

Lilian Maria Melo da Silva, Kaique Ferreira Alves,
Diego de Sousa Dantas, Patricia Erika M Marinho
Departamento de Fisioterapia, Universidade Federal de Pernambuco (UFPE), Recife, PE, Brazil

Background: Respiratory muscle weakness has been shown to be frequent in patients undergoing hemodialysis. In this context, inspiratory muscle training (IMT) emerges as an alternative to improve the respiratory condition of these patients.

Objectives: To evaluate the effect of IMT on dyspnea and lung capacity in dialysis patients. The effect on respiratory muscle strength was evaluated as a secondary outcome, as well as the dialysis efficacy index (Kt/V).

Methods: A systematic review of randomized controlled trials (RCTs) which evaluated the effects of IMT in dialysis patients on the outcomes of dyspnea, lung capacity, respiratory muscle strength and dialysis effectiveness index (Kt/V) was conducted. Searches were completed in February 2025 in the Medline/PubMed, Cochrane Library, LILACS, CINAHL, PEDro, Web of Science, Embase and Google Scholar databases. The search strategy consisted of the following Keywords “Renal Institution, Chronic”, “Dialyses, Renal”, “Breathing Exercises”, “Dyspnea” and “Respiratory Function Tests” in different combinations. Studies with adult participants (> 18 years) with CKD on hemodialysis were included. The intervention was evaluating inspiratory muscle training with linear load. Study quality was assessed using the Cochrane RoB2 tool.

Results: Six studies were analyzed (n = 210). One study showed an improvement in dyspnea [4.17±0.58; 95%CI (0.0073-0.884); p = 0.022], and the meta-analyses found a mean difference of 0.34 L/min [95%CI (0.08–0.61); p = 0.010] in forced vital capacity (FVC) and 25.15 cmH₂O [95%CI (17.05–33.24); p < 0.001] in maximum inspiratory pressure (MIP) in the IMT groups. There was no difference in Kt/V. Only one study showed a low risk of bias.

Conclusion: IMT in patients with CKD on HD improved dyspnea, FVC and MIP. Considering the low quality of the studies, new RCTs with greater methodological rigor are needed.

Implications: Understanding the effects of IMT on patients receiving hemodialysis leads to more effective interventions for common respiratory symptoms in these individuals.

Keywords: Hemodialysis, Respiratory therapy, Dyspnea

Conflict of interest: The authors declare no conflict of interest.

Funding: Not applicable.

Ethics committee approval: CAAE: 65207222.1.0000.5152.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101297>

35

ABSENCE OF ADVERSE EVENTS WITH EARLY PHYSIOTHERAPY APPLICATION TO CRITICALLY ILL PATIENTS DURING HEMODIALYSIS IN INTENSIVE CARE UNIT: SCOPING REVIEW

Julio Henrique Policarpo, Lucas Leonardo Vilela Medeiros,
Rafael Barros Dos Santos, Julia Galindo Soares,
Ana Laís Vieira da Cunha, Josefa Amile Rodrigues da Silva,
Armele Dornelas de Andrade, Patricia Erika M Marinho
Universidade Federal de Pernambuco (UFPE), Recife, PE, Brazil

Background: The critical scenario disease with immobility, physical deconditioning and hemodialysis (HD) has led to the implementation of physiotherapy aimed at early functional recovery and, as a result, a reduction in the length of hospital stays. However, barriers such as lack of knowledge and professional experience limit the

implementation of physical therapy intra-dialytic assistance in the Intensive Care Unit (ICU) environment.

Objective: s: To summarize and present the evidence of adverse events of early physiotherapy applied to critically ill patients during hemodialysis in the ICU stay.

Methods: This was a scoping review carried out from May to July 2024, developed in accordance with the PRISMA-ScR guidelines. The Concept, Population, and Context strategy was used to develop research questions and carry out the literature search. Descriptors standardized by DECS and MESH in English and Portuguese were used, arranged in different strategies to maximize the search for results. The search was performed in the MEDLINE via PUBMED, EMBASE, LILACS-BVS, PEDro, Scielo, WoS, Portal de Periódicos CAPES, and ClnaHL databases. The gray literature was consulted using Google Scholar. The studies were analyzed in terms of population, outcomes, and results. The main outcome was reported safety and the presence of adverse events during physiotherapy applied to critically ill patients during HD. Inclusion criteria were all experimental and observational studies and literature reviews available in full were included.

Results: The evidence was published in 2016 to 2024. The population of these studies include adults in ICU stay that is performed intermittent or continuous HD. Physiotherapy applied in ICU stay was considered safe. The adverse events were minimal and may have hemodynamic transitory changes. By the way, there is no record of any specific adverse events directly related to physiotherapy. The results were also framed into seven themes on the particularities of early physiotherapy. The context of physiotherapy in the ICU, hemodialysis and vascular access to the necessary care, physiotherapy applied in the intra-dialytic period, the importance of multi-professional action, the recording of adverse events, and the patient's perception.

Conclusion: Early physiotherapy performed on critically ill patients during the hemodialysis period was considered safe and there are no specific adverse events directly related.

Implications: Although physiotherapy during hemodialysis in ICU is not associated with significant adverse events, the assistance must be performed by criteria assessment to promote safety and better practices. It is also necessary to break down cultural factors and personal beliefs of the team member, like inappropriate manipulation as well as prevent the loss of vascular access and improve therapeutic exercise knowledge on intra-dialytic period with the multi-professional experience.

Keywords: Intensive Care Unit, Kidney Replacement Therapy, Exercise Therapy

Conflict of interest: The authors declare no conflict of interest.

Funding: Not applicable.

Ethics committee approval: No.5.320.757.

Registration: Not applicable.

<https://doi.org/10.1016/j.bjpt.2025.101298>

36

EVALUATION OF PREDICTIVE METHODS FOR RESPONSE TO POSITIVE END-EXPIRATORY PRESSURE (PEEP) IN INDIVIDUALS WITH ACUTE RESPIRATORY DISTRESS SYNDROME (ARDS)

Yuri Rodrigues Luz De Araujo, Agnaldo José Lopes,
Arthur de Sá Ferreira, Luis Felipe Reis

Programa de Pós – Graduação em Ciências da Reabilitação (PPGCR), Centro Universitário Augusto Motta (UNISUAM), Rio de Janeiro, RJ, Brazil