

## **Physical and mental fitness in hemodialysis patients: A systematic review**

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People with End Stage Kidney Disease (ESKD) on Hemodialysis (HD) experience multiple catabolic processes, including loss of albumin and amino acids during dialysis, metabolic derangements, and changes in skeletal muscle associated with conditions of muscle disuse. These changes result in muscle atrophy (loss of lean muscle mass). The presence of neurogenic (muscle atrophy or loss associated with nerve disorder), myogenic (damage intrinsic to the muscle), and mixed (neurogenic and myogenic) changes intrinsic to the skeletal muscle in people with ESKD on HD may further compromise the integrity of the motor-unit complex and contribute to muscle atrophy. The paper is a systematic review of the interventions to improve fitness levels of patients on maintenance HD. The results of the meta-analysis indicate the following: The survival of patients on maintenance haemodialysis is increased by improving their physical performance. Chronic Dyspnoea is one of the most common symptoms of patients on haemodialysis and is intractable to therapy due to its multifactorial origin. Dyspnoea is due to systemic inflammation and is caused by a combination of – anaemia, malnutrition and muscle wasting. The 6-minute walk test can be used to classify patients into various fitness levels as an OPD procedure and help patients get an objective evaluation of their fitness.

### **Biography**

Sapna Chandgadkar is a master's Student at Goa Engineering College. She is working with Dr Virani, HOD, Electronics Engineering and Dr Mahaldar, HOD, Nephrology, Manipal Hospital. Their research focuses on improving the quality of life of patient on hemodialysis, in emerging markets. The objective is to develop a Markov Model of the interventions that could help patients on Hemodialysis to improve their fitness levels a step at a time.

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