

CONCISE REPORTS

Psychosocial risks for low back pain: are these related to work?

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Abstract

Objectives—To examine whether psychosocial risks for low back pain, reported in previous studies, are specific to the working population or are more widely relevant.

Methods—A large population-based survey identified subjects free of low back pain, and obtained information on the degree of satisfaction with work (or not working) and the adequacy of income for their family's needs. New episodes of consulting and non-consulting low back pain were identified prospectively over 12 months. The psychosocial risks for developing a new low back pain episode are examined in employed and non-employed groups separately.

Results—Dissatisfaction with work status doubled the risk of reporting a new low back pain episode in both the employed (odds ratio 2.0, 95% confidence intervals 1.2, 3.3) and non-employed (OR 2.0, 1.2, 3.1). Those perceiving their income as inadequate were at a threefold risk of consulting for this symptom regardless of their employment status (employed: OR 3.6, 1.8, 7.2; non-employed: OR 3.6, 1.4, 9.0).

Conclusion—Psychosocial factors pose similar risks for a new low back pain episode in workers and the non-employed. This suggests that such influences may not be related solely to work but be a function of general aspects of life. The economic and individual impact of psychosocial interventions in the workplace, therefore, are likely to be limited unless account is taken of the influence of broader non-work related aspects.

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study, we have shown that psychosocial factors are more strongly associated with a new episode of low back pain in workers than mechanical stress at work, independent of psychological distress and social class.^{5 6}

The aim of this report is to examine if such psychosocial hazards for a new back pain episode are specific to those in work or are more widely relevant.

Methods

An initial postal survey of all adults (aged 18–75 years) registered with two general practices in south Manchester identified a cohort free of low back pain during the previous month. Information was obtained on past history of low back pain and current employment status. Two specific questions asked: Is the money coming in adequate for you and your family's needs? How satisfied are you with your present job? (or non-employed status?). These questions have previously been included in a primary care-based study of social problems.⁷ Social class was derived from the last or current occupation, and a measure of psychological distress from the 12-item General Health Questionnaire.⁸

This back pain free cohort was followed up over 12 months and two approaches used to capture all new episodes of low back pain. Firstly, the practice computers were monitored weekly to identify all those who consulted because of low back pain. Secondly, 12 months after the initial survey a further questionnaire was sent to those not consulting asking if they had experienced pain in the lower back during the past year.

The results, adjusted for sex and age (divided into four groups), are shown as odds ratios (OR) separately for the employed and non-employed. The control group for this analysis were those free of back pain throughout the follow up year. The results were also examined for potential confounders, namely past history of low back pain, GHQ score (in tertials), and social class.

Results

The baseline survey identified 2715 adults free of low back pain, of whom 1412 were employed full or part-time (47% male, mean (SD) age 38 (13) years), and 1303 non-employed (42% male, mean (SD) age 53 (19) years). Follow up

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Most people will experience pain in the lower back during their lifetime.¹ However, the increase in sickness absenteeism and disability payments attributed to low back pain in working people has been hard to explain, especially given the contraction of heavy industry over recent years. One potential explanation is the association between psychosocial factors and low back pain identified in workplace-based studies.^{2–4} In a prospective population-based

Table 1 Psychosocial risk for a new episode of low back pain (LBP): comparison of 12 months outcome in the employed and non-employed (adjusted for age group and sex)

Baseline employment status	Employed					Non-employed†				
	No LBP Controls	Non-consulting LBP		Consulting LBP		No LBP Controls	Non-consulting LBP		Consulting LBP	
		Cases	OR (95% CI)*	Cases	OR (95% CI)		Cases	OR (95% CI)	Cases	OR (95% CI)
Satisfaction with status										
Satisfied	356	131	1.0	35	1.0	282	96	1.0	22	1.0
Slightly dissatisfied	133	83	1.7 (1.2, 2.4)	23	1.8 (1.0, 3.1)	102	58	1.6 (1.1, 2.4)	13	1.4 (0.7, 3.0)
Severely dissatisfied	39	28	2.0 (1.2, 3.3)	3	0.8 (0.2, 2.7)	82	60	2.0 (1.2, 3.1)	7	0.9 (0.3, 2.2)
Perceived adequacy of income										
Adequate	293	131	1.0	24	1.0	165	81	1.0	7	1.0
Slightly inadequate	181	81	1.0 (0.7, 1.4)	21	1.5 (0.8, 2.7)	178	67	0.8 (0.5, 1.2)	16	2.3 (0.9, 5.8)
Severely inadequate	57	33	1.3 (0.8, 2.1)	16	3.6 (1.8, 7.2)	149	83	1.1 (0.7, 1.6)	21	3.6 (1.4, 9.0)

*95% Confidence intervals. †All subjects not currently in part-time or full time employed.

data were available for 1668 subjects: 847 in employment (45% male, mean (SD) age 39 (13) years) and 802 non-employed (43% male, mean age 55 (18) years).

The cumulative incidence of new low back pain episodes recalled by the employed and non-employed groups were: consulting 4.4% and 3.6% respectively; non-consulting 32% in both groups.

For both perceived adequacy of income and degree of satisfaction with employment status, and with respect to both consulting and non-consulting new episodes, the non-employed showed similar risks of low back pain to the employed (table 1). Regardless of employment status, perception of income as inadequate is associated with a threefold risk of consulting because of back pain during the follow up year while dissatisfaction with their situation doubled the risk of study subjects reporting a new episode of low back pain.

A previous history of back pain and psychological distress have been shown to be risks for developing a new back pain episode,^{9 10} and lower social class is associated with consulting for back pain.¹¹ Neither stratifying by a past history of back pain, nor adjusting for psychological distress or social class, made a significant difference to these associations. Furthermore, although the employed group were younger, restricting the non-employed to those under retirement age did not change the reported results.

Discussion

Most previous investigations of psychosocial risks associated with low back pain in workers have been workplace-based and, with few exceptions,^{2 3} cross sectional. In this study potential psychosocial risks for low back pain were identified in a back pain free population cohort, clarifying the temporal relation between cause and effect both in workers and non-workers. Previous studies have used similar questions to ascertain information from employees on their degree of satisfaction with work, and have reported similar associations with low back pain. However, few have elicited comparable information by referring specifically to those not in paid employment, such as the retired, unemployed, etc, as does the instrument used here.⁷ The question concerning the perceived adequacy of income was identical for both groups.

In common with other population studies, non-responders to the initial survey were younger and more likely to be male. Their overall consultation rate during the following year was marginally lower (6%) than that of responders (7%). The study design enabled data from the initial survey to be compared for responders and non-responders to the 12 month follow up survey. Non-responders to this were younger, and significantly more likely to smoke and have higher GHQ scores than responders. However, the validity of the results would only be effected if any systematic bias, should it exist, effected the association between the risk factors and low back pain in employed persons differently from that in the non-employed.

The difference between the one year cumulative episode incidence of low back pain reported in the follow up study (32%), and the cumulative consultation rate (approximately 4%) clearly illustrates that most people with a new back pain episode do not consult their general practitioner because of this—only about one in seven choose to do so. This confirms the results of previous studies¹² and suggests that the association between low back pain and primary care consultation is not direct, but mediated by other factors.¹³

It could be argued that workers with lower incomes are more likely to consult their general practitioner to obtain the sickness certification necessary for state benefits. However, similar risks in the non-employed make this explanation unlikely. Perception of income as inadequate might not reflect actual income, but be a more subtle indicator of a propensity to consult, possibly mediated by somatising behaviour.¹⁴ Dissatisfaction with your situation might be more directly related to back symptoms, regardless of employment status. This is in line with Waddell's comment that low back pain in workers is confounded by the high prevalence of this symptom in the general population,⁴ and suggests that the dominance of psychosocial risks of low back pain,^{2 3 5} compared with risks relating to physical activities at work,⁶ might be a function of subjects' dissatisfaction with life in general.

Most reports of back pain in workers refer to the economic impact of the exponential rise in disability payments and absenteeism caused by low back pain.⁴ Our results suggest that, while psychosocial intervention in the workplace

might reduce the economic costs to society of back pain, these effects would be limited if no account is taken of the influence of broader non-work related aspects. Moreover, for the individual, such interventions are unlikely to impact on the overall experience of back pain and consultation behaviour.

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Unusual and memorable

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A 29 year old women presented with painful stiff fingers on her left hand. The pain was associated with intermittent swelling and limitation of motion of her digits. She was otherwise well with no history of psoriasis or other joint problems. On examination there was diffuse bony swelling of the second and third fingers of her left hand with a reduced range of movement. The overlying skin was shiny and erythematous (fig 1). Radiographs of the hands revealed endosteal hyperostosis of the second and third metacarpals (fig 2). Scintigraphy showed an increased accumulation of radionuclide in these areas (fig 3).

Melorrheostosis is a rare bone disorder.¹ It usually presents with joint pain, intermittent swelling, and muscle contractures below the age of 20 years but may occur as late as the fourth or fifth decades. The disease is usually limited to a single limb, in which one or more bones may be affected. The lower limbs are more commonly affected than the upper limbs. Radiographic appearances are highly characteristic. Osseous excrescences extend along the length of the bone and may be associated with endosteal hyperostosis partially or completely obliterating the medullary cavity. Soft tissue calcification and ossification occurs frequently. The cause of melorrheostosis is unknown although investigations have indicated possible associations with neurofibromatosis, tuberous sclerosis, hypophosphataemic rickets, and haemangiomas.²



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