

Joint and Soft Tissue Problems Develop Over A Period of Time

Tanaka P*

Department of Medicine and Health Sciences, Universiti Sultan Zainal Abidin, Malaysia

Abstract

To completely quantify exposure to a risk factor, the following three dimensions are in need, the amplitude of the exposure, the duration and the repetitiveness. However, a major drawback of many studies related to assessment of the physical exposures to risk factors, was that this was often self-reported and focused on one of the three dimensions identified above.

Keywords: Pain status; Campaigns; Equipment; Heterogeneity; Lessons; Interventions

Introduction

While some self-reported exposures are reproducible and may be quite valid, some are not, in particular, those relating to lifting and awkward postures. Indeed, people are generally less reliable in their reporting of loads, and recalled information about earlier jobs is unlikely to be better. Furthermore, a spurious association could occur if those with injury recall the past exposures more completely than controls. Differences in the motivation of cases and controls could also lead to false, differential reporting of past occupational activities, with cases recalling exposures that they link with their illness more completely than control [1]. Even though the temporal relationship between measures may fulfil an acceptable standard procedure, the self-reporting of physical exposure could easily be flawed by the subject pain status. Furthermore, common beliefs in different occupational groups about the occupational hazards experienced by their group could also influence self-reports of exposure. Other studies had shown the benefits of protection devices, e.g. kneepads, for providing an effective barrier against lacerations and penetration of the knee during kneeling, as well as for improving comfort by reducing contact stresses, and thereby decreasing risk of compression injuries of the joints, such as bursitis [2]. However, it was not clear whether the devices provided protection against all types of disorders, or against only a subset, those with similar aetiology. These observations suggest that there are gaps in our knowledge about the relationship between symptoms and loading of the body due to hazard exposures. Furthermore, there were doubts about the effectiveness of human factors and organisational interventions, such as guidance, regulations and safety campaigns for encouraging compliance of employers and workers to the safety measures [3]. The results from studies of exercise and keep fit regimes were quite contradictory with some supporting the practices and calling for coping programmes for those with injury, and others arguing against. There are therefore gaps in our knowledge of the benefits of guidance and coping programmes for those with injury, and the suitability of protection equipment strategies for preventing limb needs further investigation [4]. Various outcomes were defined for investigation ranging from specific medical diagnoses such as plantar fasciitis, bursitis, meniscal lesions and venous diseases, to spurious measures such as fatigue, symptoms, pain and complaints. In the majority of the studies ascertainment of pain, symptoms and fatigue was mainly obtained through self-reporting, including the use of the Nordic Questionnaire. The few studies that involved clinical examination or medical diagnosis and investigated relationships between the medical conditions and symptoms, generally reported poor correlations. These suggest that gaps remain in our knowledge of the underlying causes of pain and may also explain why identified

consequences were rarely discussed in relation to specific conditions [5]. The observations further suggest that there are gaps in our knowledge of the relationships between pain in the different regions of the body and between different types of disorders. Knowledge of this kind can enable efficient use of resources, as interventions found to be useful for prevention of injury in one region of the body may also help prevent injury in another. Interventions and strategies for control and prevention need to be based on key risk factors within the context of the specific occupational setting. Despite the heterogeneity of the methodologies and the associated shortfalls, a number of the risk factors identified repeatedly emerged as significantly associated with pain and in some of the studies, also indicated dose-response relationship [6]. This was particularly true for physical and personal factors, many of which have been directly implicated in the aetiology of MSDs. The physical and personal factors that showed the strongest evidence of causality or association were squatting, climbing stairs or ladders, heavy lifting, standing, slips and trips hazard, gender, age, obesity and personal lifestyle. Those for which there was plausible but less clear evidence included jump from height, driving and sitting. Psychosocial factors often did not show direct causality, but they do contribute to determine the social dynamics of work groups [7]. Additionally, they are increasingly considered to act as modifiers of pain associated with injury rather initiators of injury and therefore these aspects cannot be ignored. Prevention in the workplace therefore requires the creative use of control strategies to balance the physical and psychosocial demands with the characteristics of the individual. Various interventions have been proposed for controlling the risks and preventing MSDs in the workplace. Those that have been shown to be useful include implementing protective equipment, changing work surfaces, redesign and modification of work methods, training and retraining, and participatory programmes. Indeed, work redesign and modification along human factors principles proved most effective for encouraging behaviour change, rehabilitation and return to work of injured workers, benefits in terms of changes in sickness absence and increase productivity rate were also identified. Implementation of

*Corresponding author: Tanaka P, Department of Medicine and Health Sciences, Universiti Sultan Zainal Abidin, Malaysia, Tel: 096658237, E-mail: tanakap@gmail.com

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protection equipment was effective for preventing development of some specific conditions and for protection against further damage. Workplace policies such as workplace exercise regimes and participatory initiatives have also shown to be quite useful for encouraging improved general work ability of employees and reduce symptoms and prevalence of MSD, particularly back and upper limb injuries. Other interventions, such as Regulations, safety campaigns and guidelines, which were developed for specific work situations and against back or upper limb disorders have increased general awareness of the issues and provided logical approaches for managing health and safety in workplaces [8]. Self-reports of physical exposure could easily be influenced by the person's pain status and common beliefs held in different occupational groups about the occupational hazards experienced could influence self-reporting of exposure. Case-control studies that a spurious association could occur when individuals with injury recall past exposures more completely than those without injury. Various systematic reviews that evaluated the evidence concerning risk factors identified important drawbacks with the cross-sectional design methodology, such as, poor assessment of the physical exposures to risk factors and an inability to make causal inferences from the results. Furthermore, a prospective cohort study is generally judged as the preferred design, followed by a case-control study and then by cross-sectional studies. First, both acute and overuse injuries may be suffered by occupational workers, but overuse injuries tend to prevail, particularly, hip, knee bursitis and meniscal lesions, and stress fractures and venous disorders of the lower legs and feet, factors related to the work itself, to the worker and to the work environment may contribute to occurrence. Despite the efforts to understand MSD and several interventions developed to control the risks and prevent their occurrence, there are still doubts about the efficacy of many of the control strategies [9]. The effect of worksite exercise intervention on perceived work ability and sick leave for a group of women engaged in physically demanding laundry work. The results showed a greater increase in the number of workers with good/excellent work ability, as well as the health-related prognosis of work ability in the intervention group when compared with the control group after a period. Furthermore, there were no statistically significant differences between the two groups as regards job satisfaction, work ability index, or sick leave. The importance of looking beyond individual-level risk factors and examining organisational level workplace characteristics in relation to knee symptom. They found that individuals employed in workplaces offering better policies for occupational health had less knee symptoms and lower prevalence of symptomatic or asymptomatic knee. Designing effective interventions to alter physical work demands and MSD symptoms is necessary but insufficient to prevent MSDs, since results depend on the implementation strategy [10]. They identified a need to develop research on intervention studies, which improve our understanding of different prevention strategies particularly those that are usable in the workplace. Stimulation of participation in sport and other leisure activities in order to avoid inactivity, could be one of the means to reduce musculoskeletal morbidity in sedentary workers. The literature review assessed the

effects of three types of regulatory interventions for preventing injuries among workers at construction sites: Regulations, safety campaigns and drug-free workplace programs. They concluded that, the vast majority of technical, human factors and organisational interventions, which are recommended by standard texts of safety, consultants and safety courses, have not been adequately evaluated. While use of assistive devices and handling aids may be effective for controlling risks in a regular work place or work situation, there is evidence that they may not be applied even when available. Handling aids may not be applied when they are cumbersome to operate or they are perceived as causing the working time to be increased.

Conclusion

The presence of wires and cables on the floor often made it impracticable for mechanical aids to be used. There is appreciable evidence of a causal association for kneeling/squatting, climbing stairs or ladders, heavy lifting, walking/standing, and slips and trips hazards as risk factors. The evidence of a causal association is plausible but less clear for jumps from height, driving and sitting.

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Conflict of Interest

None

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