PAEDIATRIC ACUTE-ONSET NEUROPSYCHIATRIC SYNDROME (PANS) & OCCUPATIONAL PERFORMANCE: WHAT DO WE KNOW SO FAR?

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OCCUPATIONAL THERAPY

Participation/independence

Environment
Cultural/spiritual

Self-care
Play/leisure
School
Rest/sleep

Biomechanical
Sensory
Cognition
Motivation/confidence
Social skills

(Adapted from Chapparo & Ranka, 1997)
OCCUPATIONAL THERAPY: PANS/ PANDAS

- Immuno-modulatory therapies
- Anti-microbials
- Behavioural/supportive interventions

Adapted from Swedo et al 2017
RESEARCH QUESTION

What is currently known about the relationship between PANS and occupational performance?
STUDY DESIGN

Scoping review
- Map current literature examining link between PANS & occupational performance

Scoping review framework
- Define broad question
- Clearly define study parameters
  - Concept being studied
  - Target population
  - Specific outcomes of interest

\(^{1}\text{Levac et al, 2010}\)
## IDENTIFYING RELEVANT STUDIES: SEARCH TERMS

<table>
<thead>
<tr>
<th>Concept/ Diagnostic group</th>
<th>Population</th>
<th>Occupational performance outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PANS; Paediatric Acute on-set Neuropsychiatric Syndrome; PANDAS; Paediatric autoimmune neuropsychiatric disorder associated with Streptococcal infections; CANS; Childhood Acute Neuropsychiatric Syndrome; PITAND; Paediatric Infection Triggered Autoimmune Neuropsychiatric Disorder.</td>
<td>Teen; Youth; Adolescent; Juvenile; Child; Infant; Baby; Babies; Paediatric.</td>
<td>Activities of Daily Living; Bathing; Showering; Dressing; Swallowing; Feeding; Eating disorders; Food restriction; Oral-motor; Mobility; Mobility limitation; Personal hygiene; Grooming; Communication; Handwriting; Computer use; Household management; Chores; Religious participation; Religious expression; Rest; Relaxation; Sleep; Sleep wake disorders; School; Play; Leisure; Social participation; Occupation; Occupational performance; Occupational engagement; Fine motor skills; Gross motor skills; Visual spatial skills; Visual perception; Sensory.</td>
</tr>
</tbody>
</table>
DATABASES SEARCHED

1. EMBASE — biomedical and pharmacological
2. MEDLINE — life sciences and biomedical
3. CINAHL — nursing, allied health, biomedicine and healthcare
4. Cochrane — Systematic reviews
5. PsycInfo — Psychology
6. SCOPUS — life sciences, social sciences, physical sciences and health sciences
7. ERIC — Education Resources Information Center
Records identified through database searching (n=2078) → Records after duplicates removed (n=1437) → Titles screened (n=1437) → Titles excluded (n=1052)
PRISMA FLOW DIAGRAM

Abstracts assessed for eligibility (n=385)

Abstracts excluded (n=366)

Full text articles screened for eligibility (n=29)

Full-text articles excluded, with reasons (n=10)

Studies included in scoping review (n=19)
DATA EXTRACTION

Author(s) and year of publication
Journal
Diagnosis
Participant ages
Inclusion/ exclusion
Remission/ Exacerbation/ Not specified
Study design & features
Outcome Measure
Author conclusions
Study limitations
THEMATIC ANALYSIS

Approach guided by Braun & Clarke (2006)

Deductive approach based on Occupational Performance Model (Australia) \(^1\)

- Occupational Performance Areas
- Occupational Performance Components

\(^1\)Chapparo & Ranka, 1997
THEMATIC ANALYSIS

Approach guided by Braun & Clarke (2006)

Deductive approach based on Occupational Performance Model (Australia)\(^2\)
- Occupational Performance Areas
- Occupational Performance Components

Inductive
- Looking for patterns within Occupational Performance Areas & Components

\(^1\)Chapparo & Ranka, 1997
DATA EXTRACTION

Preliminary Findings

- Total
- Primary Data
- Single Case
- Conf Abs
- OT
- Occ Perf
## Thematic Analysis: Performance Areas

### Preliminary Findings

<table>
<thead>
<tr>
<th>Productivity</th>
<th>Play/Leisure</th>
<th>Self-Maintenance</th>
<th>Rest/Sleep</th>
</tr>
</thead>
<tbody>
<tr>
<td>School</td>
<td>Extra-curricular</td>
<td>Eating</td>
<td>Sleep</td>
</tr>
<tr>
<td>Handwriting</td>
<td>Holiday Camp</td>
<td>Dressing</td>
<td>Bedtime fears</td>
</tr>
<tr>
<td>Homework</td>
<td></td>
<td>Toileting</td>
<td>Relaxation</td>
</tr>
<tr>
<td>Maths</td>
<td></td>
<td>Personal hygiene/grooming</td>
<td></td>
</tr>
</tbody>
</table>
# Thematic Analysis: Performance Components

## Preliminary Findings

### Bio-mechanical
- Elimination
- Fine motor
- Gross motor
- Pain
- Unusual movements
- Weakness/fatigue

### Cognitive
- Academic performance
- Executive function
- Visual perception

### Sensory-Motor
- Sensory processing
- Hyperactivity

### Inter-personal
- Aggression/rage
- Communication
- Anxiety (separation)
- Oppositional behaviours
- Social/peer participation

### Intra-personal
- Mood
- Anxiety/irrational fears
- Behaviour changes
- Insight
- Self regulation
- Social withdrawal
- Psychosis/self harm
DISCUSSION

PANS exacerbations pervasive
All occupational performance areas affected
All occupational performance components affected
DISCUSSION

Paucity of Occupational Therapy specific publications

Paucity of primary source data examining occupational performance in PANS population (1/14)

Current research gaps:

- Standardised measures of occupational performance areas & components
- Performance comparisons during and between exacerbations
CONCLUSION

Given the impact across all occupational performance areas, Occupational Therapy has a role in supporting children with PANS. More rigorous research is needed to examine the occupational performance challenges in this population to guide practice in this population.
What are the differences in occupational performance in children with PANS, during versus between exacerbations?

What are the differences in sensory processing in children with PANS, during versus between exacerbations?
NEXT STEPS

What are the differences in occupational performance in children with PANS, during versus between exacerbations?

What are the differences in sensory processing in children with PANS, during versus between exacerbations?
NEXT STEPS

Vineland Adaptive Behavior Scale 3
- Daily living skills
- Socialization
- Communication

Sensory Processing Measure:
- Vision
- Hearing
- Touch
- Body awareness
- Balance & motion
REFERENCES


SCOPING REVIEW: INCLUDED ARTICLES


SCOPING REVIEW: INCLUDED ARTICLES


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