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Health economic evidence gaps and methodological constraints in low back pain and neck pain: Results of the Research Agenda for Health Economic Evaluation (RAHEE) project

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A B S T R A C T

Despite the increased interest in economic evaluations, there are difficulties in applying the results of such studies in practice. Therefore, the "Research Agenda for Health Economic Evaluation" (RAHEE) project was initiated, which aimed to improve the use of health economic evidence in practice for the 10 highest burden conditions in the European Union (including low back pain [LBP] and neck pain [NP]). This was done by undertaking literature mapping and convening an Expert Panel meeting, during which the literature mapping results were discussed and evidence gaps and methodological constraints were identified. The current paper is a part of the RAHEE project and aimed to identify economic evidence gaps and methodological constraints in the LBP and NP literature, in particular.

The literature mapping revealed that economic evidence was unavailable for various commonly used LBP and NP treatments (e.g., injections, traction, and discography). Even if economic evidence was available, many treatments were only evaluated in a single study or studies for the same intervention were highly

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heterogeneous in terms of their patient population, control condition, follow-up duration, setting, and/or economic perspective. Up until now, this has prevented economic evaluation results from being statistically pooled in the LBP and NP literature, and strong conclusions about the cost-effectiveness of LBP and NP treatments can therefore not be made. The Expert Panel identified the need for further high-quality economic evaluations, especially on surgery versus conservative care and competing treatment options for chronic LBP. Handling of uncertainty and reporting quality were considered the most important methodological challenges.

Introduction

Low back pain (LBP) and neck pain (NP) are widespread health problems and major causes of disability [1–3]. Lifetime prevalence estimates of LBP and NP range from 60% to 70% and 14% to 71%, respectively [1,2]. In the European Union (EU), LBP represents the second highest cause of morbidity measured by disability-adjusted life years and NP the tenth highest cause [3,4]. The economic impact of LBP and NP is considerable. In the United Kingdom, for example, the total annual societal cost of back pain was estimated to be £12.3 billion [5]. In the Netherlands, the total annual societal cost of back pain and NP was estimated to be €3.5 billion and $0.7 billion, respectively [6,7]. In all these estimates, the majority of costs were attributed to productivity losses [5–7].

The high prevalence and economic burden of LBP and NP have spawned the development of a broad range of treatments [8–10]. As resources are scarce, however, healthcare decision-makers increasingly call upon their advisors and researchers to not only demonstrate that such treatments are effective but also efficient in terms of their resource implications. Economic evaluations can provide this information by comparing alternative treatments in terms of both their costs and health effects [11].

In recent years, economic evaluations have become more and more integrated in the planning of many European health systems [12,13]. At the same time, the availability of health economic evidence has increased dramatically, as evidenced by the large number of citations in specialist health economic databases. As early as 2005, for example, the NHS Economic Evaluation Database and Health Economic Evaluation Database counted over 16,000 and 31,750 citations, respectively [14].

Despite the increased interest in economic evaluations and the growing body of health economic evidence, there are difficulties in applying the evidence in practice. Reasons for this include a lack of understanding of economic evaluation methods, a lack of time to find and appraise evidence when decisions are needed quickly, timeliness of published evidence, and a perception among decision-makers that economic evidence may be biased or based on inappropriate assumptions. In addition, relevant economic evidence may simply not be available [13,15].

The “Research Agenda for Health Economic Evaluation” (RAHEE) project was initiated by the World Health Organization in partnership with the European Commission Consumer, Health, Agriculture and Food executive Agency. The aim was to identify gaps in the economic evidence for health interventions, and translational and methodological challenges that, if addressed, could improve the use of health economic evidence in practice [4,16]. The results of the RAHEE project form the basis of a research agenda on health economic evaluations for the EU. The project focused on the 10 conditions with the highest burden of illness in the EU [3], and crosscutting methodological and translational issues. The current paper has arisen as part of the RAHEE project and aimed to identify economic evidence gaps and methodological constraints in the LBP and NP literature.

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