

Selección de artículos realizada por Juan Luis Cabanillas Moruno

Revistas revisadas:

- SCANDINAVIAN JOURNAL OF WORK ENVIRONMENT & HEALTH
- AMERICAN JOURNAL OF INDUSTRIAL MEDICINE
- JOURNAL OF OCCUPATIONAL MEDICINE AND TOXICOLOGY
- OCCUPATIONAL AND ENVIRONMENTAL MEDICINE
- JOURNAL OF OCCUPATIONAL HEALTH PSYCHOLOGY

[Artículos: Scandinavian Journal of Work Environment & Health](#)

Scand J Work Environ Health 2008;34(6):463-470

Long-term follow-up study of mortality and the incidence of cancer in a cohort of workers at a primary aluminum smelter in Sweden

Estudio de seguimiento de mortalidad e incidencia de cáncer en una cohorte de trabajadores en una fundición primaria de aluminio en Suecia.

by Björ O, Damber L, Edström C, Nilsson T

Objectives Previous studies on mortality and the incidence of cancer among workers at primary aluminum smelters have produced conclusive results indicating an elevated risk of bladder cancer. An increased risk of lung cancer has also been reported several times. The objective of this study was to examine mortality and the incidence of cancer at a Swedish aluminum smelter when different neighboring reference populations were used to evaluate any relationships to the length of employment.

Methods A historical cohort—comprised of 2264 male nonoffice workers employed from 1942 on and tracked up to the year 2000—was examined. With the use of three reference populations for mortality and four for cancer incidence, standardized mortality and incidence ratios were calculated, together with hazard ratios derived from Cox regression models.

Results This study showed an excess risk of mortality due to chronic obstructive lung disease, mental disorders, and diseases of the digestive system among the short-term workers. An elevated risk of cancer was found for the lungs, central nervous system, and esophagus. The highest lung cancer risk was observed for the workers employed for ≥ 10 years in the factory when they were compared with the reference group from northern Sweden (standardized incidence ratio 1.99, 95% confidence ratio 1.21-3.07).

Conclusions The results support previous studies that demonstrated an excess risk of lung cancer, but, in contrast to the results of most studies, cancer of the central nervous system was also elevated. This study did not, however, verify an association between this type of exposure and cancer of the urinary organs.

Key terms aluminum smelter; cancer; cancer incidence; Cox regression; follow-up study; incidence; mortality; occupation; primary aluminum smelter; standardized incidence ratio; standardized mortality ratio; Sweden; worker.

Scand J Work Environ Health 2008;34(6):444-450

Exposure to iron and welding fumes and the risk of lung cancer

Exposición a hierro y humos de soldadura y riesgo de cáncer de pulmón

by Siew SS, Kauppinen T, Kyyrönen P, Heikkilä P, Pukkala E

Objectives Exposure to iron fumes and dust and welding fumes is widespread and may increase the risk of lung cancer. The aim of this study was to identify associations between exposure to iron and welding fumes and the incidence of lung cancer among Finnish men.

Methods The cohort of all economically active Finnish men, born in 1906-1945, who participated in the national census in 1970 was followed through the Finnish Cancer Registry for lung cancer cases (N=30 137) during 1971-1995. Their census occupations in 1970 were converted to estimates of cumulative exposure to iron and welding fumes with the Finnish job-exposure matrix on the basis of likelihood, average level, and estimated duration of exposure. Relative risk estimates for categorized cumulative exposure were defined by a Poisson regression, adjusted for smoking, socioeconomic status, and exposure to asbestos and silica dust.

Results The relative risks for lung cancer increased as the cumulative exposure to iron and welding fumes increased. Relative risks in the highest exposure category was 1.35 [95% confidence interval (95% CI) 1.05-1.73] for iron and 1.15 (95% CI 0.90-1.46) for welding fumes. The respective relative risks estimated for squamous-cell carcinoma of the lungs were 1.94 (95% CI 1.35-2.78) and 1.55 (95% CI 1.08-2.24). There was no excess risk of small-cell carcinoma in any exposure category.

Conclusions Occupational exposure to iron and welding fumes was associated with an increase in lung cancer risk, mainly that of squamous-cell carcinoma. The simultaneous exposure to both of these agents and other potential work-related carcinogens complicates the interpretation of the independent roles of the risk factors.

Refers to the following texts of the Journal: 2007;33(5):379-386 2006;32(1):22-31 1997;23(2):104-113 2005;31(2):97-107

Key terms exposure; iron; job-exposure matrix; lung cancer; occupational epidemiology; register-based study; risk; welding fume

Scand J Work Environ Health 2007;33(5):325-335

Estimating the relative risk of pancreatic cancer associated with exposure agents in job title data in a hierarchical Bayesian meta-analysis

Estimación del riesgo relativo de cáncer pancreático asociado a factores de exposición laborales en un meta-análisis bayesiano jerárquico

by Ojajärvi A, Partanen T, Ahlbom A, Hakulinen T, Kauppinen T, Weiderpass E, Wesseling C



Objectives The study demonstrates the application of a hierarchical Bayesian meta-analysis of epidemiologic studies that show an association between pancreatic cancer risk and job titles, using a job-exposure matrix to estimate risks for occupational exposure agents.

Methods Altogether 261 studies published from 1969 through 1998 on pancreatic cancer and job titles were identified. When proportional studies are excluded, 77 studies were informative for 9 selected occupational agents. These studies included more than 3799 observed pancreatic cancer cases. Hierarchical Bayesian models were used for job titles (lower-level data) and agents (higher-level data), the latter from a Finnish job-exposure matrix. Non-Bayesian random effects models were applied for job titles to check consistency with the Bayesian results.

Results The results suggest that occupational exposures to chlorinated hydrocarbon compounds may increase the risk of pancreatic cancer; the meta-relative risk (MRR) was 2.21 [95% credible interval (CrI) 1.31-3.68]. A suggestive weak excess was found for exposure to insecticides (MRR 1.95, 95% CrI 0.51-7.41).

Conclusions Hierarchical models are applicable in meta-analyses when studies addressing the agent(s) under study are lacking or are very few, but several studies address job titles with potential exposure to these agents. Hierarchical meta-analytic models involving durations and intensities of exposure to occupational agents from a job-exposure matrix should be developed.

Refers to the following texts of the Journal: 1996;22(1):14-26 1995;21(3):179-190

Key terms exposure agent; hierarchical Bayesian meta-analysis; hierarchical method; job title; job-exposure matrix; Markov chain Monte Carlo simulation (MCMC); occupational exposure; pancreatic cancer; pancreatic neoplasms; relative risk; review.

Scand J Work Environ Health 1995;21(6):460-469

Excess lung cancer among workers exposed to lead

Exceso de cáncer de pulmón entre trabajadores expuestos a plomo

by Anttila A, Heikkilä P, Pukkala E, Nykyri E, Kauppinen T, Hernberg S, Hemminki K

Objective Studies on experimental animals suggest that inorganic lead is a carcinogen. The purpose of the study was to examine whether occupational exposure to lead increases the risk of cancer.

Methods The study population comprised 20 700 workers who had been biologically monitored for their blood lead (B-Pb) concentrations during 1973--1983. The mortality and cancer incidence rates were followed among the monitored workers and compared with those of the Finnish general population. An internal comparison of the cancer incidence rates was also done between subcohorts formed according to individual B-Pb levels. Questionnaire-based information was also collected on lifetime occupational history and potential confounders, and exposure history was assessed on an individual basis with a nested case-referent design for lung cancer.

Results The internal comparison within the cohort showed a 1.4-fold increase in the overall cancer incidence and a 1.8-fold increase in the incidence of lung cancer among those who had ever had a blood lead level of 1.0 $\mu\text{mol}\cdot\text{l}^{-1}$. In the case-referent study, an increased odds ratio for lung cancer was found for concomitant exposure to lead and engine exhaust. The odds ratio for squamous-cell carcinoma of the lung was increased even when the blood lead level had been slightly elevated. Bias or confounding did not explain the risks.

Conclusion The results suggest that exposure to lead increases the risk of lung cancer. Co-exposure to engine exhaust and lead may be associated with the risk.

The following articles refer to this text: 2003;29(6):431-440 2001;27(3):161-213 Key terms case-referent study; cohort analysis; incidence; mortality; neck complaint; occupational exposure; record linkage.

[Artículos: AMERICAN JOURNAL OF INDUSTRIAL MEDICINE](#)

Volume 51 Issue 11 - November 2008

Sentinel surveillance of occupational diseases: A quality improvement project.

Vigilancia centinela de enfermedades laborales: un proyecto de mejora de la calidad.

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Keywords: occupational diseases • registries • occupational health • prevention and control • quality improvement • sentinel surveillance • underreporting

Abstract (Background): Occupational diseases are generally underreported. The aim of this study was to evaluate whether a sentinel surveillance project comprising motivated and guided occupational physicians would provide higher quality information than a national registry for a policy to prevent occupational diseases.

Methods: A group of 45 occupational physicians participated in a sentinel surveillance project for two years. All other occupational physicians (N = 1,729) in the national registry were the reference group. We compared the number of notifications per occupational physician, the proportion of incorrect notifications, and the overall reported incidence of occupational diseases.

Results: The median number of notifications per occupational physician during the project was 13.0 (IQR, 4.5-31.5) in the sentinel group versus 1.0 (IQR, 0.0-5.0) in the reference group ($P < 0.001$). The proportion of incorrect notifications was 3.3% in the sentinel group and 8.9% in the reference group ($P < 0.001$). The overall reported occupational disease incidence was 7 times higher (RR = 6.9, 95% CI: 6.5-7.4) in the sentinel group (466 notifications per 100,000 employee years) than in the reference group (67 notifications per 100,000 employee years).

Conclusions: A sentinel surveillance group comprising motivated and guided occupational physicians reported a substantially higher occupational disease incidence and a lower proportion of incorrect notifications than a national registry. Am. J. Ind. Med. 51:834-842, 2008. © 2008 Wiley-Liss, Inc.

Risk of leukemia and multiple myeloma associated with exposure to benzene and other organic solvents: Evidence from the Italian Multicenter Case-control study

Riesgo de leucemia y mieloma múltiple asociado con la exposición a benceno y otros disolventes orgánicos: evidencias del estudio multicéntrico de casos y control italianos

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CCOO Confederación sindical de comunistas obreros

CEA Confederación de Empresarios de Andalucía



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Keywords: leukemia • multiple myeloma • benzene • solvents • case-control study

Abstract (Background): While there is a general consensus about the ability of benzene to induce acute myeloid leukemia (AML), its effects on chronic lymphoid leukemia and multiple myeloma (MM) are still under debate. We conducted a population-based case-control study to evaluate the association between exposure to organic solvents and risk of myeloid and lymphoid leukemia and MM.

Methods: Five hundred eighty-six cases of leukemia (and 1,278 population controls), 263 cases of MM (and 1,100 population controls) were collected. Experts assessed exposure at individual level to a range of chemicals.

Results: We found no association between exposure to any solvent and AML. There were elevated point estimates for the associations between medium/high benzene exposure and chronic lymphatic leukemia (OR = 1.8, 95% CI = 0.9-3.9) and MM (OR = 1.9, 95% CI = 0.9-3.9). Risks of chronic lymphatic leukemia were somewhat elevated, albeit with wide confidence intervals, from medium/high exposure to xylene and toluene as well.

Conclusions: We did not confirm the known association between benzene and AML, though this is likely explained by the strict regulation of benzene in Italy nearly three decades prior to study initiation. Our results support the association between benzene, xylene, and toluene and chronic lymphatic leukemia and between benzene and MM with longer latencies than have been observed for AML in other studies. *Am. J. Ind. Med.* 51:803-811, 2008. © 2008 Wiley-Liss, Inc.

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Occupational exposure to crystalline silica: Estimating the number of workers potentially at high risk in Italy

Exposición laboral a sílice cristalina: estimación del número de trabajadores potenciales de alto riesgo en Italia

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Keywords: silica • exposed workers • silicosis • risk • overexposure

Abstract (Background): Occupational exposure to free silica is widespread in several economic sectors and is well known to cause silicosis. This study was designed to establish a database of enterprises and workers in industrial sectors involving silica exposure in Italy and to estimate the number of workers potentially at high risk of exposure.

Methods: The industrial sectors at risk of silica exposure were identified by selecting the industrial sector that employed people who were compensated for silicosis in 2000-2004. The enterprises and the number of workers (blue-collar) potentially at risk of silica exposure were selected from the Italian database of workplaces.

Results: The number of workers potentially at high risk of silica exposure, were 28,712. The most involved sectors were: construction, mining and quarrying, metal working, and manufacturing of non-metallic products. Among regions in Italy, some exposure-disease scenarios were cited in literature, particularly in Sardinia, Liguria, and Tuscany.

Conclusions: Establishing a database of industries related to silica dust exposure and identifying the number of workers potentially at high risk can be useful to reinforce preventive measures and to control exposure. *Am. J. Ind. Med.* 51:941-949, 2008. © 2008 Wiley-Liss, Inc.

Occupational allergy and asthma among salt water fish processing workers

Alergia laboral y asma entre trabajadores de procesamiento de pescados de agua salada

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Keywords: fish processing • occupational allergy • work-related asthma • atopy • smoking • gender

Abstract (Background): Fish processing is a common economic activity in Southern Africa. The aim of this study was to determine the prevalence and host determinants of allergic symptoms, allergic sensitization, bronchial hyper-responsiveness and asthma among workers processing saltwater fish.

Methods: A cross-sectional study was conducted on 594 currently employed workers in two processing plants involved in pilchard canning and fishmeal processing. A modified European Community Respiratory Health Survey (ECRHS) questionnaire was used. Skin prick tests (SPT) used extracts of common airborne allergens, fresh fish (pilchard, anchovy, maasbanker, mackerel, red eye) and fishmeal. Spirometry and methacholine challenge tests (MCTs; tidal breathing method) used ATS guidelines.

Results: Work-related ocular-nasal symptoms (26%) were more common than asthma symptoms (16%). The prevalence of atopy was 36%, while 7% were sensitized to fish species and 26% had NSBH (PC20 \geq 8 mg/ml or 12% increase in FEV1 post-bronchodilator). The prevalence of probable occupational asthma was 1.8% and fish allergic rhino-conjunctivitis 2.6%. Women were more likely to report work-related asthma symptoms (OR = 1.94) and have NSBH (OR = 3.09), while men were more likely to be sensitized to fish (OR = 2.06) and have airway obstruction (OR = 4.17). Atopy (OR = 3.16) and current smoking (OR = 2.37), but not habitual seafood consumption were associated with sensitization to fish.

Conclusions: Based on comparison with previous published studies, the prevalence of occupational asthma to salt water fish is lower than due to shellfish. The gendered distribution of work and exposures in fish processing operations together with atopy and cigarette smoking are important determinants of occupational allergy and asthma. *Am. J. Ind. Med.* 51:899-910, 2008. © 2008 Wiley-Liss, Inc.

[Artículos: Journal of Occupational Medicine and Toxicology](#)

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Effects of short duration stress management training on self-perceived depression, anxiety and stress in male automotive assembly workers: a quasi-experimental study

Entrenamiento en el manejo de los efectos de corta duración del estrés, en depresión, ansiedad y estrés autopercebidos en trabajadores masculinos de cadenas de montaje: un estudio cuasiexperimental



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Abstract: To examine the effects of short duration stress management training (SMT) on self-perceived depression, anxiety and stress in male automotive assembly workers, 118 male automotive workers from Pekan, Pahang (n = 60, mean age = 40.0 years, SD = 6.67) and Kota Bharu, Kelantan (n = 58, mean age = 38.1 years, SD = 5.86) were assigned to experimental and control group, respectively. A SMT program consisting of aerobic exercise, stress management manual, video session, lecture, question and answer session, and pamphlet and poster session were conducted in the experimental group. A validated short-form Malay version of the Depression Anxiety Stress Scales (DASS-21) were self-administered before and after the intervention program in the experimental and control group and their time and group interaction effects were examined using the repeated measure ANOVA test. Results indicated that the mean (SD) scores for DASS-Depression (p = 0.036) and DASS-Anxiety (p = 0.011) were significantly decreased, respectively, after the intervention program in the experimental group as compared to the control group (significant time-group interaction effects). No similar effect was observed for the mean (SD) scores for DASS-Stress (p = 0.104). However, the mean (SD) scores for subscales of DASS-Depression (Dysphoria, p = 0.01), DASS-Anxiety (Subjective Anxiety, p = 0.007, Situational Anxiety, p = 0.048), and DASS-Stress (Nervous Arousal, p = 0.018, Easily Upset, p = 0.047) showed significant time and group interaction effects. These findings suggest that short duration SMT is effective in reducing some aspects of self-perceived depression, anxiety and stress in male automotive workers.

[Artículos: Occupational and Environmental Medicine](#)

A randomised controlled trial on whether a participatory ergonomics intervention could prevent musculoskeletal disorders.

Ensayo controlado aleatorio sobre si una intervención ergonómica participativa podría prevenir trastornos osteomusculares.

Occupational and Environmental Medicine 2008;65:849-856

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Objectives: To examine the efficacy of a participatory ergonomics intervention in preventing musculoskeletal disorders among kitchen workers. Participatory ergonomics is commonly recommended to reduce musculoskeletal disorders, but evidence for its effectiveness is sparse.

Methods: A cluster randomised controlled trial among the 504 workers of 119 kitchens in Finland was conducted during 2002-2005. Kitchens were randomised to an intervention (n = 59) and control (n = 60) group. The duration of the intervention that guided the workers to identify strenuous work tasks and to seek solutions for decreasing physical and mental workload, was 11 to 14 months. In total, 402 ergonomic changes were implemented. The main outcome measures were the occurrence of and trouble caused by musculoskeletal pain in seven anatomical sites, local fatigue after work, and sick leave due to musculoskeletal disorders. Individual level data were collected by a questionnaire at baseline and every 3 months during the intervention and 1-year follow-up period. All response rates exceeded 92%.

Results: No systematic differences in any outcome variable were found between the intervention and control groups during the intervention or during the 1-year follow-up.

Conclusions: The intervention did not reduce perceived physical work load and no evidence was found for the efficacy of the intervention in preventing musculoskeletal disorders among kitchen workers. It may be that a more comprehensive redesign of work organisation and processes is needed, taking more account of workers' physical and mental resources.

Measurement of trends in incidence of work-related skin and respiratory diseases, UK 1996-2005.

Medidas de tendencias en la incidencia de enfermedades cutáneas y respiratorias relacionadas con el trabajo.

Occupational and Environmental Medicine 2008;65:808-814

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Objectives: The ability to measure temporal trends in disease incidence is important, but valid methods are needed. This study investigates UK trends during 1996-2005 in work-related skin and respiratory diseases including non-malignant pleural disease, asthma, mesothelioma and pneumoconiosis and the potential for bias when using surveillance systems for this purpose.

Methods: The volunteer reporters in three surveillance schemes were specialist physicians for skin diseases, specialist physicians for respiratory diseases and

occupational physicians, respectively, who provided monthly reports of new cases of disease which they considered work related. Poisson regression models were used to investigate variation by calendar year (trend), season and reporter characteristics. Separately, temporal patterns in the probabilities of non-response and zero reports were investigated. Annual changes in disease incidences were compared between reporter groups.

Results: There was little evidence of change in incidences of non-malignant pleural disease, mesothelioma, skin neoplasia and urticaria, but falls were seen for contact dermatitis and pneumoconiosis. Although the directions of change were similar across reporter groups, the magnitude of annual change in incidence was often inconsistent: for occupational asthma, it was -1.9% (95% CI -5.2 to 1.4) and -12.1% (95% CI -19.5 to -4.1) using respiratory and occupational physician reports, respectively. Response rates were high (~85%), but non-response increased slightly with membership time, as did the probability of a zero return in some groups. Adjustment of results for presumed reporting fatigue led to an upward correction in some calendar trends.

Conclusions: As some estimated changes in incidence based on volunteer reporting may be biased by reporting fatigue, apparent downward trends need to be interpreted cautiously. Differences in the population bases of the surveillance schemes and UK health service capacity constraints may also explain the differences in trends found here

[Artículos: Journal of Occupational Health Psychology](#)

2008 Volume 13, Issue 4 (Oct)

Work strain, health, and absenteeism: A meta-analysis

Un meta-análisis sobre tensión en el trabajo, salud y absentismo

By Darr, Wendy; Johns, Gary

Journal of Occupational Health Psychology. Vol 13(4), Oct 2008, 293-318.

Abstract: Work strain has been argued to be a significant cause of absenteeism in the popular and academic press. However, definitive evidence for associations between absenteeism and strain is currently lacking. A theory focused meta-analysis of 275 effects from 153 studies revealed positive but small associations between absenteeism and work strain, psychological illness, and physical illness. Structural equation modeling results suggested that the strain-absence connection may be mediated by psychological and physical symptoms. Little support was received for the purported volitional distinction between absence frequency and time lost absence measures on the basis of illness. Among the moderators examined, common measurement, midterm and stable sources of variance, and publication year received support. (PsycINFO Database Record (c) 2008 APA, all rights reserved)