Clinician's Commentary on Chan et al.[1]

Pulmonary rehabilitation and cardiac rehabilitation are components of guideline management for patients with chronic obstructive pulmonary disease (COPD) and cardiovascular disease (CVD). Both have been shown to increase exercise tolerance, quality of life (QOL), and disease self-management.[2,3] However, in Canada these patients do not always receive the rehabilitation they need: Approximately 20% of eligible patients with CVD are enrolled in cardiac rehabilitation,[4] and fewer than 1% of eligible patients with COPD are enrolled in pulmonary rehabilitation.[5] Furthermore, health care centres in larger urban areas typically offer pulmonary and cardiac rehabilitation more than those in rural areas. Telerehabilitation is a promising alternative that is becoming increasingly relevant, and the systematic review by Chan and colleagues[1] provides a timely synopsis of its potential benefits.

Telerehabilitation has the potential to be a successful platform for delivery of cardiac and pulmonary rehabilitation because it allows patients to be monitored remotely using telemonitoring devices, and to participate in education sessions using similar telehealth technology, in an effective and efficient manner. The results of the systematic review by Chan and colleagues[1] are promising, and multiple studies included in the review reported significant improvements in peak oxygen consumption, peak exercise workload, exercise tolerance, exercise duration, and QOL. Furthermore, there were no significant differences in the magnitude of benefit between in-person rehabilitation and telerehabilitation other than in exercise duration. Separate studies have shown a decrease in hospital admissions after telerehabilitation participation in patients with COPD[6] and congestive heart failure,[7] suggesting that this platform has a positive impact on disease self-management.

The methodology and supported guidelines for using telerehabilitation in cardiac and pulmonary rehabilitation may need to be clarified before widespread implementation occurs. The current literature examining cardiac and pulmonary telerehabilitation includes varying technology and program parameters, which are reflected in the systematic review by Chan and colleagues.[1] They found that although telerehabilitation can be effective in cardiac and pulmonary rehabilitation,[1] questions still remain about specific program parameters, technology, level of supervision, methods of assessment, and ideal follow-up techniques that need to be clarified before they are incorporated into clinical practice. As an example, Goldstein and O'Hoski[8] suggested that intensive monitoring in some telerehabilitation programmes may actually foster patient dependence on a case manager rather than promote independent self-monitoring.[8] Now that the efficacy of telerehabilitation has been established, future research should focus on optimal program delivery.

In addition to exercise, education and social support are important components of pulmonary and cardiac rehabilitation, but their effectiveness when delivered using telerehabilitation has not been thoroughly examined. It is likely that improvements in QOL, disease self-management, and long-term adherence are a result of the combined exercise, education, and social support that rehabilitation can provide. Because so few studies incorporate long-term follow-up and present clear outcome measures that reflect successful disease self-management,[8] it is difficult to discern whether telerehabilitation is effective in delivering education and social support. As a result, to maximize the effectiveness of education and social support in telerehabilitation, the methods of delivering education and fostering social support need to be defined and subsequently supported in clinical practice.

Chan and colleagues[1] have provided an important and well-conducted systematic review that provides a summary of the evidence for clinicians and an overview of the current state of telerehabilitation. Although additional research is needed, the evidence is optimistic for those considering implementing a telerehabilitation component in their current cardiac or pulmonary rehabilitation program; as a result, clinicians referring patients to an existing telerehabilitation program can expect benefits similar to those of standard rehabilitation. Even though clinical practice guidelines have not yet been established, it is likely that patients will benefit from telerehabilitation given that the usual care for patients with COPD and CVD in remote areas does not typically include any form of cardiac or pulmonary rehabilitation. Future work may need to focus on the long-term outcomes of telerehabilitation compared with usual care in disease self-management, adherence to exercise, self-efficacy, and consistency of telerehabilitation methodology in cardiac and pulmonary rehabilitation.

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