

Asphalt paving workers are exposed to ultrafine particles originating mainly from asphalt paving activities (asphalt fumes) and traffic exhaust. Studies have reported asphalt paving workers have more respiratory symptoms, airflow limitation and signs of airway inflammation than other heavy construction workers, and the mortality from respiratory diseases may be higher.

Objectives High resolution computed tomography (HRCT) is useful in assessing the presence of parenchymal abnormalities in the lung. The aim of this study was to explore the distribution of different HRCT findings in a group of asphalt paving workers previously examined with lung function tests.

Methods All the asphalt pavers previously examined with lung function tests in 2005 ($n = 76$) were invited to do HRCT of their lungs. They were contacted by telephone and then received a formal request in writing. Of the group, 53 workers accepted doing the HRCT and being part of the study.

Thin-section CT images were obtained in the supine position during breath-holding and deep inspiration at 120–140 kV, with 1 or 1.25-mm section thickness at 10-mm intervals.

The images were reviewed separately and in random order by two chest radiologists (with 18 and 12 years of experience, respectively). The observers were blinded to clinical information and histological diagnosis.

Results The distribution of radiographic abnormalities in the CT scans of lungs of asphalt workers was comparable to the distribution in the normal population of the same age.

Results The study group was fairly small. We could not detect radiographic abnormalities of the lung associated with asphalt work.

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83 INTERNATIONAL VARIATION IN MUSCULOSKELETAL SICKNESS ABSENCE: FINDINGS FROM THE CUPID STUDY

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Objectives To quantify the variation in rates of absence for musculoskeletal pain across 47 occupational groups (mostly nurses and office workers) from 18 countries, and to explore personal and group-level risk factors that might explain observed differences.

Methods A standardised questionnaire was used to obtain information about musculoskeletal pain, sickness absence and possible risk factors from 12,416 workers (92 to 1017 per occupational group). In addition, group-level data on socioeconomic variables such as sick pay and unemployment rates were assembled by members of the study team in each country. Associations of sickness absence with risk factors were examined by Poisson regression.

Results Overall, there were more than 30-fold differences between occupational groups in the 12-month prevalence of prolonged musculoskeletal sickness absence, and even among office workers carrying out similar occupational tasks, the variation was more than ten-fold. Individual-level risk factors included older age, lower educational level, tendency to somatise, physical loading at work and prolonged absence for non-musculoskeletal illness. However, these explained little of the variation between occupational groups. After adjustment for individual characteristics, prolonged musculoskeletal absence was more frequent in groups with greater time pressure at work, lower job control,

and more adverse beliefs about the work-relatedness of musculoskeletal disorders.

Conclusions Musculoskeletal sickness absence might be reduced by eliminating excessive time pressures in work, maximising employees' responsibility and control, and providing flexibility of duties for those with disabling symptoms. Care should be taken not to overstate work as a cause of musculoskeletal injury.

84 RISK FACTORS OF ACUTE AND SUBACUTE LOW BACK PAIN IN A COHORT OF FRENCH LOIRE VALLEY REGION'S WORKERS

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Objectives In recent years, emphasis was placed on the determinants of chronic low back pain (LBP) in a tertiary prevention perspective. However, prevention of acute and subacute LBP should remain a goal of primary prevention in the workplace. The objective of this study was to investigate the risk factors for common acute and subacute LBP related to the individual characteristics or occupational exposure factors in a large sample of workers.

Methods This longitudinal study assessed the main biomechanical, psychological and organisational risk factors for LBP, by self-administered questionnaire, between 2002 and 2005, among a sample of 3,710 workers. A total of 2,332 of them were followed-up between 2007 and 2009 for the occupational becoming, health and working conditions. The risk modelling of different durations of LBP was performed using a multinomial logit model with a variable response into four categories: no LBP, short acute LBP (< 8 days during the preceding 12 months), prolonged acute LBP (8 to 30 days during the preceding 12 months) and subacute LBP (> 30 days during the preceding 12 months, but not daily). Individuals reporting chronic LBP were excluded. In addition, analyses were stratified by gender.

Results The prevalence of LBP was 52.4% among men and 51.2% among women and decreased according to the duration of LBP regardless of gender (24.8% of short acute LBP and 11.6% of subacute LBP). The combination of a high perceived physical exertion with frequent bending of the trunk was a risk factor for LBP for both genders. In addition, whole-body vibration and low social support were risk factors in men and high tall in women.

Conclusions The impact of biomechanical factors seems to be more important than organisational and psychosocial factors. Analyses failed to identify risk factors specifically related to the duration of LBP.

85 WHAT EXPECTATIONS OF PERSISTENT OR RECURRENT PROBLEMS ARE HELD AMONG PEOPLE WITH MUSCULOSKELETAL SYMPTOMS AND WHAT INFLUENCES THESE EXPECTATIONS?

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Objectives To: 1) investigate expectations about future problems related to musculoskeletal pain among a cohort of workers; 2) to investigate the association between expectations at baseline

and musculoskeletal pain one year later; and 3) to explore influences on expectations.

Methods A longitudinal cohort postal survey collected data about musculoskeletal pain and expectations at baseline and one year later among a cohort of workers in New Zealand ($n = 443$). The postal survey was the New Zealand arm of the international CUPID (Cultural and Psychosocial Influences on Disability) study. Data were analysed descriptively and through multi-variable logistic regression. A qualitative study used in-depth interviews to explore influences on expectations among a subset of participants ($n = 14$) with musculoskeletal pain who had taken part in the postal surveys.

Results Participants thought their pain could 'possibly,' 'probably' or 'definitely' be a problem in twelve months time for a high proportion of musculoskeletal pain reported in the baseline postal survey (69–88% depending on the anatomical site). Those with poorer expectations were more likely to report musculoskeletal pain at the same anatomical site one year later. Multi-variable logistic regression showed that expectations at baseline were an independent factor associated with the persistence or recurrence of low back pain but not the other sites examined. Qualitative findings suggest that expectations are influenced by a range of factors including healthcare providers, the behaviour of symptoms and people's observations of others.

Conclusions A high proportion of participants thought their musculoskeletal pain would be a problem in the future and indeed for many people it was. Expectations appear to be influenced by a range of factors.

86 PREVALENCE OF MUSCULOSKELETAL DISORDERS AMONG DENTAL PERSONNEL IN KHON KAEN PROVINCE, THAILAND

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Objective This cross sectional study was conducted to determine the prevalence of musculoskeletal disorders (MSDs) among government dental personnels in Khon Kaen Province of Thailand.

Methods There were 282 dental personnels enrolled into this study. Data were collected by interviews with the modified structural questionnaires. Descriptive statistics were used to describe characteristics and inferential statistics were MSDs prevalence and confidence interval (95%CI).

Results The results showed that most participants were female (81.9%), the minimum and maximum age were 20 years and 59 years, respectively (mean = 32.8 ± 9.4 years). Most participants had body mass index at normal level ($18.5 - 22.9 \text{ kg/m}^2$) for 55.3%. Most positions were dental nurses (46.4%), dentists (22.0%) and patient assistants (18.1%), respectively.

For the last 7-day and 1 month period the prevalence of MSDs were 61.7% (95% CI = 0.56 - 0.68) and 93.6% (95% CI = 0.91 - 0.96), respectively. The highest prevalence at severe level of pain were found at areas of shoulder (24.6%), lower back (19.3%), and neck (16.7%), respectively. Frequency of MSDs considering everyday occurrence found on areas of shoulder (13.6%), neck (11.7%), lower back (7.6%), respectively. Among 264 MSDs cases of dental personnels, the report of pain impacted to daily activity was 76.1%. The report of work was related-MSDs was 71.2%. Symptoms was occurred at evening

time after work (41.3%). The intake of painkillers or treatment by Thai traditional medicine program was 64.6%.

Conclusions The results identified neck-shoulder-back pain among dental personnels by showing the severity and the frequency of pain. Therefore there should be the health surveillance program of neck-shoulder-back pain among dental personnels. This findings are useful for the *prospective cohort study* to find out the risk factors for neck-shoulder-back pain among dental personnels.

87 PREVALENCE AND RISK FACTORS OF LOW BACK PAIN AMONG INFORMAL GARMENT WORKERS IN THE NORTHEAST OF THAILAND

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Objectives The cross-sectional analytic study was designed to investigate the prevalence of low back pain (LBP) and risk factors for LBP among informal garment workers.

Methods There were 446 garment workers in the Northeast of Thailand who entered into this study. Data was collected by the face-to-face interview with the structured questionnaires. The LBP prevalence was estimated. The associations between LBP and studied factors were identified by the univariate analysis and multiple logistic regression analysis. Risk factors were indicated by adjusted odds ratio (OR_{adj}) and 95% confident interval (95% CI) at p -value < 0.05 .

Results Among 446 informal garment workers, most workers were female (94.84%), mean of age was 37.64 years (S. D. = 6.85) and work experience was 10.61 years (S. D. = 7.53). Most workers had the repetitive movement (69.28%, 95% CI = 64.98–73.58) and prolonged sitting of work > 8 hours a day (68.16%, 95% CI = 63.82–72.50). The six month-prevalence of LBP was 44.17% (95% CI = 39.54–48.80). The univariate analysis identified factors of gender, prolonged sitting, no change posture each hour and the repetitive task significantly associated with LBP. The multiple logistic regression analysis indicated that the significantly related factors to LBP were prolonged sitting ($OR_{adj} = 2.11$, 95%CI = 1.27–3.50), no change posture each hour ($OR_{adj} = 1.84$, 95%CI = 1.11–3.07), repetitive task ($OR_{adj} = 1.97$, 95% CI = 1.18–3.30). Factor of male gender was correlated with LBP by protection ($OR_{adj} = 0.31$, 95%CI = 0.11–0.89).

Conclusions The prevalence of LBP can identify health impact of Thai informal garment workers. The risk factors of LBP consisted of personal, work characteristics, and work behaviours. Therefore, local health care units or administrative organisations should provide occupational health service and the health surveillance program among informal garment workers. The finding risk factors are very useful to apply for prevention of new cases of LBP.

88 THE RELATIONSHIP BETWEEN OCCUPATIONAL STRESS, MUSCULOSKELETAL DISORDERS AND WORK ABSENCES: A COMPARATIVE STUDY BETWEEN ITALIAN AND BRAZILIAN NURSING PERSONNEL

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