INPLASY

Effect of Physiotherapy in Mitigating incidence of Intensive Care Unit Acquired Weakness: Protocol for a Systematic Review

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ADMINISTRATIVE INFORMATION

Support - Nil.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 09 May 2024 and was last updated on 04 October 2024.

INTRODUCTION

*R*eview question / Objective Primary Question: How beneficial are physiotherapy interventions in lowering ICUAW incidence compared to Standard Care in critically ill patients admitted to the ICU?
Secondary Question: What precautions and contraindications should be taken while doing physiotherapy interventions on critically ill patients admitted to the ICU?

Rationale ICUAW is typically caused by critical illness and a protracted ICU hospitalization, which necessitates significant physiotherapy treatments to improve muscular strength and independence after discharge. A systematic review is required to determine the efficacy and safety of these interventions.

Condition being studied Intensive Care Unit Acquired Weakness (ICUAW).

METHODS

Search strategy The following electronic databases will be searched for literature indexed between the date of the search and the database's inception: PubMed, Pedro, Cochrane, Google Scholar. The reference lists of the retrieved paper will also be manually searched. The following keywords will be used to characterize the Medical Subject Headings: ("Intensive Care Unit Acquired Weakness" OR "ICUAW") AND ("Physiotherapy In ICU") AND ("Critical Illness Myopathy" OR "CIM") AND ("Critical Illness Polyneuropathy" OR "CIP") AND ("Critical Illness Neuro-myopathy" OR "CINM") AND ("Intensive care" AND "Physiotherapy") AND ("Critical care" OR "Intensive care") AND ("Physical Therapy") AND ("Therapeutic exercise" OR "Functional training" OR "Exercise" OR "Exercise therapy" OR "Mobilization" OR "Rehabilitation" OR "Ambulation") AND "Physical Therapy Modalities" AND ("Physical exertion" OR "Early Mobilization"

OR "Muscle weakness/rehabilitation" OR "Muscle weakness/therapy") AND ("Randomized controlled trial" OR "RCT") AND ("Quasi-Experimental Studies") AND ("Cohort Studies").

Participant or population Both genders (over the age of 18) were hospitalized in ICU settings due to critical illness and received any physiotherapy intervention.

Intervention Properly designed physiotherapy intervention protocols.

Comparator Standard Care.

Study designs to be included Randomized controlled trials.

Eligibility criteria Randomized controlled trials published between 2015-2024 investigated the effect of physiotherapy interventions in ICUAW.

Information sources PubMed, Cochrane Central Register of Controlled Trials (CENTRAL), Physiotherapy Evidence Database (PEDro), Google Scholar.

Main outcome(s) MRC sum score, hand grip strength, and electrophysiological investigations.

Additional outcome(s) Blood glucose levels, Physical activity level, Duration of Mechanical Ventilation (Hours and days), Length of ICU stay (days), ICU mortality, Adverse events (any undesired outcome due to the intervention).

Quality assessment / Risk of bias analysis This study will employ the PEDro scale for assessing the quality of RCT.

Strategy of data synthesis The data will be analyzed using SPSS version 27.0, with fixed effect model used for homogeneous data and random-effects models will be used for clinical and methodological heterogeneity (if the I2 is >50%,). If meta-analyses aren't feasible, a narrative summary will be provided, addressing direction, size, consistency, and evidence strength of the research.

Subgroup analysis To eliminate the random variance between the major research estimates, we shall undertake a subgroup analysis. The subgroup analysis will be based on the study's quality as well as the outcomes, participant's age and gender.

Sensitivity analysis The GRADE framework will be used to assess the quality of research evidence. Studies will be categorized as high quality, moderate, low, or extremely low.c

Language restriction Only English.

Country(ies) involved India.

Keywords Intensive Care Unit-Acquired Weakness; Critical Illness Neuromyopathy; Early Mobilization; Randomized Controlled Trial.

Dissemination plans The study's findings will be disseminated through peer-reviewed academic publications and presentations at scientific conferences.

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