Physical Rehabilitation Research in Acute Care Settings of Low- and Middle-Income Countries: A Systematic Review

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Background

- More than a billion people experience disability around the world.
- Higher rates of disability are reported in low- and middle-income countries (LMICs)\(^1\).
- Acute medical illness or injury requiring hospitalization often results in a new or worsened disability.
- Physical rehabilitation provided in the acute setting may mitigate hospital-associated disability and facilitate recovery\(^2,3\).

Purpose & Objectives

**Purpose:**

Synthesize physical rehabilitation research conducted in acute care settings in LMICs

**Objectives:**

1. Identify and describe study design, geo-distribution and quality
2. Identify the profile of study participants, including patient setting and diagnostic categories, and rehabilitation providers
3. Identify physical rehabilitation interventions utilized

Methods

- Systematic review following PRISMA guidelines
  - Inclusion criteria:
    1) Published between 2001-2016, available in English
    2) Entirety of the study conducted in LMIC
    3) Adults (age ≥ 18 years old)
    4) Participants either providers or patients admitted to a hospital with an acute medical condition, and provided or received a physical rehabilitative intervention in the acute care setting
- Downs and Black Quality Assessment of Randomized Control Trials (RCTs) and Cohort studies\(^*\) used with maximum points = 28

Objective 1: Design, Geographic Distribution and Quality

- **RCTs:** 9; Cohort Studies: 6; Clinical Practice Surveys: 8
- **Upper-Middle Income Countries:** 14; **Lower-Middle Income Countries:** 7; **Low-Income Countries:** 2

Objective 2: Settings and Diagnostic Categories

- **ICU**
  - Non- Surgical (n=1)
  - Mixed (n=4)
  - Surgical (n=2)
  - Mechanical Ventilation (n=1)
  - Peripheral Catheters (n=1)
  - Emergency Condition (n=1)
  - Mixed Medical (n=1)
  - Coronary Bypass (n=3)
  - Hip Fracture Repair (n=1)
  - Burn/hole Drainage (n=1)

- **Floor/Ward**
  - Non- Surgical (n=1)
  - Mixed (n=0)
  - Surgical (n=5)
  - COPD Flare (n=1)

Objective 3: Physical Rehabilitation Interventions

- Interventions graphed if in ≥ 2 RCTs or cohort studies
- Most frequently utilized were respiratory-focused interventions delivered by physiotherapists to patients in the ICU (76.4%)
- In comparison, mobility-focused interventions were underrepresented overall (23.6%)

Conclusions & Relevance

- Physical rehabilitation research originating in LMICs in acute care settings is limited.
- Respiratory interventions delivered by physiotherapists for patients critically ill in ICUs were most commonly detailed; mobility-focused interventions were underrepresented.
- Evidence of physical rehabilitation in LMICs exists but is limited, precluding recommendations to optimize physiotherapists role in the acute care environment of LMICs.
- Future research should focus on investigating the barriers to and strategies for the physical rehabilitation of patients hospitalized for acute medical conditions in LMICs.

References