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# Effect of doll therapy in managing challenging behaviours in people with dementia: a systematic review protocol

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**Abstract**

Review question/objective What is the effect of doll therapy on challenging behaviors (including agitation and verbal or physical aggression) in patients with dementia? Inclusion criteria Types of participants Adults (age >18years) diagnosed with dementia and living in any care setting will be included. Adults with dementia receiving antipsychotics will also be included and analyzed separately. Types of intervention(s)/phenomena of interest This review will include studies that evaluate the effects of giving dolls to persons with dementia for the management of BPSD. The review will include doll therapy delivered by either health professionals or carers. Studies will be included irrespective of the number and duration of doll therapy sessions. Studies will be excluded if the approach to giving dolls is not described.

**Disciplines**

Medicine and Health Sciences | Social and Behavioral Sciences

# Effect of doll therapy in managing challenging behaviours in people with dementia: a systematic review protocol

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## Review question/objective

What is the effect of doll therapy on challenging behaviors (including agitation and verbal or physical aggression) in patients with dementia?

## Background

It is estimated by the year 2050 that 115.6 million people[1] globally will have dementia, the majority of whom will be from developing countries. Dementia, often referred to as a disease, is a process of transition from a healthy, active state to a dependent state with progressive loss of memory, functional skills and independence.[2] Classic symptoms range from loss of ability to express the right words or understand what others are saying, personality changes and mood swings to decline in performing activities of daily living.[3] It has been suggested that over 50% of patients with dementia will experience behavioral and psychological symptoms of dementia (BSPD).[4] Symptoms can include agitation, wandering, altered sleeping patterns, disinhibited behavior which may include inappropriate sexual behavior and harmful behaviors such as aggression.[5,6]

It has been postulated that people with dementia exhibiting BPSD have some universal emotional needs that are often not fulfilled. These needs include: (1) being needed and feeling useful, (2) to be able to care for others, (3) having an increased sense of self-worth, (4) to love and be loved, and (5) to be able to convey their emotions without inhibition.[7] In clinical practice, BPSD is frequently treated with pharmacological interventions with antipsychotic medications being the treatment of choice.[8,9]

Concerns with the use of these medications include the risk of mortality,[10] their side effects and their effectiveness in relieving BPSD.[1,11,12] Extra pyramidal symptoms, falls, gait disturbances, sedation, tardive dyskinesia and cerebrovascular incidents have been widely reported in literature associated with the use of antipsychotics for people with BPSD.[13] Evidence-based guidelines have therefore been developed to advise on prescribing requirements for these drugs.[14,15] Living with dementia is not only distressing for the patient when they experience BSPD, it also has a negative impact on the quality of life of their carers.[16]

*Non-pharmacological management of BPSD in patients with dementia*

Given the adverse effects associated with pharmacological  management, various non-pharmacological approaches have been implemented to address the emotional needs that cause the inappropriate behaviors.[17] These include doll therapy,[18] physical activity programs,[19]  music therapy,[3] aromatherapy,[20] massage and touch,[21]  and art therapy.[22] Systematic reviews of literature published in the Cochrane Library have demonstrated reductions in BPSD following the use of physical activity, music therapy,[3] aromatherapy,[20] massage and touch,[21] and art therapy.[22] However there has been no review undertaken to investigate the effects of doll therapy in managing people with BPSD.

*Doll therapy*

Doll therapy has been used for patients with dementia for over 20 years and is based on the principles of attachment theory.[23] Although the conceptual work on attachment focussed on children, the impact of attachment experiences is evident from childhood through adult life.[24] For people with dementia, attachment behavior can be observed at various stages of dementia, and parent fixation or searching for deceased relatives has been reported when attachment needs were not being met.[25]

The use of dolls for therapeutic purposes involves giving a doll to a person with dementia to care for and is purported to assist in overcoming some of the attachment needs.[26] For example, cuddling and caring behaviors towards the doll are said to be an expression of being needed, feeling useful and being able to care for others.[27] In addition, hugging a transitional object such as a doll is represents security during a period of uncertainty.

Doll therapy has been reported to reduce agitation, aggression and behaviors of concern in people with BPSD.[28,29] In contrast, doll therapy has been reported by staff and family members to be childish, demeaning and patronising.[30] Doll therapy as a strategy in managing challenging behaviors in people with dementia has not yet been quantified in a manner to enable clinicians to make an informed decision about its benefits. Therefore the aim of this review is to present the best available evidence relating to the effect of doll therapy in managing challenging behaviors in people with dementia.

## Definition of terms

For the purpose of this review dementia will be defined as a chronic or persistent disorder of mental processes caused by brain disease or injury and characterized by symptoms that include f memory loss, mood changes, and problems with communication and reasoning.

## Keywords

dementia, Alzheimers, play therapy, doll, toys and alternate therapy

## Inclusion criteria

### Types of participants

Adults (age >18years) diagnosed with dementia and living in any care setting will be included. Adults with dementia receiving antipsychotics will also be included and analyzed separately.

### Types of intervention(s)/phenomena of interest

This review will include studies that evaluate the effects of giving dolls to persons with dementia for the management of BPSD.   The review will include doll therapy delivered by either health professionals or carers. Studies will be included irrespective of the number and duration of doll therapy sessions. Studies will be excluded if the approach to giving dolls is not described.

The following comparisons will be made:

Doll therapy versus no intervention

Doll therapy versus other non-pharmacological interventions

Doll therapy versus pharmacological interventions.

Studies that use other toys such as teddy bears and mechanised pets will be excluded.

### Types of outcomes

The primary outcomes of interest are changes in challenging behaviors measured using validated scales or through observation, and will include:

Agitation

Verbal aggression

Physical aggression

Secondary outcomes may include:

Interaction with staff.

Interaction with other patients/residents

Level of activity

Quality of life.

### Types of studies

All randomized, quasi randomized and cluster randomized controlled trials evaluating the effect of doll therapy in managing challenging behaviors in people with dementia will be included in the review. In the absence of randomized controlled trials, cohort, case-control and descriptive studies will be included.

## Search strategy

The search strategy aims to find both published and unpublished studies. A three-step search strategy will be utilized in this review. An initial limited search of MEDLINE and CINAHL will be undertaken followed by an analysis of the text words contained in the title and abstract, and of the index terms used to describe the article. A second search using all identified keywords and index terms will then be undertaken across all included databases. Thirdly, the reference list of all identified reports and articles will be searched for additional studies. Studies published till July 2013 in the English language will be considered for inclusion in this review. Relevant conference proceedings will be searched and experts will be contacted to identify any further trials or research in progress.

The databases to be searched include: MEDLINE (1966-2013), CINAHL (1982-2013), EMBASE (1980-current) and the Cochrane Library up to and including 2013 Issue 7. As each database has its own indexing terms, individual search strategies will be developed for each database. During the development of the search strategy, consideration will be given to the diverse terminology used and the spelling of keywords as this would influence the identification of relevant trials. The search for unpublished studies will include: Dissertation Abstracts International, ProQuest Dissertation & Theses and MedNar.

The keywords to be used will be dementia, Alzheimers, play therapy, doll, toys and alternate therapy.

## Assessment of methodological quality

Quantitative papers selected for retrieval will be assessed by two independent reviewers for methodological validity prior to inclusion in the review using standardized critical appraisal instruments from the Joanna Briggs Institute Meta Analysis of Statistics Assessment and Review Instrument (JBI-MAStARI) (Appendix I). Any disagreements that arise between the reviewers will be resolved through discussion, or with a third reviewer.

## Data collection

Quantitative data will be extracted from papers included in the review using the standardized data extraction tool from JBI-MAStARI (Appendix II). The data extracted will include specific details about the interventions, populations, study methods and outcomes of significance to the review question, and specific objectives.

## Data synthesis

Quantitative papers will, where possible, be pooled in statistical meta-analysis using JBI-MAStARI. All results will be subject to double data entry. Effect sizes expressed as odds ratio (for categorical data) and weighted mean differences (for continuous data) and their 95% confidence intervals will be calculated. Heterogeneity will be assessed statistically using the standard Chi-square and also explored using subgroup analyses based on the different quantitative study designs included in this review. Where statistical pooling is not possible the findings will be presented in narrative form including tables and figures to aid in data presentation where appropriate.

## *Conflicts of interest*

None

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## Appendix 1 Appraisal instruments

### JBI Critical Appraisal Checklist for Experimental Studies

Reviewer _____ Date _____

Author _____ Year _____ Record Number _____

| | Yes | No | Unclear |
|---|---|---|---|
| 1. Was the assignment to treatment groups truly random? | ☐ | ☐ | ☐ |
| 2. Were participants blinded to treatment allocation? | ☐ | ☐ | ☐ |
| 3. Was allocation to treatment groups concealed from the allocator? | ☐ | ☐ | ☐ |
| 4. Were the outcomes of people who withdrew described and included in the analysis? | ☐ | ☐ | ☐ |
| 5. Were those assessing outcomes blind to the treatment allocation? | ☐ | ☐ | ☐ |
| 6. Were the control and treatment groups comparable at entry? | ☐ | ☐ | ☐ |
| 7. Were groups treated identically other than for the named interventions? | ☐ | ☐ | ☐ |
| 8. Were outcomes measured in the same way for all groups? | ☐ | ☐ | ☐ |
| 9. Were outcomes measured in a reliable way? | ☐ | ☐ | ☐ |
| 10. Was appropriate statistical analysis used? | ☐ | ☐ | ☐ |

Overall appraisal:     Include ☐     Exclude ☐     Seek further info. ☐

Comments (Including reasons for exclusion)

_____

_____

_____

_____

## JBI Critical Appraisal Checklist for Comparable Cohort/ Case Control

Reviewer _____       Date _____
Author _____       Year _____       Record Number _____

|  | Yes | No | Unclear |
|---|---|---|---|
| 1. Is sample representative of patients in the population as a whole? | ☐ | ☐ | ☐ |
| 2. Are the patients at a similar point in the course of their condition/illness? | ☐ | ☐ | ☐ |
| 3. Has bias been minimised in relation to selection of cases and of controls? | ☐ | ☐ | ☐ |
| 4. Are confounding factors identified and strategies to deal with them stated? | ☐ | ☐ | ☐ |
| 5. Are outcomes assessed using objective criteria? | ☐ | ☐ | ☐ |
| 6. Was follow up carried out over a sufficient time period? | ☐ | ☐ | ☐ |
| 7. Were the outcomes of people who withdrew described and included in the analysis? | ☐ | ☐ | ☐ |
| 8. Were outcomes measured in a reliable way? | ☐ | ☐ | ☐ |
| 9. Was appropriate statistical analysis used? | ☐ | ☐ | ☐ |

Overall appraisal:    Include ☐    Exclude ☐    Seek further info ☐

Comments (Including reason for exclusion)

_____

_____

_____

## JBI Critical Appraisal Checklist for Descriptive/ Case Series

Reviewer _____        Date _____
Author _____        Year _____        Record Number _____

|  | Yes | No | Unclear |
|---|---|---|---|
| 1. Was study based on a random or pseudo-random sample? | ☐ | ☐ | ☐ |
| 2. Were the criteria for inclusion in the sample clearly defined? | ☐ | ☐ | ☐ |
| 3. Were confounding factors identified and strategies to deal with them stated? | ☐ | ☐ | ☐ |
| 4. Were outcomes assessed using objective criteria? | ☐ | ☐ | ☐ |
| 5. If comparisons are being made, was there sufficient descriptions of the groups? | ☐ | ☐ | ☐ |
| 6. Was follow up carried out over a sufficient time period? | ☐ | ☐ | ☐ |
| 7. Were the outcomes of people who withdrew described and included in the analysis? | ☐ | ☐ | ☐ |
| 8. Were outcomes measured in a reliable way? | ☐ | ☐ | ☐ |
| 9. Was appropriate statistical analysis used? | ☐ | ☐ | ☐ |

Overall appraisal:    Include ☐    Exclude ☐    Seek further info ☐

Comments (Including reason for exclusion)

_____
_____
_____

## Appendix II: Data extraction instruments

## MAStARI data extraction instrument

**JBI Data Extraction Form for**
**Experimental / Observational Studies**

Reviewer _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Date _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Author _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Year _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Journal_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ Record Number _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

**Study Method**

RCT ☐                Quasi-RCT ☐            Longitudinal ☐

Retrospective ☐        Observational ☐        Other ☐

**Participants**

Setting

Population

**Sample size**

Group A _____        Group B _____

**Interventions**

Intervention A

Intervention B

Authors Conclusions:

Reviewers Conclusions:

**Study results**

Dichotomous data

| Outcome | Intervention (     )<br>number / total number | Intervention (     )<br>number / total number |
|---------|-----------------------------------------------|-----------------------------------------------|
|         |                                               |                                               |
|         |                                               |                                               |
|         |                                               |                                               |
|         |                                               |                                               |

Continuous data

| Outcome | Intervention (     )<br>number / total number | Intervention (     )<br>number / total number |
|---------|-----------------------------------------------|-----------------------------------------------|
|         |                                               |                                               |
|         |                                               |                                               |
|         |                                               |                                               |
|         |                                               |                                               |