DOI: 10.7860/JCDR/2025/80478.21552

The Impact of Cardiovascular Dysfunction on Physiotherapy in End-stage Renal Disease: A Review of Evidence

Jyotsna Tayal, BPT Student, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.
Neha Kashyap, Assistant Professor, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.
Shikha Singh, Associate Professor, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Neha Kashyap,

Assistant Professor, Department of Physiotherapy, Maharishi Markandeshwar Institute of Physiotherapy and Rehabilitation, Maharishi Markandeshwar (Deemed to be University), Mullana, Ambala, Haryana, India.

E-mail: nehabcip1121@gmail.com

ABSTRACT

End-stage renal disease (ESRD) is increasingly becoming a public health problem wherein kidneys loses nearly all their abilities to perform essential function. Dialysis offers patients the opportunity to maintain a better quality of life in long term management and while waiting for kidney transplantation. ESRD patients are known for the high risk of cardiovascular comorbidities that effects the quality of life, physical activeness and overall independence. Thus, rehabilitation is imperative to address the profound psychological, physical and majorly functional limitations/impairments associated with ESRD.

A comprehensive literature search was conducted where in article from 2010 to 2024 were included using the search terms “End stage Renal Disease” and “Cardiovascular Limitations”, which yielded 2,102 results from various digital databases like PubMed, Google Scholar, Ovid, Web of Science and the Cochrane Library. The search was then further filtered through the inclusion and exclusion criteria which yielded 49 results.These results aided in the analysis of various cardiovascular limitations to physiotherapy rehabilitation in ESRD patients.

The reviewed data reflects the prevalence of left ventricular hypertrophy, myocardial/valve disease, arterial stiffness,sarcopenia, chronic fatigue/inflammation and even heart failure in ESRD patients. The factors like fluid overload, uremic toxicity, malnutrition, sedentary lifestyle, and diabetes omit further impair add the cardiac performance and exercise tolerance. These limitations act as the obstacle in providing effective rehabilitation programme. Evidence has confirmed that physical exercise has a major effect on metabolism, muscle contraction and enhancement of various physiological processes of essential tissues. Therefore, implementing specialised rehabilitation programmes that keep cardiovascular risk management in consideration to fabricate effective exercise regimens and comprehensive care to boost functional capacity and improves overall quality of Life.

Keywords: Omit, Cardiovascular limitations, Dialysis, Rehabilitation