**Snoezelen: an overview of research with people with developmental disabilities and dementia**

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### Authors' objectives
To present an overview of the research studies on snoezelen with people with developmental disabilities and dementia, and to discuss the findings in relation to specific methodological features of the studies.

### Searching
PsycLIT and Medical Express computerised databases were searched (dates and search terms not given) and manual searches were also carried out (sources not given). No language restrictions appear to have been applied the included studies were in English, French and Dutch.

### Study selection
#### Study designs of evaluations included in the review
All study designs appear to have been eligible for inclusion in the review. It is not entirely clear which study designs were included, but some studies featured parallel comparison groups (some randomised) while others had a crossover design, or post-session measures were compared to baseline measures.

#### Specific interventions included in the review
Snoezelen: a recreational intervention similar to the notion of sensory stimulation. Snoezelen has been given various definitions (see Other Publications of Related Interest nos.1-6) which emphasise the pleasurable sensory experience, the atmosphere of trust and relaxation, and the choice opportunities. The stimulating situation within a snoezelen context is not seen as an attempt to teach specific skills or a basis for simply promoting resting and quiet, but as an opportunity to promote a general feeling of restoration and refreshment from engaging in pleasurable and stimulating activities that do not produce any pressure and can be enjoyed in full.

The snoezelen environment can have different spatial configurations and stimulus arrangements, and is supposed to offer multiple stimulation opportunities covering all the sensory channels. The staff are expected to be very closely involved with the person exposed to snoezelen and to function as 'enablers'.

The number of snoezelen sessions in the included studies varied from one to 64, and their duration ranged from 20 to 60 minutes each (where reported). The comparison conditions included: baseline conditions, living-room sessions, outdoor activity, relaxation, massage/aroma, leisure sessions, music sessions, playroom sessions, free-activity and activity sessions.

#### Participants included in the review
Studies of people with developmental disabilities or dementia were eligible for inclusion in the review. The studies included: people with profound intellectual or multiple disabilities, with or without challenging behaviour; children with moderate or severe mental retardation and stereotyped behaviour; and older adults with dementia (most aged over 65 years).

### Outcomes assessed in the review
All outcomes appear to have been eligible for inclusion in the review. The studies included in the review reported the following: engagement, concentrated engagement, social/emotional measures, stereotype measures, challenging behaviour, adaptive skills measures, adaptive and maladaptive behaviour, task-related measures, heart rate measures, communication, locomotion, visual, self-injurious measures and language/memory measures.

### How were decisions on the relevance of primary studies made?
The authors do not state how the papers were selected for the review, or how many of the reviewers performed the selection.
Assessment of study quality
No formal assessment of validity was undertaken. However, the authors discuss methodological weaknesses of the included studies as part of their objective.

Data extraction
The authors do not state how the data were extracted for the review, or how many of the reviewers performed the data extraction. Data were presented on sample size, outcome data collected, number and duration of snoezelen sessions, comparison conditions and results.

Methods of synthesis
How were the studies combined?
The studies were divided into two groups, based on whether the participants had developmental disabilities or dementia. The study findings were reported briefly in tabular form, while four studies of people with developmental disabilities and three of people with dementia were described more fully. Some narrative synthesis was undertaken on the basis of whether the studies showed positive, inconclusive or mixed effects in three time periods: within-session, immediate post-session or longer-term effects. A study was classified as showing positive effects if all or the majority of participants had a reportedly better performance within or after the snoezelen sessions. A study was classified as showing inconclusive effects if the effects were unclear or not different from those of comparison conditions. A study was classified as showing mixed effects if the effects of snoezelen could be seen as positive or negative, depending on the comparison conditions and/or measure considered. In the narrative synthesis, the studies were not separated into those carried out with people with developmental disabilities and people with dementia.

How were differences between studies investigated?
The authors do not seem to have investigated differences between the studies.

Results of the review
Twenty-one studies (n=250) were included. Fourteen were of people with developmental disabilities (n=155) and the remaining seven of people with dementia (n=95).

Fourteen of the 21 studies reported positive within-session effects, four positive post-session effects and two positive longer-term effects.

Methodological problems of the included studies, which were highlighted in the review, included: reliance on qualitative or unstructured data; comparison conditions having different stimulation ranges and lower staff: participant ratios; and small numbers of snoezelen sessions (insufficient to draw conclusions from).

Some adverse effects of snoezelen were reported in some studies. For example, temporary behavioural deterioration and/or severe and prolonged behavioural problems, which suggested strong dissatisfaction and stress and caused definite removal from the sessions.

Cost information
The authors report that much of the equipment usually recommended for setting up a snoezelen programme may be fairly expensive. For example, purchasing projectors and effect wheels, spot lights and mirror balls, a bubble machine, music equipment, optic fibre sprays or optic panels, aroma sampling devices, vibrating pads and a variety of cushions and comfortable chairs may cost between $5,000 and $10,000.

Authors' conclusions
The evidence so far obtained with people with developmental disabilities and dementia seems to suggest caution. Although the majority of studies have reported positive effects of snoezelen within sessions, methodological issues have considerably reduced the overall strength or impact and generality of such findings. Moreover, the immediate post-
session and longer-term effects of snoezelen have appeared rather limited and inconsistent, raising additional questions
about the general solidity and therapeutic value of the approach.

CRD commentary
The research question seems to be fairly well-defined, although broad, perhaps reflecting the limited research that has
been carried out so far on this intervention. However, the literature search seems to have been rather limited and not
well reported, so it is possible that important studies may have been missed. It would probably have been beneficial to
search the education database ERIC at least. Some details of the included studies were presented, but specific details of
the content of the snoezelen sessions or the trial participants (e.g. age, severity of illness) were missing. Details of the
review process (how many reviewers selected studies, and so on) were, likewise, not given. There does not appear to
have been any formal validity assessment, although some methodological problems of the included studies were
discussed in the text and this is a stated objective of the review. The authors have not made any attempt to pool the
studies, beyond counting how many studies had positive effects. No distinction was made in this count between studies
of people with developmental disabilities and those with dementia, although the reader can work out which studies were
in each category by reference to the published tables. No attempt was made to explore the influence of, for example,
the content and duration of snoezelen sessions on their effects.

The authors' conclusions do reflect the evidence presented in this review.

Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors state that ongoing research efforts to determine the true impact of the traditional snoezelen
approach should be continued; new, lower-scale stimulation programmes need to be set-up and evaluated; the combined
and separate impacts of snoezelen programmes and pharmacotherapy should be assessed with people with dementia;
and the influence of snoezelen programmes on the mood, satisfaction and performance of staff involved in such
programmes should be determined.

Bibliographic details
Lancioni G E, Cuvo A J, O'Reilly M F. Snoezelen: an overview of research with people with developmental disabilities
and dementia. Disability and Rehabilitation 2002; 24(4): 175-184

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Other publications of related interest
1. Haggar LE, Hutchinson RB. Snoezelen: an approach to the provision of a leisure resource for people with profound
Thomson SB, Martin S. Making sense of multisensory rooms for people with learning disabilities. Br J Occup Ther

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MeSH
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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.