The Future of Chronic Disease Management: Melting Pot or Mosaic?

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Heart disease (HD), stroke, and chronic obstructive pulmonary disease (COPD) are the top three causes of global mortality,¹ inflicting substantial financial and social burdens.² These conditions affect more than half of Canadians,³ and mortality trends predict a continued rise into 2030,² emphasizing the need for efficient provision of care now and in the future. In Canada and around the world, people living with these conditions have limited access to formal rehabilitation.^{4,5} An integrated approach in which people with different conditions are managed in the same rehab programme is emerging across the rehabilitation literature. Will the future of rehabilitative management of chronic disease remain a mosaic of isolated populations, or will it evolve to become a melting pot of integrated management?

THE MOSAIC: ISOLATED MANAGEMENT

The current approach to formal rehabilitation consists of distinct programmes developed to serve individual populations. Although their effectiveness is well established, these programmes serve only a fraction of their target populations in Canada.^{4,5}

Cardiac rehabilitation (CR) programmes improve quality of life and exercise capacity for people with HD.⁶ Comprehensive CR programmes that include exercise training, lifestyle education, and psychological support have been found to reduce mortality rates and all-cause hospital admissions.⁶ Formal rehabilitation following stroke improves gait speed, balance, and walking capacity, with benefits extending into the chronic phase;⁷ stroke rehabilitation uses a combination of repetitive, intense motor training, functional tasks, and walking training in addition to a multidisciplinary approach as indicated.⁸ Pulmonary rehabilitation (PR), which targets secondary impairments in people with COPD, consists of supervised exercise, education, self-management, and psychological and social support;⁹ participants in PR programmes commonly see improvements in exercise tolerance, dyspnea, and quality of life, independent of age.¹⁰

THE MELTING POT: RECOGNIZING THE OVERLAP

There is a clear overlap in the delivery of formal rehabilitation across chronic conditions: aerobic training, resistance training, and lifestyle education are common components.^{6,8,9} The potential exists to improve access and evolve to a model of integrated care by recognizing this overlap in the stable phase of chronic conditions. People with chronic disease often present with a unique constellation of signs and symptoms, which affect their medical management and require an interdisciplinary approach. While their specific primary diagnoses differ, many people with chronic disease experience common comorbidities that manifest as similar global symptoms. In fact, the overlap between COPD and heart failure (HF) is high: an estimated 38% of people with a primary diagnosis of COPD also have HF,¹¹ and an estimated 16–31% of people with primary HF also have COPD.¹² Although the primary underlying pathologies in HF and COPD differ, their secondary impairments and their impact on symptoms of fatigue, dyspnea, and muscle dysfunction are comparable; the two conditions also produce remarkably similar reductions in exercise capacity and health-related quality of life.¹³

In the field of stroke rehabilitation, attention is turning to multisystem approaches that address the interaction of neuromuscular, cardiovascular, and respiratory systems in the context of the person and his or her environment.¹⁴ Comorbidities are a strong prognostic indicator of both short- and long-term mortality,¹⁵ and high incidences of comorbid cardiovascular conditions are common in this population.¹⁶ Long-term impairments in mobility and exercise capacity are not unique to stroke but are also observed in other chronic conditions, including HD and COPD.¹³

CONCLUSION

The overlap between chronic diseases extends beyond concomitant comorbidities and impairments, as components of exercise training, education, and psychological support are common to the rehabilitative management of these conditions.^{3,9} Recent evidence shows that symptom-directed models of PR can be successfully applied

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to people with HF in an integrated setting;¹⁷ in Canada, CR has been shown to be feasible for people with stroke.¹⁸ Following disease-specific management in the acute and sub-acute phases, an integrated approach to maintaining function for people with chronic disease is a natural evolution from the current segregated models of care, and such an approach is well supported by preliminary evidence. Clinicians and researchers can begin to identify opportunities for integrated care and work toward a model of chronic disease management that optimizes both access and resources.

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L'avenir de la gestion des maladies chroniques : *melting pot* ou mosaïque?

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Les maladies du cœur (MC), les accidents vasculaires cérébraux (AVC) et la bronchopneumopathie chronique obstructive (BPCO) sont les trois principales causes de mortalité dans le monde¹ et créent des fardeaux financier et social importants.² Ces affections touchent plus de la moitié des Canadiens³ et les tendances de la morta-

lité prévoient une hausse continue jusqu'en 2030² soulignant ainsi la nécessité de prodiguer efficacement des soins maintenant et à l'avenir. Au Canada et dans le monde, les personnes vivant avec ces maladies ont un accès limité à des soins de réadaptation en règle.^{4,5} Une approche intégrée de gestion des personnes atteintes de