

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

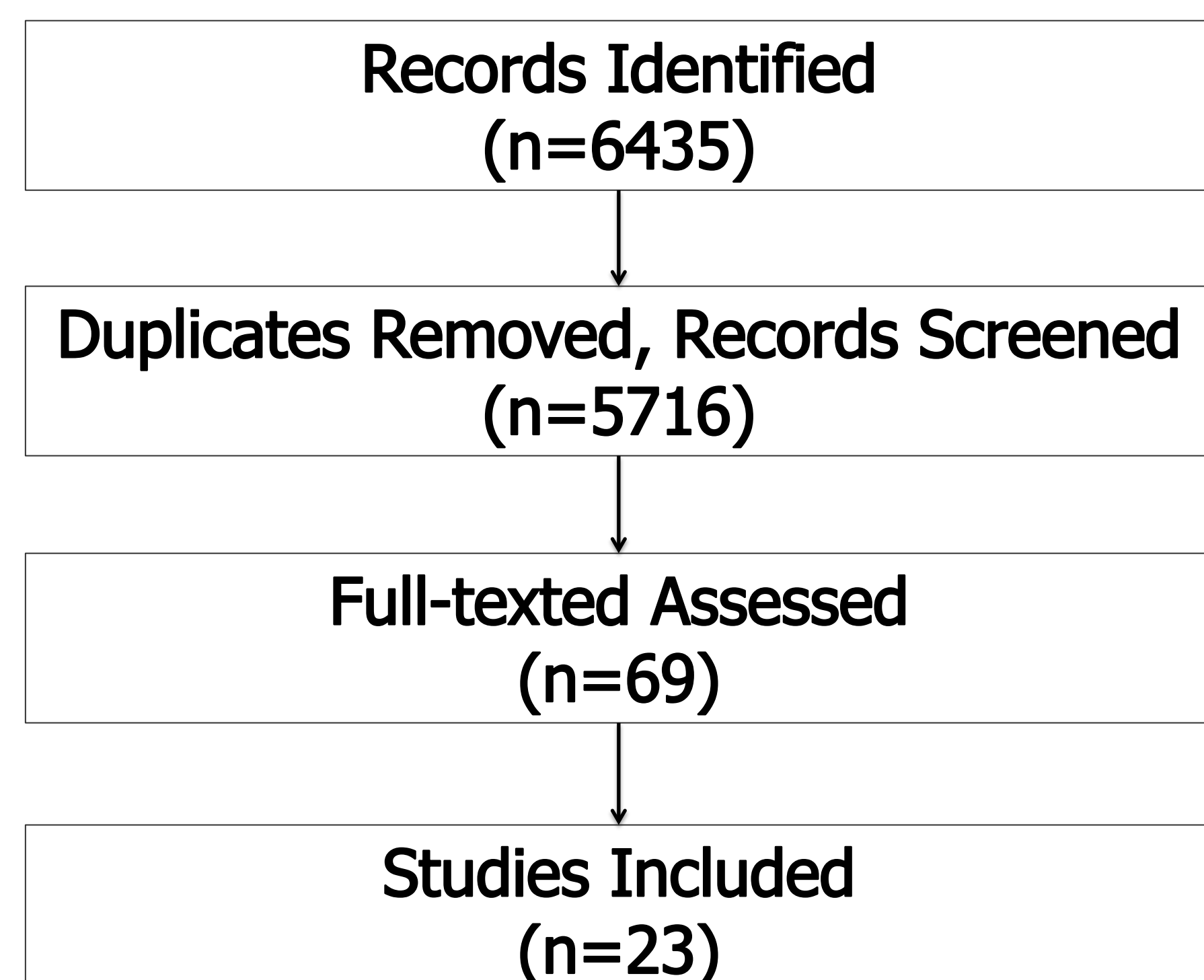
Objectives:

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 studies⁴ used with maximum points = 28

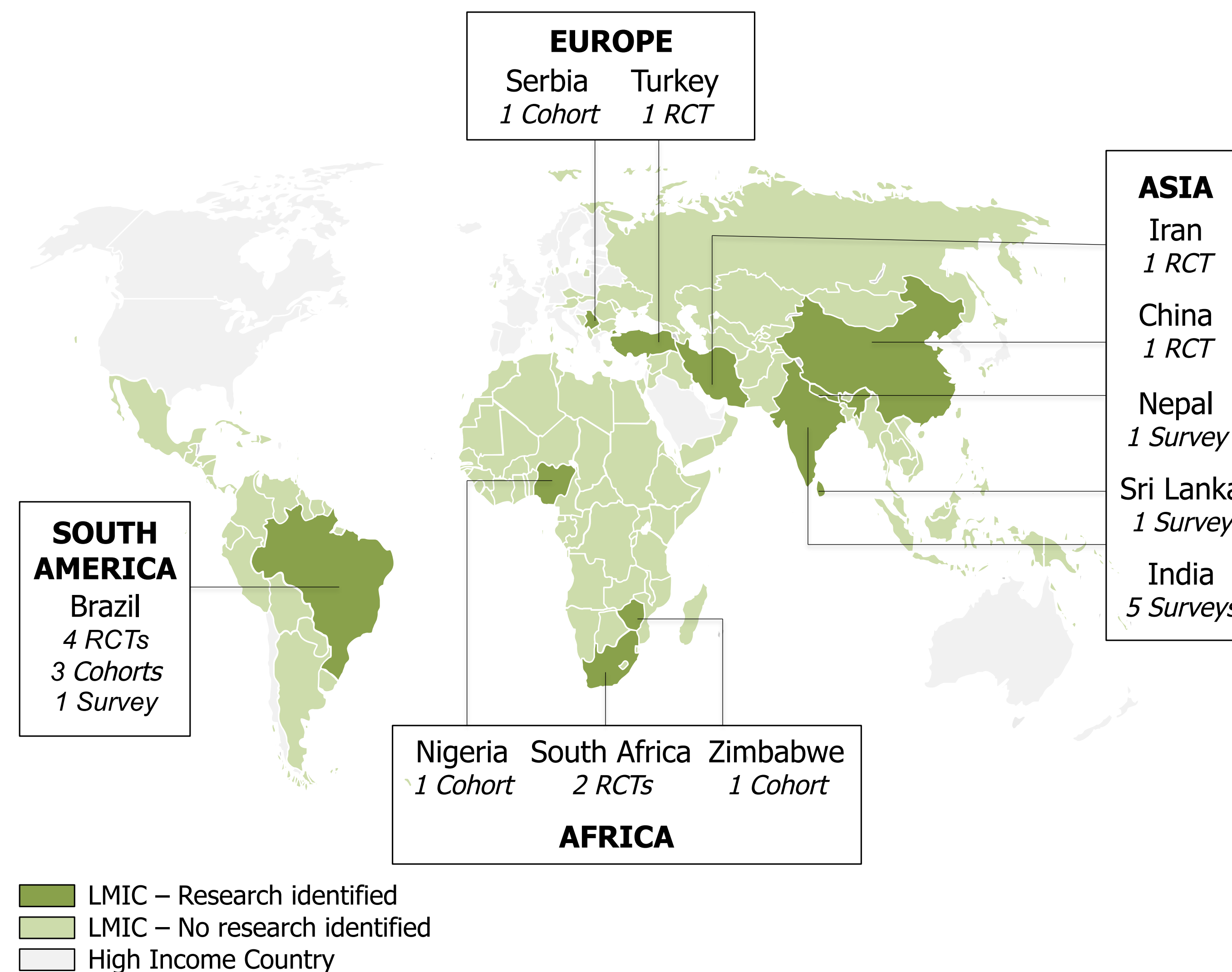
PRISMA FLOW



Results

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
- Downs & Black Score: "Good" (20-25): 7; "Fair" (15-19): 8



Objective 2: Settings and Diagnostic Categories

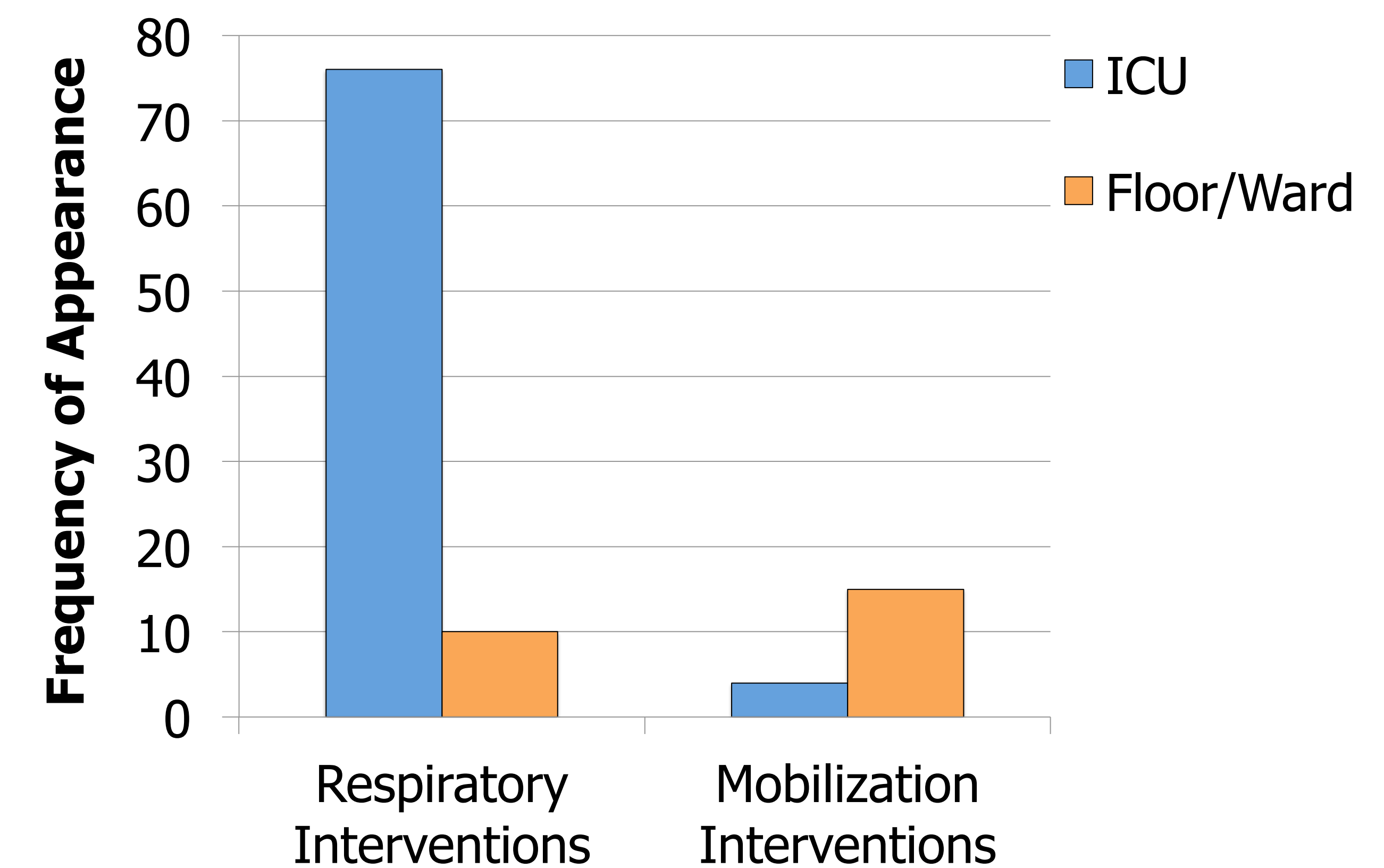
- 46.7% of RCTs and cohort studies included patients in ICUs
- Patients on mechanical ventilation represented the largest diagnostic sample (26.7%)
- 7 practice surveys included ICU physiotherapists, 1 surveyed included physiotherapists in both ICUs and general ward/floor

ICU			Floor/Ward		
Non-Surgical (n=0)	Mixed (n=7)	Surgical (n=2)	Non-Surgical (n=1)	Mixed (n=0)	Surgical (n=5)
	Mechanical Ventilation (n=4)		COPD Flare (n=1)		Coronary Bypass (n=3)
	Peripheral Catheters (n=1)				Hip Fracture Repair (n=1)
	Emergency Condition (n=1)				Burrhole Drainage (n=1)
	Mixed Medical (n=1)				

Results

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

1. "World Report on Disability." World Health Organization, 2011. http://www.who.int/disabilities/world_report/2011/en/. 20 Jan. 2017
2. Kortebein P. Am J Phys Med Rehabil. 2009;88(1):66-77.
3. Hoyer EH et al. Arch Phys Med. 2013;94(10):1951-1958.
4. Downs SH, Black N. J Epidemiol & Community Health. 1998;52(6):377-384.