Clinician's Commentary

The article by Cao et al. brings to light previously unreported perspectives on caregivers of individuals with stroke. To date, Most of the literature in this field has focused on psychological issues related to caregiving.¹⁻⁴ In contrast, Cao and colleagues expose caregivers' perceptions of their own health and physical activity and describe reported barriers to engaging in health-promoting behaviours. Their results have important implications for physical therapists and other health professionals working with the stroke population. Their work highlights the importance of designing interventions aimed at improving long-term health and well-being not only for stroke survivors but for their families as well.

Cao et al. conducted one-on-one interviews with 10 wives of stroke survivors and identified four main themes through their research: study participants reported that they had experienced changes in their role and changes in activity since their husbands' strokes, they identified barriers to engaging in activity and attending to their own health and well-being, and they noted a change in meaning of activity following their spouses' stroke events. More specifically, study participants reported that their role had changed from *wife* to *caregiver* after the stroke event. Activity had also changed: previously shared activities that were jointly recreational and enjoyable to both parties had since evolved to become primarily "therapeutic," with a focus on the partner with stroke. Finally, while caregivers recognized the importance of physical activity and of maintaining their own health, feelings of guilt, lack of time, and fatigue prevented them from engaging in such activities. These findings underscore the importance of involving caregivers in the process of stroke rehabilitation and in ongoing stroke-recovery programmes. As health professionals committed to using a family-centred care approach, physical therapists should aim to optimize health and well-being for both stroke survivor and spouse.

More than 50,000 strokes occur each year in Canada.⁵ Stroke is the leading cause of neurological disability in adults⁶ and costs the Canadian economy \$2.7 billion per year.⁵ Because mortality rates are declining,⁷ more stroke survivors are living with chronic disability,⁸ creating an increasing demand for family members to act as caregivers and to provide the support required for stroke survivors to return home safely. Thus, effective strategies for minimizing stroke-related disability are critical. Interventions provided in stroke rehabilitation programmes already focus on maximizing functional independence, reducing the potential burden on caregivers. However,

such programmes have historically not included structured exercise training. Improving fitness post-stroke is an important consideration, given the high energy demands associated with day-to-day activities such as walking.⁹ Aerobic capacity is compromised to the point that it is insufficient to meet the energy demands of many daily activities.^{10,11} Aerobic exercise training following stroke is safe and effective in improving cardio-respiratory fitness and in increasing gait speed and walking endurance, and such training should therefore be incorporated in stroke rehabilitation programmes.¹²

Engaging in regular physical activity is also important for secondary stroke prevention. Individuals with stroke are at elevated risk of recurrent events,¹³ and cardiovascular comorbidities are common.⁸ Both Canadian¹⁴ and US¹³ guidelines stress the importance of implementing lifestyle-management interventions, including exercise, in stroke care. In fact, Lennon et al. applied a cardiac rehabilitation model of exercise and risk-factor management for individuals with stroke in the United Kingdom and reported lower cardiac risk scores following the intervention.¹⁵ While secondary prevention is important for those living with stroke, primary prevention for caregivers is also a concern. Family members of stroke survivors who have taken on caregiving responsibilities experience increased psychological and physical stress,¹⁶ which places them at risk of negative health consequences, including coronary heart disease.^{17,18} It has been established that higher levels of physical activity are associated with lower risk of first stroke.^{19,20} Therefore, exercise programmes that focus on health promotion and risk-factor management are important not only for the stroke population but for their family members as well.

Most stroke survivors are not physically active, and few opportunities for exercise exist following discharge from rehabilitation.²¹ Community exercise programmes may facilitate successful reintegration and re-engagement and may foster healthy living with a chronic disability. Group settings and structured weekly classes facilitate ongoing exercise behaviours by providing social support and offering planned activities to fill otherwise idle time.²² Minimizing operating costs²³ keeps programme costs low and may assist with recruitment and retention of participants.

Cao et al. stress that we must not forget the potential impact of these community stroke programmes on caregivers. Individuals with stroke may be unable to drive, and thus transportation becomes an issue.²² Spouses or family members may take on the additional task of

driving participants to and from these programmes which adds to their caregiving responsibilities. Further, such programmes are often focused primarily on the person with stroke; this conventional design potentially limits engagement or participation by family caregivers and, as Cao et al. illustrate, reinforces the “therapeutic” nature of the activities.

When designing much-needed programmes for stroke survivors, we must be aware of the need for a family-centred care approach. Involving family members is essential, is in line with the Canadian Best Practices Recommendations for Stroke Care,¹⁴ and may alleviate the perception, noted by Cao et al., that the meaning of activity changes for the partners of stroke survivors (i.e., prior to the stroke, recreational activities in which both partners participated together also offered a source of companionship). One strategy to engage caregivers in stroke programmes may be to offer concurrent programming—such as caregiver support groups or education sessions—while the exercise programme is running. Another may be to extend exercise sessions to include stroke survivors and caregivers alike. Participating in programmes together as a couple may bring back some semblance of previous enjoyment of shared activity.

Partnered exercise has the additional benefit of cardiovascular disease prevention for all parties involved. Cao et al. report that spouses of stroke survivors in their study did not actively engage in health-promoting activities and had insufficient levels of exercise, sleep, and participation in recreational activities. The cumulative effect of these factors is the neglect of caregivers' own health, which puts them at increased risk of developing health complications such as cardiovascular disease.¹⁸ Cao et al. also report that their study participants expressed interest in being more active and in participating in exercise programmes. As physical therapists, we must consider designing exercise and well-being programmes for participation of stroke survivors and their caregivers, thereby bringing the focus on health promotion to the family, not just the patient.

Cao et al. thus bring to light new issues related to caregiver burden following stroke that have not previously been reported in the literature. Caregivers experience elevated levels of psychological and physical stress and are at risk of negative health consequences. Cao et al. reveal that, while spouses of stroke survivors acknowledge the importance of maintaining their own health and well-being and express a desire to do so, barriers exist that prevent them from achieving this goal. As physical therapists, we have an opportunity to capitalize on newly emerging exercise programmes designed to enhance fitness and well-being in stroke survivors by extending participation to include spouses and other caregivers as well. Engaging caregivers in exercise, education, and counselling confers benefits both on individ-

uals with stroke and on their partners by reducing stress and enhancing health.

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