

# Bobath in Brazil: what is the best study design for intervention for children with cerebral palsy?

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Brazil is a very heterogeneous country in terms of health services, not only in its remote regions but also in the larger cities. We have physiotherapy centres throughout Brazil that offer specialized assistance for individuals with cerebral palsy (CP), but there are not nearly enough. Particularly in rural areas, there are good quality services staffed with professionals dedicated to improving their skills but perhaps with not as much up-to-date equipment. Of course there are universities throughout Brazil offering courses in physiotherapy. As a physiotherapist and Bobath instructor teaching in several of these institutions, I always emphasize the importance of evidence and good research practice (e.g., using measurable functional tasks before and after intervention, including videos recording and standardized tests), not only for publishing papers but also to ensure that such specialized treatment works.

It is important that studies published in English are also published in the native language from where they take place. This enables greater dissemination of crucial knowledge within these particular communities. A good example is the paper by Furtado et al. (and this commentary) also written in Portuguese.<sup>1</sup> This review made us aware of the current state of research in Brazil and also points the way for new studies.

According to the International Classification of Functioning, Disability and Health (ICF), participation is as important as body functions and structure. The ICF clearly shows the reciprocal nature of all these components. Most of the good therapeutic work done in Brazil is by Bobath-trained therapists, but such practice has also been criticized

based on published research, in part due to problems with definitions and study designs.<sup>2</sup>

Conducting a clinical randomized controlled trial for children and adolescents with CP can be very difficult. This is because of the many differences in locality and time of lesion, motor disorders, associated impairments, previous treatment, and family-related issues. These and other factors can make a homogeneous group almost impossible. So, which is the best study design for CP? Each child with CP is unique, with different desires and environments. How is best to respect the goals of the child and the family?<sup>3</sup>

Even though the studies in Furtado et al.'s scoping review did not include the goal-directed practice of real-life tasks, child self-active movements, participation, and family engagement in therapeutic planning are all used today in neurodevelopmental therapy (NDT) in Brazil.<sup>4</sup> But it is difficult to affirm that all physiotherapists trained in Bobath/NDT have incorporated these changes into their practice. An update of the NDT/Bobath includes individualized therapeutic handling based on movement analysis and the therapist uses the ICF model in a problem-solving approach to assess activity and participation. The principles of the Contemporary Bobath Concept<sup>5</sup> have also recently been updated and clarified. They highlight the practice and transference of daily life skills and include measurable goals.

Online therapies (telerehabilitation) may provide many benefits, but the presence of the child or individual with CP and the physiotherapist is still necessary for proper assessment and intervention. This interaction can never be replaced by a remote procedure, while we also must remember that parents cannot be called on to act as therapists.

It is not only experimental evidence which should be considered, but also the scientific knowledge that forms the basis for any intervention. We hope in the future physiotherapists in Brazil and all over the world will produce such evidence with study designs that truly move CP research forward.

## REFERENCES

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