

Infographic. Benefits and harms of exercise therapy in people with multimorbidity

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MULTIMORBIDITY AND THE PAUCITY OF EFFECTIVE TREATMENTS

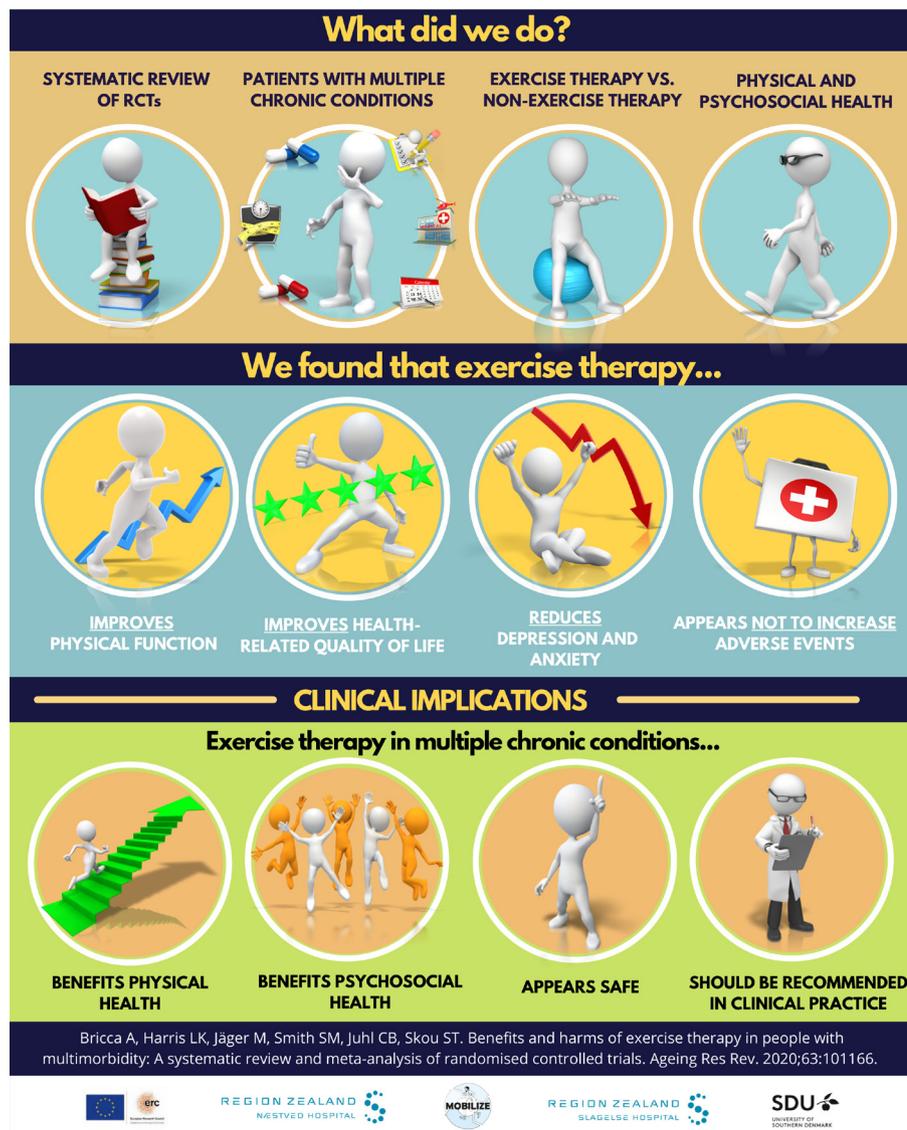
People with multimorbidity (two or more medical conditions) have poorer physical and psychosocial health and higher risk of hospital admission and premature death.¹ The complexity and increased burden of multimorbidity presents

challenges for healthcare systems.² Therefore, the current standard of care for patients with multimorbidity includes visiting many healthcare professionals and reviewing different pharmacological treatments with inherent risk of side effects. This is often unsatisfactory for the patients.³

THE POTENTIAL ROLE OF EXERCISE

Exercise is considered a core treatment for at least 26 chronic conditions. However, little is known about its effects in people with multimorbidity. To fill this gap, we performed a systematic review of randomised controlled trials to investigate the benefits and harms of exercise therapy (ie, a regimen or plan of physical activities designed and prescribed for specific therapeutic goals with the purpose of restoring normal physical function or to reduce symptoms caused by diseases or injuries) in multimorbidity.⁴ We included studies with 80% or more participants having at least two of the following common chronic conditions: osteoarthritis, hypertension, type 2 diabetes, depression, heart failure, ischaemic heart disease and chronic obstructive pulmonary disease.⁴ These conditions are among the leading causes of global disability, often coexist, have shared risk factors and pathogenesis⁵ and have a negative impact on physical and psychosocial health.

EXERCISE THERAPY FOR PEOPLE WITH MULTIPLE CHRONIC CONDITIONS



BENEFITS AND HARMS OF EXERCISE THERAPY IN PEOPLE WITH MULTIMORBIDITY

Twenty-three studies from 17 countries examined exercise interventions in different settings and included 3363 people (median age=65, IQR=58–71). The most common combinations of conditions were heart failure and depression, type 2 diabetes and depression, and hypertension and type 2 diabetes. The exercise therapy programmes were at least partly supervised, included aerobic and/or strengthening exercise and were performed two to three times a week for 12 weeks (on average).

Exercise therapy improved health-related quality of life (standardised mean difference (SMD) 0.37, 95% CI 0.14 to 0.61) and objectively measured physical function (SMD 0.33, 95% CI 0.17 to 0.49) and reduced depression (SMD -0.80, 95% CI -1.21 to -0.40) and anxiety symptoms (SMD -0.49, 95% CI -0.99 to 0.01). Additionally, exercise therapy was not associated with an increased risk of non-serious adverse events (risk ratio 0.96, 95% CI 0.53 to

Figure 1

1.76), such as musculoskeletal pain and falls. By contrast, it appeared to reduce the risk of serious adverse events such as hospitalisation and pneumonia (risk ratio 0.62, 95% CI 0.49 to 0.78)⁴ (figure 1). However, future studies including people with different combinations of conditions, with exercise therapy interventions tailored to people's goals and preferences and selection of primary outcome measures that are important to patients, are needed to improve the confidence in these results.

CLINICAL IMPLICATIONS

Our systematic review found that exercise therapy seems safe and beneficial for people with multimorbidity (as defined in our study), as for patients with single chronic conditions, hence, it should be considered as a treatment option. People with multimorbidity can expect to improve their psychosocial and physical health by exercising two to three times a week regardless of the combinations of conditions we investigated.

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