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June 29, 2018

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Barrech A, Baumert J, Gundel H, and Ladwig KH. The impact of job insecurity on long-term self-rated health: results from the prospective population-based MONICA/KORA study. BMC Public Health. 2018; 18(1):754.

<http://dx.doi.org/10.1186/s12889-018-5621-4> [open access]

Abstract: BACKGROUND: Job insecurity has been associated with impaired self-rated health (SRH) in cross-sectional studies, but prospective findings with short, medium and long-term follow-up yielded mixed findings. Therefore, the aim of the present study was to assess the long-term association between perceived job insecurity and SRH, after controlling for baseline levels of health status and lifestyle choices. Furthermore, three different follow-up periods (14, 19 and 24 years) were considered. METHODS: Data were derived from the prospective population-based MONICA/KORA cohort study (southern Germany). N = 4356 participants (2622 men and 1734 women), aged between 25 and 64 years at baseline, were included in the sample, mean follow-up was after 19.1 years. Job insecurity, SRH and risk factors were assessed at baseline during three independent surveys (1984-1995). SRH was additionally assessed in 2009. The association of job insecurity and impaired SRH at follow-up was estimated using logistic regression analyses. RESULTS: Overall, perceiving job insecurity at baseline was significantly associated with a 20% higher risk of developing impaired SRH at follow-up in the pooled analysis (OR = 1.20, 95% CI = 1.01-1.43, p = .034), even after controlling for baseline SRH, socio-demographic characteristics, lifestyle, clinical and work-related factors. The association was strongest and significant after 14 years (OR = 1.58, 95% CI 1.17-2.13, p = .003) and weaker and not significant to 19 (OR = 1.20, 95% CI 0.89-1.62, p = .24) and 24 years (OR = 0.98, 95% CI 0.73-1.32, p = .89) of follow-up in the fully adjusted

models. **CONCLUSIONS:** We found that perceived job insecurity during working life was independently and significantly associated with impaired SRH both cross-sectionally as well as after 14 years, but not after 19 and 24 years

Buljan I, Malicki M, Wager E, Puljak L, Hren D, Kellie F, West H, Alfirevic Z, and Marusic A. No difference in knowledge obtained from infographic or plain language summary of a Cochrane systematic review: three randomized controlled trials. Journal of Clinical Epidemiology. 2018; 97:86-94.

<http://dx.doi.org/10.1016/j.jclinepi.2017.12.003> [open access]

Abstract: **OBJECTIVES:** The aim of this study was to test the usefulness of an infographic in the translation of knowledge about health information from a Cochrane systematic review to lay and professional populations in comparison to a plain language summary (PLS) and scientific abstract (SA). **STUDY DESIGN AND SETTING:** We conducted three parallel randomized trials with university students (n = 171), consumers (n = 99), and doctors (n = 64), to examine the effect of different summary formats of a Cochrane systematic review on the knowledge about health information presented in the review, reading experience, and perceived user-friendliness. In the trials involving students and doctors, an infographic was compared to a PLS and a SA, while in those with consumers, an infographic was compared to a PLS. **RESULTS:** We found no difference in knowledge between the infographic and the text-based PLS in any of the trials or in the whole participant sample. All three participant groups preferred the infographic and gave it higher ratings for reading experience (d = 0.48 in the overall sample) and user-friendliness (d = 0.46 in the overall sample). **CONCLUSION:** Although the infographic format was perceived as more enjoyable for reading, it was not better than a traditional, text-based PLS in the translation of knowledge about findings from a Cochrane systematic review

Clarke S and Taylor I. Reducing workplace accidents through the use of leadership interventions: a quasi-experimental field study. Accident Analysis & Prevention. 2018; [Epub ahead of print].

<http://dx.doi.org/10.1016/j.aap.2018.05.010>

Abstract: There is increasing evidence to suggest that leaders need to use a combination of leader behaviors to successfully improve safety, including both transformational and transactional styles, but there has been limited testing of this idea. We developed a leadership intervention, based on supervisor training in both transformational and active transactional behaviors, and implemented it with supervisors at a UK-based chemical processing company. The study found that the supervisory training intervention led to significant improvements in perceived employee safety climate, over an eight-week period, relative to the comparison group. Although we found no change in the frequency of leader behaviors, the intervention was effective in helping supervisors to apply active transactional leader behaviors in a safety-critical context. The results indicated that transformational leader behaviors were already at a high level and effectively

linked to safety. Our findings suggest not only that employees may be receptive to safety-related active transactional behaviors within high-risk situations, but furthermore, leaders can be trained to adjust their behaviors to focus more on active transactional behaviors in safety-critical contexts

Cuello-Garcia CA, Morgan RL, Brozek J, Santesso N, Verbeek J, Thayer K, Guyatt G, and Schunemann HJ. A scoping review and survey provides the rationale, perceptions, and preferences for the integration of randomized and nonrandomized studies in evidence syntheses and GRADE assessments. Journal of Clinical Epidemiology. 2018; 98:33-40.

<http://dx.doi.org/10.1016/j.jclinepi.2018.01.010>

Abstract: OBJECTIVES: To review the literature and obtain preferences and perceptions from experts regarding the role of randomized studies (RSs) and nonrandomized studies (NRSs) in systematic reviews of intervention effects. STUDY DESIGN AND SETTING: Scoping review and survey of experts. Using levels of certainty developed by the Grading of Recommendations Assessment, Development and Evaluation (GRADE) working group, experts expressed their preferences about the use of RS and NRS in health syntheses. RESULTS: Of 189 respondents, 123 had the expertise required to answer the questionnaire; 116 provided their extent of agreement with approaches to use NRS with RS. Most respondents would include NRS when RS was unfeasible (83.6%) or unethical (71.5%) and a majority to maximize the body of evidence (66.3%), compare results in NRS and RS (53.5%) and to identify subgroups (51.7%). Sizable minorities would include NRS and RS to address the effect of randomization (29.5%) or because the question being addressed was a public-health intervention (36.5%). In summary of findings tables, most respondents would include both bodies of evidence-in two rows in the same table-when RS provided moderate, low, or very-low certainty evidence; even when RS provided high certainty evidence, a sizable minority (25%) would still present results from both bodies of evidence. Very few (3.6%) would, under realistic circumstances, pool RS and NRS results. CONCLUSIONS: Most experts would include both RS and NRS in the same review under a wide variety of circumstances, but almost all would present results of two bodies of evidence separately

Fassier JB, Sarnin P, Rouat S, Peron J, Kok G, Letrilliart L, and Lamort-Bouche M. Interventions developed with the intervention mapping protocol in work disability prevention: a systematic review of the literature. Journal of Occupational Rehabilitation. 2018; [Epub ahead of print].

<http://dx.doi.org/10.1007/s10926-018-9776-8>

Abstract: Purposes Intervention mapping (IM) is a protocol for developing effective behavior change interventions. It has been used for 10 years to develop work disability prevention (WDP) interventions, but it is not known to what extent and with what success. The main objective of this study was to review the effectiveness of these interventions. Secondary objectives were to review their fidelity to the IM protocol, their theoretical frameworks and their content. Methods

A search strategy was conducted in MEDLINE, Web of Science, PsycINFO, Pascal, Francis, and BDSP. All titles and abstracts were reviewed. A standardized extraction form was developed. All included studies were reviewed by two reviewers blinded to each other. Results Eight WDP interventions were identified aimed at return to work (RTW; n = 6) and self-management at work (n = 2). RTW interventions targeted workers with stress-related mental disorders (n = 1), low back pain (n = 1), musculoskeletal disorders (n = 1), cancer (n = 2) and gynecological surgery (n = 1). The fidelity to the IM protocol was weaker for the participatory planning group. Matrices of change, change methods, and applications were systematically reported. The main theoretical frameworks used were the attitude-social influence-self efficacy model (n = 4) and the theory of planned behavior (n = 2). Half of the interventions included a workplace component (n = 4). Two interventions were reported as effective, and one partially effective. Conclusion The IM protocol is used in WDP since 2007. The participative dimension appears underused. Few theoretical frameworks were used. Implications are to better consider the stakeholders involvement, and mobilize theoretical frameworks with greater attempts to intervene on the work environment

Gates A, Vandermeer B, and Hartling L. Technology-assisted risk of bias assessment in systematic reviews: a prospective cross-sectional evaluation of the RobotReviewer machine learning tool. *Journal of Clinical Epidemiology*. 2018; 96:54-62.

<http://dx.doi.org/10.1016/j.jclinepi.2017.12.015>

Abstract: OBJECTIVES: To evaluate the reliability of RobotReviewer's risk of bias judgments. STUDY DESIGN AND SETTING: In this prospective cross-sectional evaluation, we used RobotReviewer to assess risk of bias among 1,180 trials. We computed reliability with human reviewers using Cohen's kappa coefficient and calculated sensitivity and specificity. We investigated differences in reliability by risk of bias domain, topic, and outcome type using the chi-square test in meta-analysis. RESULTS: Reliability (95% CI) was moderate for random sequence generation (0.48 [0.43, 0.53]), allocation concealment (0.45 [0.40, 0.51]), and blinding of participants and personnel (0.42 [0.36, 0.47]); fair for overall risk of bias (0.34 [0.25, 0.44]); and slight for blinding of outcome assessors (0.10 [0.06, 0.14]), incomplete outcome data (0.14 [0.08, 0.19]), and selective reporting (0.02 [-0.02, 0.05]). Reliability for blinding of participants and personnel ($P < 0.001$), blinding of outcome assessors ($P = 0.005$), selective reporting ($P < 0.001$), and overall risk of bias ($P < 0.001$) differed by topic. Sensitivity and specificity (95% CI) ranged from 0.20 (0.18, 0.23) to 0.76 (0.72, 0.80) and from 0.61 (0.56, 0.65) to 0.95 (0.93, 0.96), respectively. CONCLUSION: Risk of bias appraisal is subjective. Compared with reliability between author groups, RobotReviewer's reliability with human reviewers was similar for most domains and better for allocation concealment, blinding of participants and personnel, and overall risk of bias

Headley S, Hutchinson J, Wooley S, Dempsey K, Phan K, Spicer G, Janssen X, Laguilles J, and Matthews T. Subjective and objective assessment of sedentary behavior among college employees. BMC Public Health. 2018; 18(1):768.

<http://dx.doi.org/10.1186/s12889-018-5630-3> [open access]

Abstract: BACKGROUND: High levels of sedentary behavior are linked to increased mortality. In the United States, individuals spend 55-70% of their waking day being sedentary. Since most individuals spend large portions of their daily lives at work, quantifying the time engaged in sedentary behavior at work is emerging as an important health determinant. Studies profiling academic institutions, where a variety of personnel with diverse job descriptions are employed, are limited. Available studies focus mostly on subjective methods, with few using objective approaches. Therefore, the purpose of the current study was to assess sedentary behavior among all occupational groups of a college in the Northeastern United States utilizing both a subjective and an objective method. METHODS: College employees (n = 367) completed the Occupational Sitting and Physical Activity Questionnaire (OSPAQ). A sub-sample of these employees (n = 127) subsequently wore an activPAL3 accelerometer 24 h per day for seven consecutive days. Outcome variables were time spent sitting, standing, stepping, and total number of steps. To assess fragmentation of sedentary behavior, the average duration of a sitting bout and sitting bouts/sitting hour were calculated. Differences between administrators, faculty, and staff, were analyzed using multivariate and univariate analyses of variance. RESULTS: The OSPAQ results indicated that administrators spent more of their working day sedentary (73.2 +/- 17.7%) than faculty members (58.5 +/- 19.6%, p < 0.05). For the objective phase of the study, complete data were analyzed from 86 participants. During a waking day, administrators (64.0 +/- 8.1%) were more sedentary than faculty (56.0 +/- 7.9%, p < 0.05) and fragmented their sitting less than staff (3.7 +/- 0.7 and 4.5 +/- 7.9 bouts of sitting/sitting hour, respectively; p < 0.05). This pattern was also seen during working hours, with administrators (4.9 +/- 2.1) taking fewer breaks per hour than staff (6.9 +/- 3.0, p < 0.05). CONCLUSIONS: Administrators are the most sedentary members of the campus community. However, overall, the level of sedentary behavior among employees was high. This study highlights the need for sedentary behavior interventions in the college/university environment

Howarth A, Quesada J, Silva J, Judycki S, and Mills PR. The impact of digital health interventions on health-related outcomes in the workplace: a systematic review. Digital Health. 2018; 4:1-18.

<http://dx.doi.org/10.1177/2055207618770861> [open access]

Abstract: Background: The impact of employee health on productivity in the workplace is generally evidenced through absenteeism and presenteeism. Multicomponent worksite health programmes, with significant online elements, have gained in popularity over the last two decades, due in part to their scalability and low cost of implementation. However, little is known about the impact of digital-only interventions on health-related outcomes in employee groups. The

aim of this systematic review was to assess the impact of pure digital health interventions in the workplace on health-related outcomes. Methods: Multiple databases, including MEDLINE, EMBASE, PubMed and PsycINFO, were used to review the literature using PRISMA guidelines. Results: Of 1345 records screened, 22 randomized controlled trial studies were found to be eligible. Although there was a high level of heterogeneity across these studies, significant improvements were found for a broad range of outcomes such as sleep, mental health, sedentary behaviours and physical activity levels. Standardized measures were not always used to quantify intervention impact. All but one study resulted in at least one significantly improved health-related outcome, but attrition rates ranged widely, suggesting sustaining engagement was an issue. Risk of bias assessment was low for one-third of the studies and unclear for the remaining ones. Conclusions: This review found modest evidence that digital-only interventions have a positive impact on health-related outcomes in the workplace. High heterogeneity impacted the ability to confirm what interventions might work best for which health outcomes, although less complex health outcomes appeared to be more likely to be impacted. A focus on engagement along with the use of standardized measures and reporting of active intervention components would be helpful in future evaluations

Karakhan AA, Rajendran S, Gambatese J, and Nnaji C. Measuring and evaluating safety maturity of construction contractors: multicriteria decision-making approach. Journal of Construction Engineering and Management. 2018; 144(7):04018054.

[http://dx.doi.org/10.1061/\(ASCE\)CO.1943-7862.0001503](http://dx.doi.org/10.1061/(ASCE)CO.1943-7862.0001503)

Marquez C, Johnson AM, Jassemi S, Park J, Moore JE, Blaine C, Bourdon G, and et.al. Enhancing the uptake of systematic reviews of effects: what is the best format for health care managers and policy-makers? A mixed-methods study. Implementation Science. 2018; 13(1):84.

<http://dx.doi.org/10.1186/s13012-018-0779-9> [open access]

Abstract: BACKGROUND: Systematic reviews are infrequently used by health care managers (HCMs) and policy-makers (PMs) in decision-making. HCMs and PMs co-developed and tested novel systematic review of effects formats to increase their use. METHODS: A three-phased approach was used to evaluate the determinants to uptake of systematic reviews of effects and the usability of an innovative and a traditional systematic review of effects format. In phase 1, survey and interviews were conducted with HCMs and PMs in four Canadian provinces to determine perceptions of a traditional systematic review format. In phase 2, systematic review format prototypes were created by HCMs and PMs via Conceptboard(c). In phase 3, prototypes underwent usability testing by HCMs and PMs. RESULTS: Two hundred two participants (80 HCMs, 122 PMs) completed the phase 1 survey. Respondents reported that inadequate format (Mdn = 4; IQR = 4; range = 1-7) and content (Mdn = 4; IQR = 3; range = 1-7) influenced their use of systematic reviews. Most respondents (76%; n = 136/180)

reported they would be more likely to use systematic reviews if the format was modified. Findings from 11 interviews (5 HCMs, 6 PMs) revealed that participants preferred systematic reviews of effects that were easy to access and read and provided more information on intervention effectiveness and less information on review methodology. The mean System Usability Scale (SUS) score was 55.7 (standard deviation [SD] 17.2) for the traditional format; a SUS score < 68 is below average usability. In phase 2, 14 HCMs and 20 PMs co-created prototypes, one for HCMs and one for PMs. HCMs preferred a traditional information order (i.e., methods, study flow diagram, forest plots) whereas PMs preferred an alternative order (i.e., background and key messages on one page; methods and limitations on another). In phase 3, the prototypes underwent usability testing with 5 HCMs and 7 PMs, 11 out of 12 participants co-created the prototypes (mean SUS score 86 [SD 9.3]). CONCLUSIONS: HCMs and PMs co-created prototypes for systematic review of effects formats based on their needs. The prototypes will be compared to a traditional format in a randomized trial

Miyamoto GC, Lin CC, Cabral CMN, van Dongen JM, and Van Tulder MW. Cost-effectiveness of exercise therapy in the treatment of non-specific neck pain and low back pain: a systematic review with meta-analysis. British Journal of Sports Medicine. 2018; [Epub ahead of print].

<http://dx.doi.org/10.1136/bjsports-2017-098765>

Abstract: OBJECTIVE: To investigate the cost-effectiveness of exercise therapy in the treatment of patients with non-specific neck pain and low back pain. DESIGN: Systematic review of economic evaluations. DATA SOURCES: The search was performed in 5 clinical and 3 economic electronic databases. ELIGIBILITY CRITERIA FOR SELECTING STUDIES: We included economic evaluations performed alongside randomised controlled trials. Differences in costs and effects were pooled in a meta-analysis, if possible, and incremental cost-utility ratios (ICUR) were descriptively analysed. RESULTS: Twenty-two studies were included. On average, exercise therapy was associated with lower costs and larger effects for quality-adjusted life-year (QALY) in comparison with usual care for subacute and chronic low back pain from a healthcare perspective (based on ICUR). Exercise therapy had similar costs and effect for QALY in comparison with other interventions for neck pain from a societal perspective, and subacute and chronic low back pain from a healthcare perspective. There was limited or inconsistent evidence on the cost-effectiveness of exercise therapy compared with usual care for neck pain and acute low back pain, other interventions for acute low back pain and different types of exercise therapy for neck pain and low back pain. CONCLUSIONS: Exercise therapy seems to be cost-effective compared with usual care for subacute and chronic low back pain. Exercise therapy was not (more) cost-effective compared with other interventions for neck pain and low back pain. The cost-utility estimates are rather uncertain, indicating that more economic evaluations are needed. REGISTRATION: PROSPERO, CRD42017059025

Noyes J, Booth A, Cargo M, Flemming K, Garside R, Hannes K, Harden A, Harris J, Lewin S, Pantoja T, and Thomas J. Cochrane Qualitative and Implementation Methods Group guidance series-paper 1: introduction. Journal of Clinical Epidemiology. 2018; 97:35-38.
<http://dx.doi.org/10.1016/j.jclinepi.2017.09.025>

Petersson EL, Wikberg C, Westman J, Ariai N, Nejati S, and Bjorkelund C. Effects on work ability, job strain and quality of life of monitoring depression using a self-assessment instrument in recurrent general practitioner consultations: a randomized controlled study. Work. 2018; 60(1):63-73.
<http://dx.doi.org/10.3233/WOR-182717> [open access]

Abstract: BACKGROUND: Depression reduces individuals' function and work ability and is associated with both frequent and long-term sickness absence. OBJECTIVE: Investigate if monitoring of depression course using a self-assessment instrument in recurrent general practitioner (GP) consultations leads to improved work ability, decreased job strain, and quality of life among primary care patients. METHODS: Primary care patients n = 183, who worked. In addition to regular treatment (control group), intervention patients received evaluation and monitoring and used the MADRS-S depression scale during GP visit at baseline and at visits 4, 8, and 12 weeks. Work ability, quality of life and job strain were outcome measures. RESULTS: Depression symptoms decreased in all patients. Significantly steeper increase of WAI at 3 months in the intervention group. Social support was perceived high in a significantly higher frequency in intervention group compared to control group. CONCLUSIONS: Monitoring of depression course using a self-assessment instrument in recurrent GP consultations seems to lead to improved self-assessed work ability and increased high social support, but not to reduced job strain or increased quality of life compared to TAU. Future studies concerning rehabilitative efforts that seek to influence work ability probably also should include more active interventions at the workplace

Sheikh MS, Smail-Crevier R, and Wang J. A cross-sectional study of the awareness and implementation of the National Standard of Canada for Psychological Health and Safety in the Workplace in Canadian employers. Canadian Journal of Psychiatry. 2018; [Epub ahead of print].
<http://dx.doi.org/10.1177/0706743718772524>

Abstract: OBJECTIVES: The National Standard of Canada for Psychological Health and Safety in the Workplace (the Standard) was released in 2013. The objectives of this study were to 1) estimate the proportion of Canadian employers who were aware of the Standard, 2) examine the extent to which the Standard has been implemented, and 3) describe perceived barriers to implementing the Standard in Canadian organizations. METHODS: A cross-sectional survey in Canadian employers was conducted between February 2015 and January 2017. A random sample of Canadian employers was selected, and the individuals who

were knowledgeable about the occupational health policies of the organizations were interviewed by telephone. The participants answered questions about the awareness, implementation, perceived effects, and barriers to implementation. Descriptive statistics and chi-square tests were used to characterize the results. RESULTS: A total of 1010 companies participated in the study. Overall, 17.0% reported that they were aware of the Standard; 1.7% and 20.3% reported that their organizations had implemented the entirety or elements of the Standard, respectively; and 71.4% of participants believed that elements of the Standard would be implemented within the next year. The perceived effects associated with implementation of the Standard included increased job satisfaction and employee retention while the greatest barrier to implementing the Standard was the belief that psychological health and safety are irrelevant in the workplace. CONCLUSIONS: Many Canadian employers are still unaware of the Standard's existence; however, most Canadian employers are positively inclined toward the Standard in its potential to help employee productivity and job satisfaction

Sterud T, Tynes T, Mehlum IS, Veiersted KB, Bergbom B, Airila A, Johansson B, Brendler-Lindqvist M, Hviid K, and Flyvholm MA. A systematic review of working conditions and occupational health among immigrants in Europe and Canada. BMC Public Health. 2018; 18(1):770. <http://dx.doi.org/10.1186/s12889-018-5703-3> [open access]

Abstract: BACKGROUND: A systematic attempt to summarize the literature that examines working conditions and occupational health among immigrant in Europe and Canada. METHODS: We established inclusion criteria, searched systematically for articles included in the Medline, Embase and Social Sciences Citation Index databases in the period 2000-2016 and checked the reference lists of all included papers. RESULTS: Eighty-two studies were included in this review; 90% were cross-sectional and 80% were based on self-report. Work injuries were consistently found to be more prevalent among immigrants in studies from different countries and in studies with different designs. The prevalence of perceived discrimination or bullying was found to be consistently higher among immigrant workers than among natives. In general, however, we found that the evidence that immigrant workers are more likely to be exposed to physical or chemical hazards and poor psychosocial working conditions is very limited. A few Scandinavian studies support the idea that occupational factors may partly contribute to the higher risk of sick leave or disability pension observed among immigrants. However, the evidence for working conditions as a potential mediator of the associations between immigrant status and poor general health and mental distress was very limited. CONCLUSION: Some indicators suggest that immigrant workers in Europe and Canada experience poorer working conditions and occupational health than do native workers. However, the ability to draw conclusions is limited by the large gaps in the available data, heterogeneity of immigrant working populations, and the lack of prospectively designed cohort studies

Szekeres M, MacDermid JC, Katchky A, and Grewal R. Physician decision-making in the management of work related upper extremity injuries. *Work*. 2018; 60(1):19-28.

<http://dx.doi.org/10.3233/WOR-182724>

Abstract: BACKGROUND: Physicians working in a tertiary care injured worker clinic are faced with clinical decision-making that must balance the needs of patients and society in managing complex clinical problems that are complicated by the work-workplace context. OBJECTIVE: The purpose of this study is to describe and characterize the decision-making process of upper extremity specialized surgeons when managing injured workers within a specialized worker's compensation clinic. METHOD: Surgeons were interviewed in a semi-structured manner. Following each interview, the surgeon was also observed in a clinic visit during a new patient assessment, allowing observation of the interactional patterns between surgeon and patient, and comparison of the process described in the interview to what actually occurred during clinic visits. RESULTS: The primary central theme emerging from the surgeon interviews and the clinical observation was the focus on the importance of comprehensive assessment to make the first critical decision: an accurate diagnosis. Two subthemes were also found. The first of these involved the decision whether to proceed to management strategies or to continue with further investigation if the correct diagnosis is uncertain. Once the central theme of diagnosis was achieved, a second subtheme was highlighted; selecting appropriate management options, given the complexities of managing the injured worker, the workplace, and the compensation board. CONCLUSIONS: This study illustrates that upper extremity surgeons rely on their training and experience with upper extremity conditions to follow a sequential but iterative decision-making process to provide a more definitive diagnosis and treatment plan for workers with injuries that are often complex. The surgeons are challenged by the context which takes them out of their familiar zone of typical clinical practice to deal with the interactions between the injury, worker, work, workplace and insurer

Wang X, Huang X, Luo Y, Pei J, and Xu M. Improving workplace hazard identification performance using data mining. *Journal of Construction Engineering and Management*. 2018; 144(8):04018068.

[http://dx.doi.org/10.1061/\(ASCE\)CO.1943-7862.0001505](http://dx.doi.org/10.1061/(ASCE)CO.1943-7862.0001505)

Ya'acob NA, Abidin EZ, Rasdi I, Rahman AA, and Ismail S. Reducing work-related musculoskeletal symptoms through implementation of Kiken Yochi training intervention approach. *Work*. 2018; 60(1):143-152.

<http://dx.doi.org/10.3233/WOR-182711>

Abstract: BACKGROUND: Work tasks in pineapple plantations in Malaysia are characterised by non-ergonomic work postures, repetitive tasks, awkward posture and manual handling of work tools that contribute to the reporting of musculoskeletal symptoms (MSS). There have been very limited studies performed among pineapple plantation workers focusing on ergonomic

intervention programs to specifically reduce MSS. **OBJECTIVE:** The aim of this study was to assess the effects of work improvement module using a Kiken Yochi participatory approach intervention in reducing MSS among male migrant pineapple farm plantation workers in Pontian, Johor. **METHODOLOGY:** In this interventional study, a total of 68 male migrant workers from two plantation farms were invited to become a participant in this study. In total, 45 participants that consisted of 27 workers for the intervention group and 18 workers for the control group were recruited. The background of workers and MSS were assessed using questionnaires. Ergonomic and postural risks were evaluated and the work tasks with the highest risk were used as a basis for the development of the Kiken Yochi training module. MSS education and training intervention that provided information on proper lifting techniques and education on body mechanics and ergonomics to reduce MSS were implemented to both groups of workers. Kiken Yochi Training was given to the intervention group only. MSS were reassessed after 2 months of the follow-up period. Data was entered into statistical software and were analysed according to objectives. **RESULTS:** In terms of the postural risk assessment, almost two-third of the participants (68.5%) had working postures categorized as high risk for MSS. Ergonomic risk assessment identified cultivation, manual weeding and harvesting of pineapples as the work tasks contributing the highest health risks to workers. The most commonly reported MSS between both groups of workers were at the knees, lower back and shoulder area. Upon completion of the delivery of intervention module to both groups of workers, the MSS prevalence reported (after 2 months) were significantly lower for the ankles and feet area within the intervention group. **CONCLUSION:** This study suggested that development and implementation of programs using effective participatory approach training methods are able to prevent selected musculoskeletal problems for this occupation. To enhance the effects of such trainings, modifications of work tools in this occupation are desirable