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Review Article

Indirect costs of back pain – Review

Agnieszka Tymecka-Woszczerowicz [a,*], Witold Wrona [a], Piotr M. Kowalski [b], Tomasz Hermanowski [a]

[a] Department of Pharmacoeconomics, Medical University of Warsaw, Poland
[b] Medical Academy, Lithuanian University of Health Sciences, Kaunas, Lithuania

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ABSTRACT

Introduction: Back pain is a major health problem and a leading cause of disability. It generates work absenteeism and great costs for the society.
Aim: The objective of this study is to review the literature on indirect costs of back pain and determine the amount of indirect costs among total costs.
Material and methods: Medline, Embase and Polish Medical Bibliography (PBL) databases were searched to identify studies about indirect costs of back pain published up to April 2013 with no country specific limitation. After screening of 210 titles and abstracts, chosen full-text papers were reviewed. Finally 13 articles met the inclusion criteria. Relevant characteristics were extracted and summarized.
Results and discussion: The data presented in reviewed studies referred to USA, Netherlands, Sweden, Australia, Germany, UK, and Switzerland but no dedicated analysis for Poland was identified. All studies were conducted from societal perspective. Mainly, the Human Capital Approach was used to assess indirect costs. One study was based on Friction Costs Method and four studies compared both methods. Few studies included presenteeism as a result of lost productivity. Indirect costs comprised 27.4%–95% of total costs.
Conclusions: Indirect costs composed a significant part of the total costs of back pain and should be taken into consideration in cost-of-illness analysis. The differences in indirect costs resulted from various methodologies. There is a need to elaborate uniform and generally accepted methodology for indirect costs assessment. As no social burden of back pain was calculated in Poland, there is a need for further research especially on indirect cost.

1. Introduction

Back pain is among the most common health problems in primary care.[1] It is often seen as a trivial problem compared to other diseases that generate a high mortality, like cancer or infectious diseases. However, in terms of morbidity, back disorders are the leading cause in many categories, including activity limitation and work absence.[2] Most patients return to work within one week and 90% return within two

* *Correspondence to*: Żwirki i Wigury 81, 02-091 Warsaw, Poland. Tel.: +48 22 57 20 855.
E-mail address: atymecka@gmail.com (A. Tymecka-Woszczerowicz).

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months, but the longer a person is on sick leave the less likely he or she is to return to work. After six months off work, less than 50% of people will return to work, and after two years' absence, there is little chance of the person returning, which greatly impacts on society.[3] In Poland, up to 72% of individuals with back pain experience reduction in daily activity, with 38% reporting reduced productivity due to back pain. In 38% of cases, pain limited the range of available leisure activities. In 2010, episodes of back pain resulted in almost 2.7 million days of sick leave in Poland which composed 1.1% of all sick leaves in Poland (Social Insurance Institution).

Musculoskeletal disorders including back pain increase with age. Across all European Union member states the workforce is ageing and with it the risk of increasing musculoskeletal disorders prevalence over the next 30 or 40 years.[4] There are 13.5% of people over 65 years old in Poland (over 5 million). According to GUS (Central Statistical Office) prognosis, this amount will be doubled by 2030. Over 30% of women and 8% of men, over 50 years old suffer from skeletal diseases.[5] The implication is that with the risk of acquiring back pain increasing with age, as the profile of the workforce ages, then the impact of back pain on work disability will intensify.

Back pain affects both genders at most ages. Most of the people (85%) have back pain at some time in their life. The annual prevalence of back pain ranges from 15% to 45%, with an average point prevalence of 30%. Its prevalence varies according to the definition used and the population studied. Back pain can be defined as ''pain in any segment of the spine, including the cervical spine.'' Usually patients are asked whether pain or discomfort was/is present in the back (often illustrated on a diagram) in a given period of time.[6] Acute back pain lasts less than six weeks, subacute between six weeks and three months and chronic more than three months.[7] Back pain can be classified as ''specific'' (suspected pathological cause) or ''non-specific''. The origin of back pain remains unclear in more than 80% of patients.[8]

The most common method to estimate the burden of a specific disease on a society is a cost-of-illness (COI) study. COI studies aim to identify and measure all the costs of a disease: direct, indirect and intangible costs. They describe the savings that could be done if the disease was to be eradicated and can be useful for policy makers in planning and financing.[9,10] Many studies focus only on direct costs of an illness and payers perspective, like e.g. costs of hospital services, physician services, medical devices, rehabilitation, drugs, and diagnostic tests. Indirect costs represent the other portion of estimated costs as a result of broader perspective – social perspective. These include mortality costs, morbidity costs due to absenteeism and presenteeism, and informal care costs.

For many diseases, indirect costs are substantial and can be significantly greater than the direct medical costs.[11] A literature review on studies considering indirect costs of diseases indicated that on average indirect costs represented 52% of the total disease costs or total costs saved by health care intervention.[12,13] In Poland, indirect costs are assessed to make up about 58% of the total costs of an illness.[14]

2. Aim

The objective of this study is to review the literature on indirect costs of back pain and to determine the amount of indirect costs among total costs, as a part of a very timely debate on role of indirect cost in health-related decision-making process.

3. Material and methods

The Embase, Medline and Polish Medical Bibliography (PBL) databases were searched in April 2013. The keywords ''back pain,'' ''back ache'' and ''indirect costs'' were used. Searches identified 210 potentially relevant titles and abstracts, from which 37 reports were selected for full-text eligibility screening. Search results were screened according to eligibility criteria presented below.

Inclusion criteria:

1. Primary studies.
2. Back pain, low back pain or back and neck pain.
3. Acute, subacute and chronic pain.
4. Indirect costs and total costs in monetary value or percentage of indirect costs.
5. Adults.

Exclusion criteria:

1. Neck pain only.
2. Indirect or direct costs only.
3. Indirect costs expressed as workday lost without monetary values.
4. Secondary studies (e.g. reviews).

The search was limited to studies in English and Polish; 12 articles fulfilled the inclusion/exclusion criteria. Additionally, all references were screened. Finally, 13 relevant articles were included to be reviewed. Following characteristics were extracted: country, disease unit, study perspective, time horizon, population, indirect costs, direct costs, total costs, percentage of indirect costs, method used to assess indirect costs, year of data, components of indirect costs, data source, prospective/retrospective, and representativeness.

4. Results

The eligibility criteria were met in 13 studies (Table 1). Studies were conducted in the Netherlands,[15–18] Sweden,[11,19–21] USA,[22] Germany,[23] UK,[24] Switzerland[25] and Australia.[26] All the studies were held from the societal perspective. Disease unit was mainly defined as low back pain, back pain in general or low back pain with neck pain. Population of reviewed studies ranged from 110 patients to national (Table 2). There were 6 prospective studies that followed over a period of time (from three months to one year) groups of patients with back pain.[11,15,20,21,23,25] The other 7 studies were based on existing data from previous surveys or national or institutional