11

Low back pain research – Future directions

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A B S T R A C T

Low back pain is a challenge for clinicians and researchers, due to the large variability in clinical presentation, lack of consensus regarding diagnostic criteria or clinical classification; wide variation in course and prognosis, and limited success in identifying effective treatments. However, increasing research efforts has generated an expanding body of evidence on the epidemiology, prognosis and treatment of back pain. This paper presents four key developments in research and clinical practice, and describes how these can influence the future direction of back pain research: (1) the increasing awareness of the impact of low back pain on population health; (2) new approaches to describing and investigating course and prognosis of back pain; (3) the need to better understand the bio-psycho-social mechanisms or pathways that explain impact and long-term outcomes in order to inform intervention research; and (4) the potential for stratified models of care to improve patient outcomes and efficiency of care for back pain.

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Introduction

Research into the epidemiology and treatment of low back pain has exponentially increased over the past few decades, and at least matches the increase in output in other research fields. Fig. 1 shows the increase in the number of randomised controlled trials in back pain patients (cited in Medline) over the past 30 years, which increased from less than 30 in the period from 1983 to 1987 to more than 650

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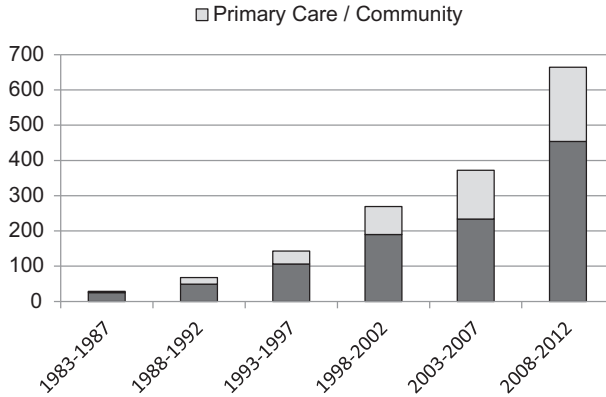[1] Tel.: +44 01782 734703; fax: +44 01782 733911.

Fig. 1. Randomised controlled trials in low back pain (publications cited in Medline); trials in primary care, workplace or community settings are highlighted.

over the past 5 years. The graph also highlights the increasing proportion of trials conducted in primary care, workplace settings and the community, emphasising the rising awareness that low-back pain has wide impact in the community, and is mostly managed within primary and occupational healthcare.

Low back pain is a challenge to both clinicians and researchers, due to the wide variability in clinical presentation; lack of consensus regarding diagnostic criteria or clinical classification; large variation in course and prognosis; and limited success in identifying effective treatments. However, increasing research efforts has generated an expanding body of evidence on the epidemiology, prognosis and treatment of back pain, which has led to new insights and changes in thinking regarding the classification and management of back pain. Four themes emerge from these developments that cut across several topics: (1) the increasing awareness of the impact of low back pain on population health; (2) the realisation that the current classification of low back pain (in terms of acute/subacute or chronic pain) is not adequate, leading to the proposition of new approaches to describing and investigating the course and prognosis of back pain; (3) the need to better understand the mechanisms or pathways that explain impact and long-term outcomes in patients with back pain; and (4) the potential of individualised or stratified models of care to improve patient outcomes and efficiency of care for back pain. In this chapter we will discuss the developments across these four themes, and how these may influence future direction in back pain research.

Increasing awareness of the population impact of low-back pain

The large personal, economic and societal burden of low-back pain has been emphasised in numerous publications, but until recently good quality and up-to-date systematic reviews of the prevalence and impact of low back pain were lacking. The recently published meta-analysis by Hoy et al. [1] summarised evidence from 165 studies in 54 countries, presenting a pooled estimate of the mean (SD) point prevalence of activity-limiting low back pain of 11.9 (2.0)%, and 1-month prevalence 23.2 (2.9)% after adjusting for methodological variation between studies. The authors emphasise the heterogeneity between studies in terms of variation in the definition of back pain, risk of bias (representativeness of the sample and response rates), and study setting. They highlight the fact that the evidence is still very much weighted towards studies conducted in developed countries and adults of working age, with available studies showing a lower prevalence of back pain in developing countries and in older people. The lower prevalence of back pain in low- and middle-income countries could be the result of higher levels of physical activity, higher pain tolerance, or shorter height in these populations [2], but differences in health priorities, limited access to healthcare, or lack of health insurance or disability compensation systems may also lead to a lower reporting of back pain in these populations. Other studies have also reported a decreasing prevalence of back pain in older populations [3],