

**The Bobath Concept in the Treatment of People after Stroke. An Overview of Reviews using the TIDieR Checklist**

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**ADMINISTRATIVE INFORMATION**

**Support** - Vereinigung der Bobath-Therapeuten Deutschlands e.V. |  
Bobath Therapists Association of Germany.

**Review Stage at time of this submission** - Preliminary searches.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202450085

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 17 May 2024 and was last updated on 17 May 2024.

**INTRODUCTION**

**Review question / Objective** The aim of this research project is to identify primary studies in systematic reviews that evaluate the Bobath concept in the context of stroke care and to analyze them in terms of intervention descriptions.

**Rationale** Strokes occur millions of times worldwide. Successful prevention and care strategies have led to a decline in incidence and mortality in high-income nations. Nevertheless, in Germany alone, about 196,000 new cases are added annually. Particularly, the restoration of motor functions is of high importance for those affected. The effectiveness of multidisciplinary motor rehabilitation is well-documented and often based on the Bobath concept in Germany. This method is established and used worldwide for the treatment of stroke and other neurological conditions. Current systematic reviews

synthesizing studies on the effectiveness of Bobath interventions report predominantly high to good internal validity.

The quality of reporting in health and rehabilitation research is continually criticized. Today, the use of reporting guidelines is standard and often required by professional journals for the publication of scientific articles. Additionally, a detailed and structured documentation of the interventions studied is necessary. Specifically, in the case of the Bobath concept, it has been criticized that the interventions provided are sometimes indistinguishable from standard care. The TIDieR checklist is a frequently used tool that allows for standardized reporting of non-pharmacological interventions. Consequently, it enables the differentiation of interventions, actual effectiveness comparisons, and the replication of potential effects in real-world settings.

**Condition being studied** The Bobath concept for adult patients post stroke.

## METHODS

**Search strategy** This is an 'Overview of Reviews'. Systematic reviews will be identified through systematic searches in six databases. After removing duplicates, study selection will proceed in a two-step process (title/abstract; full texts) conducted by two independent reviewers based on predefined criteria. Discrepancies will be resolved through discussion with a third person. Additionally, each procedure will be piloted on a sample of 10% of the studies to ensure the applicability of the method and make post hoc adjustments if necessary. The methodological quality of the included reviews will be assessed using AMSTAR II, and their risk of bias will be evaluated with ROBIS. Data will be collected, analyzed, and synthesized, if permissible, at the level of the included reviews and the unique primary studies. Primarily, details of the intervention descriptions will be extracted using the TIDieR checklist and analyzed descriptively.

**Participant or population** Adult patients post-stroke.

**Intervention** Therapy based on the Bobath concept.

**Comparator** Alternative therapy, standard care, placebo intervention, no intervention.

**Study designs to be included** a) systematic reviews, which b) include randomized controlled trials, and c) examine the Bobath concept in d) patients with stroke. Articles in languages other than German and English, study protocols, and systematic reviews that do not include randomized controlled trials or are duplicates will be excluded.

**Eligibility criteria** a) randomized controlled trials, b) stroke population, c) at least one study arm receives an intervention that can be classified as the Bobath concept, and d) control intervention.

**Information sources** The following six databases will be systematically searched for reviews: CINAHL, Cochrane Library, Embase, and MEDLINE (via Ovid), OTSeeker, and PEDro. The search is based on a previously tested strategy (Scrivener et al., 2020). Search terms and MeSH terms for the concepts of "stroke," "Bobath concept," and "systematic review" will be identified, linked using the building-block approach, and adapted to the respective databases. The publication of the TIDieR checklist marks the temporal limit of the search to the year 2014.

**Main outcome(s)** This overview will summarize the level of reporting in studies investigating the Bobath concept in the context of stroke rehabilitation. Data will be collected, analyzed, and synthesized, if permissible, at the level of the included reviews and the unique primary studies. Primarily, details of the intervention descriptions will be extracted using the TIDieR checklist and analyzed descriptively.

**Data management** Data will be managed and analyzed using software (e.g. rayyan) and Excel spreadsheets.

**Quality assessment / Risk of bias analysis** AMSTAR II will be used to assess the methodological quality of included systematic reviews that include randomized and non-randomized studies. The risk of bias will be assessed using ROBIS.

**Strategy of data synthesis** Details of the intervention descriptions will be assigned to the items of the TIDieR checklist (Why (theoretical framework), What (type of intervention, intervention materials and procedures, description of the control), Who (provider of the intervention), How (use of technology, individual or group), Where (location of the intervention), When and How Much (duration, number of sessions), Tailoring (e.g., individualized training plan), and How Well (adherence, fidelity)). Descriptive analysis will determine the proportion of complete reporting for each item in relative terms.

**Subgroup analysis** If sufficient data quantity and quality are available, subgroup analyses will be used to investigate potential heterogeneity due to the characteristics of the interventions.

**Sensitivity analysis** If more than two studies are combined in a meta-analysis for an outcome parameter, a GRADE level will be assigned to them. If data type and outcome parameters allow, additional meta-analyses will be conducted based on the primary studies. For continuous data, (standardized) mean differences will be pooled. For dichotomous variables, risk ratios with 95% confidence intervals will be used according to the Mantel-Haenszel method. The inconsistency between studies will be examined using the  $I^2$  test ( $I^2$  50% will be considered substantial heterogeneity). The results will also be assigned a GRADE level, with the assessment achieved through consensus among the authors.

**Language restriction** English and German.

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**Country(ies) involved** Germany.

**Keywords** Bobath concept, Stroke rehabilitation, Systematic reviews, Intervention descriptions, Transparent reporting.

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