BACKGROUND PAPER

Low back pain and determinants of sickness absence

ERIK L. WERNER¹ & PIERRE CÔTÉ²

¹Research Unit for General Practice, Unifob Health, Bergen, Norway, and ²Toronto Western Research Institute, Toronto Western Hospital, and Dalla Lana School of Public Health, University of Toronto, Toronto, Canada

Abstract

Background: Low back pain (LBP) is a frequent diagnosis for sickness absence. The process of sick-listing is complex, and the doctor must integrate information from several levels in the decision. Objective: The aim of this paper is to describe the main determinants of sickness absence for LBP. Methods: We conducted a non-systematic search in Medline and personal files to identify determinants of sickness absence, and structured these into four levels of the sick-listing process. These levels are characteristics of 1) the sick-listed worker, 2) the sick-listing doctor, 3) the workplace, and 4) the cultural and economic conditions of the society. Results: Important characteristics of the sick-listed person seem to be poor mental health, including negative beliefs about LBP. Also, comorbidity and lack of coping abilities are found associated to sickness absence. The impact of the doctors' personal beliefs about LBP is not clear. Doctors in general seem to be frustrated by their gatekeeper role and the influence of other healthcare providers on the sick-listing decision. The workplace is an important factor in the sick-listing process, but the impact of physical working conditions is of less importance than social support, job control, and demands. On the society level, the economic awards in sickness absence and the general acceptance of being sick listed seem to be of importance for the individual's decision to claim sick leave.

Conclusion: The sick-listing process for LBP is complex, and the determinants are mostly non-medical. It seems important to adopt a broad perspective of how a worker copes with pain and how these coping strategies interact with cultural, economic, and societal determinants of sickness certification.

Key words: Sickness absence, sick listing, low back pain, determinants

Introduction

Low back pain (LBP) is a frequent diagnosis for sickness absence. In Norway, about 15% of all sickness absence is due to LBP (1). The burden of sickness absence related to LBP has remained stable for years (2). For example, in Norway, the sickness absence rate was unaffected by an improvement in perceptions of back pain that followed the dissemination of national multidisciplinary guidelines (3) and increased knowledge among healthcare providers (4). Furthermore, public health media campaigns providing accurate information about low back pain have produced conflicting results on reducing sickness absence (5).

Evidence-based guidelines advocate that workers with a new episode of back pain continue to work or return to work as early as possible after being sick listed. Resuming the normal activities of daily living is a key intervention that promotes recovery (6).

Although episodes of LBP tend to resolve quickly (6,7), low back pain is a condition that follows a chronic episodic course (8–10). The rate of recurrence of work disability related to back pain varies across populations, from 12% in Quebec, Canada, to 44% in England (10). In the United States, nearly a third of workers experienced multiple episodes of sick leave during the year following their injury (9). According to European guidelines, only 2–7% develop chronic back pain lasting more than 12 weeks (6). However, a recent cohort study from Australia suggests that only 72% of individuals with low back pain report complete recovery 1 year after onset (11).

The process of sick-listing is complex, and the doctor’s decision to provide a sickness certificate is
based on multiple determinants. Many of these may be non-medical. During a clinical encounter, the doctor must integrate information from several levels to make an informed decision about sick-listing. This review aims to describe the main determinants for sickness absence for LBP. The clarification of these determinants seems important for increased awareness of clinicians in their daily decision-making processes and may be helpful in their decision making. Highlighting the complexity of LBP sickness absence may also be of interest to authorities, employers, and other stakeholders.

Methods
Dividing the sick-listing process into four levels—1) sick-listed worker, 2) sick-listing doctor, 3) workplace, and 4) cultural and economic conditions of society—we searched the literature on LBP for characteristics of each of these levels. We conducted a non-systematic search in Medline and personal files to identify relevant literature for each of the four listed levels in the sick-listing process. “Low back pain” was combined with different terms for “sick listing”: “sickness absence”, “sickness certificate”, and “sick leave”. The 312 identified papers in Medline were then assessed as to whether they described determinants for sickness absence from the perspective of any of the four listed levels of the sick-listing process.

Many of the characteristics we found are not specific to LBP. They are, however, included in this review because of their relevance to the topic. In these cases, the findings are linked to the associated LBP literature.

Results
Characteristics of the sick-listed worker
It has previously been reported that 50% of the days lost from work due to LBP are accounted for by 15% of the working population, and that 80% of the healthcare and social costs are related to 10% of workers with disability due to longstanding back pain (12). This is in line with a study of subjective health complaints in general, where 10% of employees were found to represent 82% of sick leave (13). Also, a recent review on sick-listing in general found that 20% of the sick-listed workers are responsible for 80% of all sickness absence (14). These figures beg the question: “What are the characteristics of the 10–20% of injured workers who are responsible for most of the sickness absence observed in the industrialized world?”

Several studies point to the importance of psychological and physical health. A Dutch meta-analysis of 20 prospective studies investigated the association between predictive factors and psychosocial sickness absence. The study concluded that psychological problems such as fatigue and burnout were the main causes of extended sick leave from work. The study also suggested that there was a link between stressful life events and sickness absence, because such life events are potential sources of psychological problems such as anxiety, mental distress, and low sense of coherence (15). In previous research, anxiety and mental distress have been found highly predictive for developing chronic LBP (16). Negative beliefs about back pain, such as the notion that work is harmful and pain inducing, have been found to lead to sickness behaviour due to LBP (17–19).

Comorbidities are associated with long-term sickness absence, and they are common in individuals with chronic LBP (13). In a Norwegian study, only seven of 457 sick-listed patients referred to an outpatient spine clinic did not report any associated health impairment (20). In the USA, 87% of patients with chronic LBP reported at least one comorbid condition (21). It is well documented that patients with chronic back pain have poorer health and are more likely to report comorbidities such as cardiovascular diseases, respiratory conditions, and gynaecological problems (22,23). Interestingly, the same pattern of comorbidity is also found for other subjective health complaints such as irritable bowel (24). While a causal link has not yet been established between most comorbidities and back pain, it is likely that they synergistically worsen each other’s prognosis.

Whether an individual decides to claim sickness compensation may be influenced by how he or she copes with pain. In a Dutch prospective study of 3628 employees, those with an active problem-solving coping strategy had a lower risk for sickness absence than those with an avoidant coping style (25). This finding supports the concept of “yellow flags”, which are clinically identifiable risk factors for disability (Box 1). Yellow flags have been found to be strong predictors of transition from acute to chronic LBP (i.e., >3 months) (26,27).

Box 1. Yellow flags (26).

- A negative attitude that back pain is harmful or potentially severely disabling
- Fear avoidance behaviour and reduced activity levels
- An expectation that passive, rather than active, treatment will be effective
- A tendency to depression, low moral, and social withdrawal
- Social or financial problems
Characteristics of the sick-listing person (the doctor)

Doctors are often accused of being advocates of their patients’ wishes and grant a sickness certificate without sound clinical indications. It has been reported in Norway that, if a patient asks his or her doctor for a sickness certificate, the request will be met in 95% of cases (28). A Swedish study reported that, even in cases where the doctor would not recommend sick-listing, a certificate was issued in 87% (29).

It is important for doctors to meet patients’ expectations with regards to examinations, laboratory tests, imaging, treatments, and even sick-listing (28,30–32). However, the beliefs and attitudes held by healthcare professionals are important, because they are communicated to their patients (33). Patients seem to be more satisfied with the information received if they perceive that the provider is confident about the management of their condition (34). Unfortunately, healthcare professionals are not always willing to adjust their recommendations and treatment strategies according to their knowledge (4). For example, a recent intervention aimed at primary-care doctors that targeted psychosocial factors was not successful in reducing sickness absence due to back pain (35).

Several barriers to good sick-listing practice have been identified in the literature. A recent Swedish study reported two categories of barriers: a) barriers related to the doctors’ skills and practice (lack of communication skills, difficulties in evaluating signs and symptoms, and the doctors’ work capacity); and b) barriers related to the realities of the healthcare system (e.g., other healthcare professionals having initiated sick-listing without any return-to-work plan or long waiting lists or absence of adequate treatment) (36). These factors may frustrate the doctor and hinder the possible intention of good sick-listing practice. Furthermore, many doctors feel uncomfortable with being the gatekeeper for sickness certification, because they feel it may threaten the patient–doctor relationship (37,38). Doctors also experience conflicting demands from other stakeholders and feel blamed for failing to make impossible reconciliations (39).

The influence of the beliefs about back pain held by the sick-listing doctor is conflicting. A study from 2002 concluded that healthcare providers who held a high level of fear avoidance beliefs were twice as likely to believe that sick leave is a good form of treatment, compared to those with a low level of such beliefs (40). However, this finding was not supported by a recent study that demonstrated that sickness absence certification for back pain follows the individual doctor’s sickness certification behaviour in general, and was not associated with pain attitudes and beliefs (38).

Is it possible to change a doctor’s sick-listing pattern? Several studies targeting doctors with updated knowledge about back pain and various treatment interventions have been unsuccessful in reducing sickness absence (4,35). Further studies on determinants of the doctor’s sick-listing behaviour seem to be needed.

Characteristics of the workplace

Several authors point to the workplace as the most important determinant for sickness absence. This view is supported by our recent experience in Norway. Between 2002 and 2005, a population-based media campaign to improve the beliefs about LBP was conducted in two counties. The campaign did not result in a reduction of sickness absence or other sickness behaviour compared to a control county (41).

In addition to the intervention aimed at the general public, a workplace initiative was implemented in six cooperating workplaces with 3500 employees. The initiative included the engagement of a peer adviser at each workplace who was trained to recognize common LBP. The workers who had an episode of acute back pain were encouraged to consult with the peer adviser before any healthcare provider. The advisor advised them to stay at work, reassured them, and modified their workload during the episode of pain. This approach resulted in a 49% reduction of LBP-related sick leave and a 27% reduction of total sickness absence (41).

Although working conditions with uncomfortable working positions, lifting or carrying loads, pushing and pulling loads (42,43), and particularly the use of vibrating tools (44) have all been found associated to sickness absence, many years of ergonomic adaptations have not reduced the incidence of sickness absence (45,46). In general, caution is needed in relating LBP to occupational settings, because of the high prevalence and recurrence rates of LBP in the general population (47). Recent studies have shown an association between physical workload and self-reported back pain, but have questioned the relation to sickness absence (43,48). In a systematic review of 11 studies on implementing working techniques and lifting equipment in jobs involving heavy lifting, no association between ergonomic interventions and sickness absence was found (46).

In general, the most important workplace factors for sickness absence among workers have been found to be a lack of social support at work, low job control, and high job demands (43,48). There is no reason to believe this is different for back pain patients. These factors, however, are not only purely
Objective criteria, as the level and impact of support, control, and demands will be perceived differently by employees.

**Characteristics of the cultural and economic conditions of the society**

There are great variations between countries regarding cultural and economic conditions for sick employees (2,49). In particular, the generosity of the compensation awards has been found to be associated with sickness absence (50,51). Studies on the association between unemployment rate and sickness absence seem to show conflicting results (2,50-52). This indicates, however, that several factors other than health issues influence work capacity.

Not only economic awards, but also the general acceptance of being sick-listed at the workplace as well as other societal forces seem to influence an individual's threshold for claiming sickness compensation (53). Some people seem to regard sickness certification as a safety net for all conditions that may reduce their perceived capacity regardless of whether this applies to health or not, while others hold a particular high sickness presenteeism (54). Such differences seem to be strongly linked to differences in sickness absence practice in the working community (53).

In several societies, people view compensation for sick leave as a right gained through legislation. However, this right may lead to detrimental health effects. In a review, Waddell and Burton asked the following question: “Is work good for your health and well-being?” (55). They concluded that:

- Employment is an important means for economic resources, and in all countries the compensation benefits will at some point be of lesser value than the normal income.
- Work meets important psychosocial needs, and the importance of having an environment outside the home should be acknowledged.
- Work is central to individual identity, and social roles and status in particular seem strongly linked to employment.
- Physical and mental health seems dependent on employment status.

All guidelines on LBP are remarkably consistent in their endorsement of staying active and continuing to work through an episode of acute back pain (56), because normal activity is believed to enhance recovery. From a clinical point of view, the benefits of remaining at work should therefore be emphasized during the patient–doctor encounter. The notion of resting when the back hurts is no longer prevalent in the general public (3). However, neither the Norwegian nor the Scottish media campaigns succeeded in changing sickness behaviour in terms of reduced sickness absence following an improvement in beliefs (5,57). The authors of the Scotland study commented that the general public did not seem to correlate the benefit of staying active with being at work. Moreover, the assumption that improved beliefs automatically lead to improvements in work-related beliefs and behaviour was fundamentally wrong (57). They suggested that interventions should address work-related issues directly, including the individual benefits of continuing to work. It is, however, a paradox that people may be satisfied with not being denied leisure activities even if the back hurts, and yet regard being off work as a gained right.

**Discussion**

At the individual level, beliefs about LBP, comorbidities, and coping abilities seem to be the most important determinants for claiming sick leave for LBP. The doctor will usually follow the patient's demands, and the literature on impacting determinants for doctors' decisions is limited. At the workplace level, the employee's perceived support and control seem to be of importance, and interventions aimed at reducing fear and promoting activity through modified work at the workplace seem to reduce sickness absence. International differences in economic compensation for sick leave appear to be associated with differences in rates of sickness absence. However, cultural or legislated differences between communities on the threshold for being sick-listed may also impact on this phenomenon.

The determinants of sickness absence seem to be as multifactorial as the aetiology of low back pain itself. If LBP is a self-limiting disorder that improves faster through maintenance of daily activities, including work (6), then it is illogical to keep most patients with back pain sick-listed. Why has this simple message never been implemented in clinical practice? Two recent media campaigns highlighting the benefits of staying active through an episode of LBP did not change sickness behaviour despite improved beliefs in the general public (5,56). It seems that general knowledge about a condition no longer applies when one's own back is hurting.

The psychology and social science literature has shown that improved knowledge is not sufficient to induce behavioural change (58). Social cognitive theory (59) contends that, in order for behaviours to change in light of new knowledge, people must believe that the positive outcomes outweigh the negative outcomes, and that they feel able to perform
the recommended behaviour. For too many people, it may seem counterintuitive to be active when the back hurts. Additionally, the right to sick leave validates the fact that one is entitled to be off work due to health limitations.

The relationship between the advice to stay active and actually staying at work may not be easily understandable to most people (56). In a clinical setting, patients may argue that they should stay off work until they have completely recovered, because they may feel uncomfortable about having a reduced work capacity.

The remarkable effect of peer support in the occupational setting in the Norwegian Active Back campaign (41) calls for further studies on how the message of staying active may be translated and implemented in the workplace without being suspected only as a means of saving costs. It follows that highlighting the benefits of work, as emphasized by Waddell and Burton, seems essential (55).

In addition to the importance for clinicians to understand the multiple determinants of sick-listing, it is essential to adequately manage a patient’s beliefs and attitudes towards his/her back pain.

Conclusion

The sick-listing process for LBP is complex, and the determinants are mostly non-medical. We believe that it is important for clinicians and other stakeholders to increase their awareness of this phenomenon, because it may improve the outcome of patients with back pain. For the doctor, it is important to adopt a broad perspective on how a worker copes with pain and how these coping strategies interact with the cultural, economic, and societal determinants of sickness certification. All guidelines on the management of LBP focus on staying active as general advice for avoidance of chronic back pain. This includes continuing to work. If sick-listing the LBP patient is necessary, it should be emphasized at the patient-doctor encounter that this is not in contradiction to staying active, and the length and purpose of the sick leave should be discussed.

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

References


