead>
<tr>
<th>Detailed understanding of the characteristics of included studies</th>
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<tbody>
<tr>
<td>Line-by-line coding of descriptions of interventions</td>
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<tr>
<td>Similar concepts categorised to “map” presence or absence of feature</td>
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Capturing informal evidence on the experience of developing and “real-world” experience of using the intervention. Inductive thematic analysis used to identify emergent themes.
Second stage

Explaining differences in outcomes
• Which intervention features appear to be important in successful outcomes.

• Were studies with negative outcomes qualitatively different from those with positive outcomes
Interventions to reduce paediatric medication error

key features of effective interventions

Electronic prescribing interventions achieving positive outcomes were typically customised for use with children and incorporated extensive decision support; in the three EP studies with negative findings (e.g. increased mortality) these features were largely absent.
Use of ICA

Occupational therapy interventions to increase time-use, activity and participation, and promote health: A systematic review

- Public health
- Occupational therapy: participation in occupations and its relationship to health
- “Do-Live-Well” framework

To what extent do existing interventions reflect “Do-Live-Well” framework
Objectives of review

• To identify and determine the characteristics of occupational therapy interventions that use time-use and/or activity patterns and/or participation with adults to promote health.

• To ascertain which intervention features were important for successful outcomes.

• To determine the extent to which the content of the interventions reflect the components of the Do-Live-Well framework.

• To assess the effectiveness and cost effectiveness of these interventions in increasing times-use, participation and activity pattern and promoting health.
Methods

• Participants: working age and older adults, aged 18 and over

• Intervention: Descriptions and/or evaluations of occupational therapy interventions that focus on promoting participation in occupation, or aspects of time-use, that is, routine of meaningful occupations, or balancing occupations

• Comparator: usual care or an active control intervention

• Outcome: participation AND wellbeing, wellness or health status
Methods (continued)

- Economic component
  Studies involving cost effectiveness, cost benefit, cost minimization, and cost utility.

Limit: January 2000 until June 2016

**Search strategy**

Electronic databases
CINAHL, Medline, AMED, PsycInfo, EMBASE, E-thos, and Conference Proceedings Citation Index- Web of Science.

Hand search eight Occupational therapy journals
Quality assessment of effectiveness studies

- Quality assessment tool for quantitative studies developed by Effective Public Health Practice Project (2009).
- Studies rated as moderate to high quality, that is, scoring two and above were included in effectiveness synthesis.
## Synthesis of results

### Intervention Component Analysis

#### Stage One

<table>
<thead>
<tr>
<th>Effectiveness synthesis</th>
<th>Intervention components for each intervention were extracted, and compared to the components of the do-live-well framework.</th>
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<tbody>
<tr>
<td>Assessment of risk of bias narrative analysis</td>
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#### Stage Two

For interventions with evidence of effectiveness, the categories and themes identified per intervention will be compared.
Study flow diagram for the study selection process (following PRISMA)

- Records identified through database searching (n=9388)
- Additional records identified through hand searching (n=5)

- Records after duplicates removed (n=7173)

- Title and abstracts screened (n=7173)
- Records excluded (n=7151)

- Full-text articles assessed for eligibility (n=22)
- Full-text articles excluded (n=14)
  Reason: Intervention does not meet inclusion criteria (n=14)

- Studies included in the review (n=8)
  - Intervention descriptions only (n=1)
    (Erlandsson, 2013)
  - Quality assessment of effectiveness studies (n=7)
    Excluded from effectiveness analysis on basis of quality assessment (n=4)
  - Intervention descriptions included in Narrative analysis of components (n=8)
  - Studies included in Effectiveness analysis (n=3)
  - Studies included in economic analysis (n=1)
## Summary of Intervention Features

<table>
<thead>
<tr>
<th>Intervention, First Author and publication year</th>
<th>Theoretical Framework</th>
<th>Who carried out intervention</th>
<th>Format</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lifestyle Redesign</strong> (Clark, 2012)</td>
<td>None Specified</td>
<td>Occupational Therapists</td>
<td></td>
<td></td>
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<tr>
<td><strong>Occupational therapy lifestyle redesign</strong> (Horowitz, 2004)</td>
<td>Bandura’s self-efficacy theory</td>
<td>Occupational Therapist</td>
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<tr>
<td><strong>Active Lifestyle All your Life</strong> (Johansson, 2015)</td>
<td>The view of occupation as a prerequisite for health</td>
<td>Occupational Therapists, Physiotherapists, Dietician, Nurse and Social Worker</td>
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<tr>
<td><strong>Designing a life of wellness program</strong> (Matsuka, 2003)</td>
<td>None Specified</td>
<td>Occupational Therapists and Occupational Therapy students</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Action Over Inertia</strong> (Edgelow, 2011)</td>
<td>CMOP-E Recovery principles -exhorting to action”</td>
<td>Occupational Therapist</td>
<td></td>
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<tr>
<td><strong>Re-Do</strong> (Erlandsson, 2013)</td>
<td>ValMO-Model</td>
<td>Occupational Therapists</td>
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<tr>
<td><strong>Enabling Self-Determination</strong> (Kielhofner, 2008)</td>
<td>Model of Human occupation Social Disability Model</td>
<td>Occupational Therapists and Peer Mentors</td>
<td></td>
<td></td>
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<tr>
<td><strong>Lighter living program</strong> (Orban, 2014)</td>
<td>Complexity and organisation of daily occupations ValMo model</td>
<td>Occupational Therapists</td>
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### Target Group:

- **Adults over 60**
- **Adults with serious mental illness**
- **Women with stress-related disorders**
- **Adults living with HIV/AIDS**
- **Parents of children aged 4-6 years old who are morbidly obese**
None of the studies showed overall statistically significant differences in outcomes between intervention and control group.

Stage two of ICA not carries out as no evidence of effectiveness of studies included.
Intervention components compared to the components of the do-live-well framework.

Do-Live-Well constructs

**Dimensions of experience**
- Activating your body, mind and senses (vision, hearing, smell, taste and touch) (e.g. physical exercise and listening to music)
- Connecting with others
- Contributing to community and society
- Taking care of yourself
- Building security/prosperity
- Developing and expressing identity
- Developing capabilities and potential
- Experiencing pleasure and joy

**Activity Pattern**
- Engagement (in activity)
- Meaning
- Balance
- Control/choice
- Routine
Summary of utility of ICA

- Reduces bias of narrative synthesis
- Implementation of interventions
- Comparison of effective interventions
- Theoretical underpinning of intervention
- Identifying effective components to develop intervention

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