The Effect of Back Pain on Health Care Utilization and Costs: A Population-Based Matched Cohort Study on the Health System Burden of Back Pain

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Abstract

Introduction: We assessed the effect of self-reported back pain on health care utilization and costs in a population-based sample of Ontario adults.

Methods: We conducted a population-based matched cohort study of Ontarian respondents aged ≥ 18 years of Canadian Community Health Survey (CCHS) from 2003-2012. CCHS data were individually linked to health administrative data to measure health care utilization and costs up to 2018. We propensity-score matched (hard-matched on sex) adults with self-reported back pain to those without back pain, accounting for sociodemographic, health-related, and behavioural factors. We evaluated back pain-specific and all-cause health care utilization and costs from healthcare payer perspective adjusted to 2018 Canadian dollars. Poisson and linear (log-transformed) models were used to assess healthcare utilization rates and costs.

Results: After propensity-score matching, we identified 36,806 pairs (21,054 for women, 15,752 for men) of CCHS respondents with and without back pain (mean age 51 years; SD=18). Compared to propensity-score matched adults without back pain, adults with back pain had two times the rate of back pain-specific visits (women: rate ratio [RR] 2.06, 95% CI 1.88-2.25; men: RR 2.32, 95% CI 2.04-2.64), 1.1 times the rate of all-cause physician visits (women: RR 1.12, 95% CI 1.09-1.16; men: RR 1.10, 95% CI 1.05-1.14), and 1.2 times the costs (women: 1.21, 95% CI 1.16-1.27; men: 1.16, 95% CI 1.09-1.23). Incremental annual per-person costs were higher in adults with back pain versus those without (women: \$395, 95% CI \$281-\$509; men: \$196, 95% CI \$94-\$300), corresponding to \$532 million for women and \$227 million CAD for men annually in Ontario.

Conclusions: Adults with back pain had considerably higher health care utilization and costs compared to adults without back pain. These findings provide the most recent, comprehensive, and high-quality estimates of the health system burden of back pain to inform healthcare policy and decision-making. New strategies to reduce the substantial burden of back pain are warranted.