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Investigating the Primary Care Management of Low Back Pain: A Simulated Patient Study

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Abstract: A limitation of existing studies of primary care for low back pain (LBP) is that they are not based on direct observation of the clinical encounter and so may underestimate or overestimate the extent of evidence-practice gaps. This was a cross-sectional observational study that observed the management recommendations for LBP provided in primary care using a simulated patient approach. Trained actors requested an over-the-counter medicine or asked for management advice for 1 of 2 simulated patient scenarios: nonspecific LBP (NSLBP) or vertebral compression fracture. Visits were audiorecorded to allow data capture, validation, and review. We evaluated concordance with key recommendations provided in evidence-based LBP guidelines on pain medicines, patient self-care advice, and referral. Visits were conducted across 534 pharmacies comprising 336 nonspecific scenarios and 198 fracture scenarios. Recommendations for pain medicines, but not patient self-care advice and referral, were typically consistent with guidelines. For the NSLBP scenario, the concerns were infrequent provision of reassurance of favorable outcome (8%), advice to stay active (5%), advice to avoid bed rest (0%), advice to use superficial heat (24%), and excessive endorsement of referral (57.4%) and imaging (22.7%). For the fracture scenario, the concerns were a low rate of prompt medical referrals (50.0%) and low endorsement of rest (1.0%).

***Perspective:** We observed primary care that aligned closely with some aspects, but was at odds with other aspects, of evidence-based LBP guidelines. Problems included inadequate self-care advice and failing to appropriately recommend imaging or prompt medical review when indicated. These results can inform implementation strategies to improve primary care management of LBP.*

***Key words:** Primary care, low back pain, evidence-based, guidelines, simulated patient.*

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Clinical practice guidelines uniformly recommend that the management of low back pain (LBP) should begin in primary care.[23] Although primary care includes care provided by a general practitioner (GP), patients with LBP also seek care from other primary care providers, such as chiropractors, physiotherapists, and pharmacists.[35,39,40] One population-based survey[40] showed that, collectively, chiropractors, physiotherapists, and pharmacists see twice as many patients with LBP as do GPs. A survey of pharmacists from the United Kingdom[35] showed that over 50% reported LBP as a condition for which they are commonly asked for advice. In Australia, 10% of people with LBP seeking health care present to a pharmacist.[40] In addition, many people

self-manage their LBP using over-the-counter (OTC) medicines[1,29] from a community pharmacy.

International guidelines for the management of nonspecific LBP (NSLBP)[4,31,36] recommend appropriate triage to exclude a serious medical condition, then advice about the nature of NSLBP, reassurance of a favorable prognosis, the need to remain active and avoid prolonged periods of bed rest,[12] and the use of a simple analgesic as first-line care. Acetaminophen or nonsteroidal anti-inflammatory drugs (NSAIDs) are recommended[4,31,36] over combination analgesic medicines containing an opioid analgesic.[4,31,36] Referral for imaging is recommended when a thorough patient history and physical examination indicate that there may be a medically serious cause for the LBP.

Much of the research evaluating primary care management of LBP has focused on GPs, with findings from Australia[44] and overseas[7,19,20,33] revealing substantial evidence-practice gaps, such as overuse of imaging and opioids and failure to provide advice to the patient. However, a limitation of this research is that much of the evidence is indirect, either based on clinicians reporting how they would manage a patient described in a clinical vignette or based on clinical records or administrative datasets.[2,33,41,44] Both approaches may underestimate or overestimate the extent of evidence-practice gaps. There are no studies in which aspects of routine clinical care of LBP have been quantified by direct observation of the clinical encounter by an independent assessor and compared with guideline-endorsed recommendations.

The primary aim of this study was to investigate the primary care management of LBP measured by direct observation of the clinical encounter and to compare current practice with evidence-based LBP management guidelines. By primary care, we refer to health care that is provided outside the hospital (tertiary) setting. This may include care provided by a GP, community pharmacist, or any other health care provider who can serve as the first point of contact for patients. We collected data in community pharmacies because the simulated patient approach was more feasible there and because there are fewer data on primary care in this setting.

Methods

Human research ethics approval for this study was granted by the Princess Alexandra Hospital Human Research Ethics Committee Reference 2009/090.

Simulated patient studies[6,11,25,34,42] normally entail a trained actor playing the role of a patient with a disease and recording the health care advice offered by a clinician. This was not feasible, particularly for the second patient scenario we wished to use, so we adapted the approach for both scenarios and had the trained actor act as the relative of a person with back pain (Appendix Table 1).

Context

In Australia, the role of the primary care pharmacist expands beyond provider of information about medicines to encompass a broader commitment to providing continuing patient care. The roles of these pharmacists range from screening and risk assessment (eg, assessing cardiovascular risk, blood pressure monitoring) to providing disease state management services (eg, ongoing diabetes management and monitoring), in addition to providing counseling on OTC and prescription medications.

The Quality Care Pharmacy Program (QCPP) is a quality assurance program for community pharmacy that assesses pharmacies' compliance with the Australian Standard AS85000:2011 quality management system for pharmacies every 2 years. In addition, accredited pharmacies are assessed annually against prescribed requirements for the supply of OTC medicines, pharmacy medicines (S2), and pharmacist-only medicines (S3) referred to in element 2 of the Standard. The assessment program trained actors to purchase an OTC medicine for a simulated patient who may or may not be the actor. As a condition of ethical approval, each participating pharmacy was notified in writing that the anticipated audiorecorded simulated patient visit would occur within the ensuing 6 months (the specific time and nature of the request were not specified). As part of the agreement to participate in QCPP accreditation requirements, the research program had previously obtained permission from the pharmacy to record the interaction.

The simulated patient visits were carried out between August and September 2013. Five hundred and thirty-four primary care pharmacies located in urban, rural, and remote locations across 6 states in Australia were selected from a national database.

Selection and Training of Actors

Twenty-one actors with previous experience in the national simulated patient program were selected to carry out the visits. Of these, 16 were allocated to the NSLBP scenario and 5 to the fracture scenario. Each actor received training material pertaining to their scenario before conducting the visits (Appendix Tables 1 and 2).

Simulated Patient Scenarios

We used 2 standardized back pain clinical scenarios adapted from a study by Walker et al[41] (Appendix Table 1). The first simulated patient scenario was an uncomplicated case of acute (<6 weeks) NSLBP in a middle-aged man who was generally active and healthy. The second scenario was a vertebral compression fracture in an elderly woman with a cluster of red flags[14,21,24] (older age, female gender, previous history of bone fracture, taking medications for osteoporosis) that would increase the likelihood of vertebral compression fracture. For both scenarios, there was standardized case information that was mandatory to convey and other information that would be elicited only if the pharmacist or nonpharmacist staff member asked the relevant question.

During the visit, the actor made a verbal request to the first pharmacist or nonpharmacist staff member to approach him or her.