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Bodin J, Garlantezec R, Costet N, Descatha A, Viel JF, and Roquelaure Y. Risk factors for shoulder pain in a cohort of French workers: a structural equation model. American Journal of Epidemiology. 2018; 187(2):206-213.
http://dx.doi.org/10.1093/aje/kwx218

Abstract: Shoulder pain is common in the working population and causes loss of productivity, high economic costs, and long absences. Simultaneous evaluation of the complex relationships between work organization (e.g., work pace, application of quality standards), psychosocial and physical risk factors, stress, and shoulder pain is rare. The aim of this study was to explore the direct and indirect relationships between workplace risk factors, perceived stress, and occurrence of shoulder pain in workers of the Cohorte des Salaries Ligeriens study. A total of 3,710 workers in a French region were randomly selected for inclusion between 2002 and 2005. They completed a self-administered questionnaire about musculoskeletal symptoms, individual factors, and exposure to work constraints. In 2007, they responded to a follow-up questionnaire. The study sample comprised 1,400 workers free of shoulder pain at baseline. Structural equation models were used. For both sexes, exposure to factors related to work organization had an effect on physical and psychosocial risk factors. Psychological demand was the only psychosocial constraint that increased perceived stress. Shoulder pain was influenced directly by physical risk factors for both sexes and by perceived stress for men. In view of their distal action, work organization is an important target for strategies to prevent shoulder pain in the working population

Betansedi CO, Vaca VP, and Counil E. A comprehensive approach of the gender bias in occupational cancer epidemiology: a systematic review of lung cancer studies (2003-2014). American Journal of Industrial Medicine. 2018; 61(5):372-382.
http://dx.doi.org/10.1002/ajim.22823

Abstract: BACKGROUND: In occupational epidemiology, a male-centered perspective often predominates. We aimed to describe current research practices in terms of gender consideration at different stages of epidemiological studies. METHODS: A systematic review of occupational lung cancer publications indexed in PubMed was conducted over the period 2003-2014. Articles were described according to the sex composition of their study sample. RESULTS: In 243 studies, 7 (3%) were women-only, 101 (41%) were mixed, with a disproportionate men-to-women ratio (P50 = 3.5; P75 = 12.4). A shift was observed from mixed and unspecified source populations to men-only final samples. Our results also suggest implicit generalization of results from men-only studies, a lack of tests of interaction and often unjustified sex-adjustment for mixed studies. CONCLUSIONS: The lower proportion of women in studies cannot be fully explained by their under-representation in the target populations, since there were large numbers of women among both potentially exposed workers and patients diagnosed with lung cancer

de Boer AGEM, Geuskens GA, Bultmann U, Boot CRL, Wind H, Koppes LLJ, and Frings-Dresen MHW. Employment status transitions in employees with and without chronic disease in the Netherlands. International Journal of Public Health. 2018; [epub ahead of print].
http://dx.doi.org/10.1007/s00038-018-1120-8

Abstract: OBJECTIVES: Objectives were to: (1) longitudinally assess transitions in employment status of employees with and without chronic disease; and (2) assess predictors of exit from paid employment. METHODS: Transitions in employment status at 1- and 2-year follow-up were assessed in a longitudinal cohort study of employees aged 15-63 years. Generalised estimating equations (GEE) and logistic regression analyses were performed to analyse differences in transitions and identify sociodemographic, health- and work-related predictors. RESULTS: At 1- and 2-year follow-up, 10,038 employees (37% with chronic disease) and 7636 employees responded. Employees with chronic disease had higher probability of leaving paid employment [OR 1.4 (1.1-1.6)] and unemployment, disability pension and early retirement. Employees without chronic disease had higher chance of moving into self-employment or study. At 2-year follow-up, employees with cardiovascular disease (15%), chronic mental disease (11%), diabetes (10%) and musculoskeletal disease (10%), had left paid employment most often. Higher age, poor health, burnout, low co-worker support and chronic disease limitations were predictors for leaving paid employment. CONCLUSIONS: Employees with chronic disease leave paid work more often for unfavourable work outcomes

Kerns E, Masterson EA, Themann CL, and Calvert GM. Cardiovascular conditions, hearing difficulty, and occupational noise exposure within US

industries and occupations. American Journal of Industrial Medicine. 2018; 61(6):477-491.
http://dx.doi.org/10.1002/ajim.22833

Abstract: BACKGROUND: The purpose of this study was to estimate the prevalence of occupational noise exposure, hearing difficulty and cardiovascular conditions within US industries and occupations, and to examine any associations of these outcomes with occupational noise exposure. METHODS: National Health Interview Survey data from 2014 were examined. Weighted prevalence and adjusted prevalence ratios of self-reported hearing difficulty, hypertension, elevated cholesterol, and coronary heart disease or stroke were estimated by level of occupational noise exposure, industry, and occupation. RESULTS: Twenty-five percent of current workers had a history of occupational noise exposure (14% exposed in the last year), 12% had hearing difficulty, 24% had hypertension, 28% had elevated cholesterol; 58%, 14%, and 9% of these cases can be attributed to occupational noise exposure, respectively. CONCLUSIONS: Hypertension, elevated cholesterol, and hearing difficulty are more prevalent among noise-exposed workers. Reducing workplace noise levels is critical. Workplace-based health and wellness programs should also be considered

Kim YK, Yoon JH, Lee W, Kim J, Lim SS, and Won JU. Differences in the performance of health officers at the workplace according to their qualifications. Annals of Occupational and Environmental Medicine. 2018; 30:35.
http://dx.doi.org/10.1186/s40557-018-0246-8 **[open access]**

Abstract: Background: Health officers are an integral part of the occupational health service, and there have been studies to identify and improve the role of health officers in the workplace in order to improve the level of health care in the workplace. This study aimed to determine the contribution of health officers to the role of a health officer as prescribed by law and the percentage of health management work performed during work according to their qualifications. Methods: Questionnaires were distributed to a total of 4584 workplaces where health officers were hired, and a total of 806 copies (17.58%) were returned. Of these, 336 questionnaires were finally analyzed, after excluding questionnaires missing the main variables. Using the data, the difference of role contributions and the percentage of health care work performed during the whole day according to the qualification of the health officer was analyzed. Results: Nurses were highly rated in the field of medical care, and industrial hygienists and air environmental engineers were highly rated in terms of chemicals and risk factor management. The percentage of health care work performed during the whole day differed according to the size of the workplace and industrial classification, but it was generally the lowest among air environmental engineers. Conclusions: Health officers play a very different role in the workplace depending on their qualification, and they need support for areas of other qualification. In order to effectively manage the health of the staff at a workplace, it is necessary to consider the development of a support system for small- and medium-sized

enterprises and adjust the conditions of employment of the health officer according to the law

Myhr A, Haugan T, Lillefjell M, and Halvorsen T. Non-completion of secondary education and early disability in Norway: geographic patterns, individual and community risks. BMC Public Health. 2018; 18(1):682. http://dx.doi.org/10.1186/s12889-018-5551-1 [open access]
Abstract: BACKGROUND: School non-completion and early work disability is a great public health challenge in Norway, as in most western countries. This study aims to investigate how medically based disability pension (DP) among young adults varies geographically and how municipal socioeconomic conditions interact with non-completion of secondary education in determining DP risk. METHODS: The study includes a nationally representative sample of 30% of all Norwegians (N = 350,699) aged 21-40 in 2010 from Statistic Norway's population registries. Multilevel models incorporating factors at the individual, neighbourhood and municipal levels were applied to estimate the neighbourhood and municipality general contextual effects in DP receipt, and detect possible differences in the impact of municipal socioeconomic conditions on DP risk between completers and non-completers of secondary education. RESULTS: A pattern of spatial clustering at the neighbourhood (ICC = 0.124) and municipality (ICC = 0.021) levels are clearly evident, indicating that the underlying causes of DP receipt have a systematic neighbourhood and municipality variation in Norway. Non-completion of secondary education is strongly correlated with DP receipt among those younger than 40. Socioeconomic characteristics of the municipality are also significantly correlated with DP risk, but these associations are conditioned by the completion of secondary education. Living in a socioeconomically advantageous municipality (i.e. high income, high education levels and low unemployment and social security payment rates) is associated with a higher risk of DP, but only among those who do not complete their secondary education. Although the proportion of DPs was equal in rural and urban areas, it is evident that young people living in urban settings are more at risk of early DP than their counterparts living in rural parts of the country when controlling for other risk factors. CONCLUSION: The association between school non-completion and DP risk varies between municipalities and local socioeconomic environments. The interplay between personal characteristics and the local community is important in DP risk among young adults, implying that preventive measures should be directed not only at the individual level, but also include the educational system and the local community

Ohajinwa CM, van Bodegom PM, Vijver MG, Olumide AO, Osibanjo O, and Peijnenburg WJGM. Prevalence and injury patterns among electronic waste workers in the informal sector in Nigeria. Injury Prevention. 2018; 24(3):185-192. http://dx.doi.org/10.1136/injuryprev-2016-042265
Abstract: BACKGROUND: Despite the large volume of e-waste recycled informally, the prevalence of work-related injuries among e-waste workers is unknown. Therefore, this study assessed the prevalence, patterns and factors

associated with occupational injuries among e-waste workers in the informal sector in Nigeria. METHODS: This cross-sectional study adopted a multistage sampling method to select 279 respondents from three cities (Ibadan, Lagos and Aba) in Nigeria. A questionnaire was used to obtain information on sociodemographics, work practices and injury occurrences from the respondents in 2015. The data were analysed using descriptive statistics and standard logistic regression. RESULTS: We found high injury prevalence of 38% and 68% in 1-2 weeks and 6 months preceding the study, respectively. The most common injuries were cuts (59%). Injuries were mainly caused by sharp objects (77%). The majority (82%) of the injuries occurred on the hands/fingers. Despite the high occurrence of injury, only 18% of the workers use personal protective equipment (PPE) and 51% of those that use PPE got at least an injury in 1-2 weeks and 88% got at least an injury in 6 months preceding the study. The factors associated with injury in 1-2 weeks were job designation and the geographical location, while the factors associated with injury in 6 months were job designation, geographical location and age. CONCLUSIONS: There is a high prevalence of injury and low use of PPE among the e-waste workers in Nigeria. Occupational injury can be reduced through health education and safety promotion programmes for e-waste workers

Van Oyen H, Bogaert P, Yokota RTC, and Berger N. Measuring disability: a systematic review of the validity and reliability of the Global Activity Limitations Indicator (GALI). Archives of Public Health. 2018; 76:25. http://dx.doi.org/10.1186/s13690-018-0270-8 [open access]

Abstract: Background
GALI or Global Activity Limitation Indicator is a global survey instrument measuring participation restriction. GALI is the measure underlying the European indicator Healthy Life Years (HLY). Gali has a substantial policy use within the EU and its Member States. The objective of current paper is to bring together what is known from published manuscripts on the validity and the reliability of GALI.
Methods: Following the PRISMA guidelines, two search strategies (PUBMED, Google Scholar) were combined to identify manuscripts published in English with publication date 2000 or beyond. Articles were classified as reliability studies, concurrent or predictive validity studies, in national or international populations.
Results: Four cross-sectional studies (of which 2 international) studied how GALI relates to other health measures (concurrent validity). A dose-response effect by GALI severity level on the association with the other health status measures was observed in the national studies. The 2 international studies (SHARE, EHIS) concluded that the odds of reporting participation restriction was higher in subjects with self-reported or observed functional limitations. In SHARE, the size of the Odds Ratio's (ORs) in the different countries was homogeneous, while in EHIS the size of the ORs varied more strongly. For the predictive validity, subjects were followed over time (4 studies of which one international). GALI proved, both in national and international data, to be a consistent predictor of future health outcomes both in terms of mortality and health care expenditure. As predictors of mortality, the two distinct health concepts, self-rated health and

GALI, acted independently and complementary of each other. The one reliability study identified reported a sufficient reliability of GALI.

Conclusion: GALI as inclusive one question instrument fits all conceptual characteristics specified for a global measure on participation restriction. In none of the studies, included in the review, there was evidence of a failing validity. The review shows that GALI has a good and sufficient concurrent and predictive validity, and reliability.

Rashid M, Kristofferzon ML, Heiden M, and Nilsson A. Factors related to work ability and well-being among women on sick leave due to long-term pain in the neck/shoulders and/or back: a cross-sectional study. BMC Public Health. 2018; 18(1):672.
http://dx.doi.org/10.1186/s12889-018-5580-9 **[open access]**

Abstract: BACKGROUND: Musculoskeletal pain is one of the leading causes of sick leave, especially among women, in Western countries. The aim of the present study was to identify factors associated with work ability and well-being, respectively, among women on sick leave due to long-term pain in the neck/shoulders and/or back. METHODS: A cross-sectional study with a correlational design was conducted on women who were sick-listed due to long-term pain in the neck/shoulders and/or back. A total of 208 participants responded to a survey comprising eight instruments: Multidimensional Pain Inventory scale, General Self-Efficacy scale, Sense of Coherence scale, Coping Strategies Questionnaire, Demand-Control-Support Questionnaire, Hospital Anxiety and Depression Scale, Work Ability Index and Life Satisfaction questionnaire. Multiple linear regression analyses were performed to identify factors associated with work ability and well-being, respectively. RESULTS: Women who more strongly believed they would return to the same work had greater work ability (beta = 0.39, p < 0.001), whereas women with higher pain intensity (beta = - 0.30, p < 0.001) and higher job strain (beta = - 0.12, p < 0.05) had lower work ability. Women with higher self-efficacy rated greater well-being (beta = 0.14, p < 0.05). As the women's scores for depression increased, their well-being decreased by 48%, which was statistically significant (p < 0.001). The regression models for work ability and well-being were significant (p < 0.001), and their adjusted R- square values were 48% and 59%, respectively. CONCLUSIONS: The study suggests that the factors beliefs to be back at the same work, pain intensity and job strain are predictive of work ability. Moreover, the factors self-efficacy and depression seem to be predictive of well-being. The findings highlight factors that should be considered by health care professionals and policy-makers to guide attempts to reduce sick leave

Savovic J, Turner RM, Mawdsley D, Jones HE, Beynon R, Higgins JPT, and Sterne JAC. Association Between Risk-of-Bias Assessments and Results of Randomized Trials in Cochrane Reviews: The ROBES Meta-Epidemiologic Study. American Journal of Epidemiology. 2018; 187(5):1113-1122.
http://dx.doi.org/10.1093/aje/kwx344

Abstract: Flaws in the design of randomized trials may bias intervention effect

estimates and increase between-trial heterogeneity. Empirical evidence suggests that these problems are greatest for subjectively assessed outcomes. For the Risk of Bias in Evidence Synthesis (ROBES) Study, we extracted risk-of-bias judgements (for sequence generation, allocation concealment, blinding, and incomplete data) from a large collection of meta-analyses published in the Cochrane Library (issue 4; April 2011). We categorized outcome measures as mortality, other objective outcome, or subjective outcome, and we estimated associations of bias judgements with intervention effect estimates using Bayesian hierarchical models. Among 2,443 randomized trials in 228 meta-analyses, intervention effect estimates were, on average, exaggerated in trials with high or unclear (versus low) risk-of-bias judgements for sequence generation (ratio of odds ratios (ROR) = 0.91, 95% credible interval (CrI): 0.86, 0.98), allocation concealment (ROR = 0.92, 95% CrI: 0.86, 0.98), and blinding (ROR = 0.87, 95% CrI: 0.80, 0.93). In contrast to previous work, we did not observe consistently different bias for subjective outcomes compared with mortality. However, we found an increase in between-trial heterogeneity associated with lack of blinding in meta-analyses with subjective outcomes. Inconsistency in criteria for risk-of-bias judgements applied by individual reviewers is a likely limitation of routinely collected bias assessments. Inadequate randomization and lack of blinding may lead to exaggeration of intervention effect estimates in randomized trials

Schellewald V, Kleinert J, and Ellegast R. Use and physiological responses of portable dynamic office workstations in an occupational setting: a field study. Applied Ergonomics. 2018; 71:57-64.
http://dx.doi.org/S0003-6870(18)30088-7;10.1016/j.apergo.2018.04.002
Abstract: OBJECTIVE: The aim of this study was to investigate the use of two types of dynamic workstations (Deskbike, activeLife Trainer) and their effects on physiological activation in an occupational setting. METHODS: 30 employees were given access to the devices for 28 days. Frequency and duration of borrowing and use was recorded by a Chipcard-system. Physiological activation (energy expenditure, heart rate) while working in a seated position and using the workstations was measured with the activity tracker Fitbit Charge HR. RESULTS: Participants used dynamic workstations on 40% of their working days for an average of 54.3+/-23.9min per day. Energy expenditure and heart rate increased significantly while using the workstations compared to working seated. The Deskbike was used more frequently and resulted in greater heart rate elevation. CONCLUSION: Both types of dynamic workstations were used by the employees and had positive effects on physiological activation. The implementation of either type can be recommended

Seidler A, Luben L, Hegewald J, Bolm-Audorff U, Bergmann A, Liebers F, Ramdohr C, Romero SK, Freiberg A, and Unverzagt S. Dose-response relationship between cumulative physical workload and osteoarthritis of the hip - a meta-analysis applying an external reference population for exposure assignment. BMC Musculoskeletal Disorders. 2018; 19(1):182.
http://dx.doi.org/10.1186/s12891-018-2085-8 [open access]

Abstract: BACKGROUND: There is consistent evidence from observational studies of an association between occupational lifting and carrying of heavy loads and the diagnosis of hip osteoarthritis. However, due to the heterogeneity of exposure estimates considered in single studies, a dose-response relationship between cumulative physical workload and hip osteoarthritis could not be determined so far. METHODS: This study aimed to analyze the dose-response relationship between cumulative physical workload and hip osteoarthritis by replacing the exposure categories of the included studies with cumulative exposure values of an external reference population. Our meta-regression analysis was based on a recently conducted systematic review (Bergmann A, Bolm-Audorff U, Krone D, Seidler A, Liebers F, Haerting J, Freiberg A, Unverzagt S, Dtsch Arztebl Int 114:581-8, 2017). The main analysis of our meta-regression comprised six case-control studies for men and five for women. The population control subjects of a German multicentre case-control study (Seidler A, Bergmann A, Jager M, Ellegast R, Ditchen D, Elsner G, Grifka J, Haerting J, Hofmann F, Linhardt O, Luttmann A, Michaelis M, Petereit-Haack G, Schumann B, Bolm-Audorff U, BMC Musculoskelet Disord 10:48, 2009) served as the reference population. Based on the sex-specific cumulative exposure percentiles of the reference population, we assigned exposure values to each category of the included studies using three different cumulative exposure parameters. To estimate the doubling dose (the amount of physical workload to double the risk of hip osteoarthritis) on the basis of all available case-control-studies, meta-regression analyses were conducted based on the linear association between exposure values of the reference population and the logarithm of reported odds ratios (ORs) from the included studies. RESULTS: In men, the risk to develop hip osteoarthritis was increased by an OR of 1.98 (95% CI 1.20-3.29) per 10,000 tons of weights >/=20 kg handled, 2.08 (95% CI 1.22-3.53) per 10,000 tons handled > 10 times per day and 8.64 (95% CI 1.87-39.91) per 10(6) operations. These estimations result in doubling dosages of 10,100 tons of weights >/=20 kg handled, 9500 tons >/=20 kg handled > 10 times per day and 321,400 operations of weights >/=20 kg. There was no linear association between manual handling of weights at work and risk to develop hip osteoarthritis in women. CONCLUSIONS: Under specific conditions, the application of an external reference population allows for the derivation of a dose-response relationship despite high exposure heterogeneities in the pooled studies

Shiri R, Coggon D, and Falah-Hassani K. Exercise for the Prevention of Low Back Pain: Systematic Review and Meta-Analysis of Controlled Trials. Amican Journal of Epidemiology. 2018; 187(5):1093-1101.
S:\0_Library Catalogue\e-publications\48993.pdf

Abstract: The aim of this systematic review and meta-analysis was to assess the effect of exercise in population-based interventions to prevent low back pain (LBP) and associated disability. Comprehensive literature searches were conducted in multiple databases, including PubMed, Embase, and the Cochrane Library, from their inception through June 2017. Thirteen randomized controlled trials (RCTs) and 3 nonrandomized controlled trials (NRCTs) qualified for the meta-analysis. Exercise alone reduced the risk of LBP by 33% (risk ratio = 0.67,

95% confidence interval: 0.53, 0.85; I2 = 23%, 8 RCTs, n = 1,634), and exercise combined with education reduced it by 27% (risk ratio = 0.73, 95% confidence interval: 0.59, 0.91; I2 = 6%, 6 trials, n = 1,381). The severity of LBP and disability from LBP were also lower in exercise groups than in control groups. Moreover, results were not changed by excluding the NRCTs or adjusting for publication bias. Few trials assessed health-care consultation or sick leave for LBP, and meta-analyses did not show statistically significant protective effects of exercise on those outcomes. Exercise reduces the risk of LBP and associated disability, and a combination of strengthening with either stretching or aerobic exercises performed 2-3 times per week can reasonably be recommended for prevention of LBP in the general population