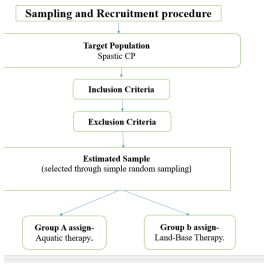
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Aquatic and Land-Based Therapy for Postural Control in Children with Spastic CP



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Abstract

This single-center randomized clinical trial aims to evaluate the effectiveness of aquatic therapy and land-based therapy on postural control in children aged 5–12 years with spastic cerebral palsy (CP). Participants will undergo a 12-week program with two 45-minute sessions per week, including warm-up, therapist-guided motor activities and cool-down exercises delivered in a therapeutic pool or on land. The primary outcome is postural control, measured using the Korean-Modified Trunk Control Measurement Scale (K-TCMS). Secondary outcomes include functional mobility and coordination, assessed with the Pediatric Evaluation of Disability Inventory (PEDI). This study seeks to determine the impact of aquatic and land-based therapy on postural control and functional abilities, providing evidence to guide clinical and community-based rehabilitation strategies for children with spastic CP, particularly in resource-limited settings.

Attachments

DOCX IRB No. of Ankhi Kha... 18KB

DOCX Interventions.docx 13KB

Guidelines

Informed Consent: Obtain written informed consent from parents/legal guardians and provide full explanation of study purpose, procedures, risks, and benefits.

Safety protocols:

- Aquatic therapy: Conduct in a temperature-controlled pool (32–34°C) with constant supervision.
- Land-based therapy: Conduct in a safe clinical physiotherapy setting.
- Ensure presence of first aid, resuscitation equipment, and trained staff.
- Monitor for discomfort, fatigue, spasticity changes, or adverse reactions.

Materials

- **Aquatic Therapy Pool**: Shallow, child-safe pool with water temperature maintained at 82–86°F (28–30°C).
- **Therapeutic Equipment**: Kickboards, pool noodles, balls, hula hoops, floating devices, and water toys.
- **Safety Gear**: Life vests or floatation devices, non-slip water shoes, towels, and warm blankets.
- **Assessment Tools**: Korean-Modified Trunk Control Measurement Scale (K-TCMS), Pediatric Evaluation of Disability Inventory (PEDI) and parent feedback forms.
- **Therapist Materials**: Whistle, stopwatch, first aid kit, waterproof writing pads.
- **Health and Comfort**: Hydration supplies, sunscreen (if outdoor), extra clothing, and dry towels.
- **Documentation**: Consent forms, parent/guardian contact forms, emergency contact list, and participant medical history forms.
- **Emergency Equipment**: Life-saving devices (e.g., rescue buoy), communication devices, poolside safety signage.

Safety warnings

- All sessions supervised by licensed pediatric physiotherapists.
- Aquatic therapy conducted with certified aquatic therapist & lifeguard; flotation aids used as needed.
- Only medically cleared children will participate.
- Continuous monitoring for fatigue, discomfort, increased spasticity.
- Fall prevention measures in poolside and land settings.
- Water temperature maintained (32–34°C) with hydration breaks.
- Adverse events (e.g., soreness, pain, seizures, respiratory distress) will be recorded and managed.
- Emergency equipment and CPR-trained staff available on-site.

Ethics statement

This study involving children with spastic Cerebral Palsy adheres to internationally accepted ethical standards for research involving human participants. Prior approval from an Institutional Review Board (IRB) or equivalent ethics committee must be obtained before starting the trial. Ethical considerations will include ensuring the privacy, safety, and well-being of all participants. Informed consent will be acquired from the parents or legal guardians of each child before participation. This protocol is conducted with the highest standards of care and respects participants' autonomy. Any adverse events or ethical concerns will be promptly addressed, and the study will be continuously monitored for compliance with ethical guidelines. If prior approval has been obtained, the name of the reviewing IRB or equivalent ethics committee and any relevant approval or permit numbers will be provided.

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