

Paddling upstream: a contextual analysis of implementation of a workplace ergonomic policy at a large newspaper

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Abstract

Efforts to implement workplace ergonomic programs aimed at reducing the burden of work-related musculoskeletal disorders (WMSD) have to address multiple physical and psychosocial aspects of work environments yet often contextual factors limit their success. We describe the processes involved in an ergonomic program to reduce neck and upper limb WMSDs at a large Canadian newspaper. Using qualitative data collection and analysis methods, we illustrate the impact of key contextual characteristics of: (1) the program (management commitment, union involvement, experience and skill of program leaders, and researcher involvement); (2) the organization (drive for productivity, management control, organizational culture); and (3) the broader social context (economic climate, nature of newspaper work, technology and nature of WMSD). We argue for increased attention to identification and response to the contextual factors affecting program implementation in order to more successfully address upstream determinants of WMSD.

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1. Introduction

A broad range of physical (Bernard, 1997) and psychosocial (Bongers et al., 1993) factors have been epidemiologically established as risk factors for the development of work-related musculoskeletal disorders (WMSDs) (Punnett and Bergqvist, 1997). In a multi-causal framework, different risk factors may be mutually reinforcing in the production or aggravation of WMSDs through complex biologic pathways (Moon and Sauter, 1996; Carayon et al., 1999). Workplace

interventions seeking to reduce the burden of WMSDs need to improve both physical and psychosocial aspects of work environments, at the job and organization levels, combining both macro- and micro-ergonomic approaches (Hendrick, 1994). Addressing organization-level (or “upstream”) factors at a workplace level, holds the promise of reducing “downstream” risk factors for WMSDs (Hagberg et al., 1995), while at the same time contributing to healthier workplaces (Robson et al., 1998; Lindstrom et al., 2000).

However, making the organization of work “healthier” has proved difficult (Kompier and Cooper, 1999). Challenges include bringing human considerations into design (Wulff et al., 1999; Burns and Vicente, 1999), dealing with other ongoing organizational change initiatives (Westlander, 1995), and working through

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adversarial industrial relations (Laitenen et al., 1998). Such challenges have prompted closer examination of the processes through which workplace interventions are implemented (Griffiths, 1999; St-Vincent et al., 2000) and clearer delineation of the context for implementation of organizational changes aimed at improving worker health (Haslam, 2002).

An opportunity for such examination arose out of collaborative research initiated by a union and management of a large Canadian newspaper to deal with repetitive strain injury or RSI, a common lay term for WMSDs of the neck and upper limb (Polanyi and Cole, 2003). Earlier research on burden, potential causes and existing activities addressing RSI (Polanyi et al., 1997) was used during joint management, union and researcher sessions to formulate recommendations for reducing RSI/WMSDs among employees. Backed up by a formal agreement during collective bargaining, the company's health, safety and environment manager drafted an ergonomic policy with accompanying mission, objectives, activities and responsibilities (Cole et al., 2002). The draft policy was revised by the joint labour–management RSI Committee, embodied in the “Stop RSI Program”, officially launched in November 1998, and implemented over the following four years.

In this paper, we report findings on contextual factors that influenced the process of ergonomic policy/Stop RSI Program implementation. A quantitative impact evaluation, based on repeat surveys of workers, is to be reported elsewhere. Using a qualitative approach, we address the following questions:

- (1) What were the expectations and intentions of the designers and implementers of the ergonomic policy?
- (2) How did other workers and managers perceive, understand and account for implementation of the ergonomics policy?
- (3) How did ergonomics policy implementation interface with broader organizational processes, norms and structures?

2. Methods

To describe and explore the intervention *process*, we primarily relied upon qualitative methods (Needleman and Needleman, 1996). We termed our approach “collaborative research”, in that researchers discussed and negotiated the design of the research with workplace parties. Our participation in RSI Committee meetings and review of relevant documents, including the ergonomic policy, training materials and RSI Committee minutes, ensured crucial background for other data collection. To tap perceptions of implementation, in 1999, we conducted semi-structured, indivi-

Table 1
Selected interviewee characteristics

Gender	Union status	Department
Male—10	Union members—24	Advertising—13
Female—23	Non-union management—9	Editorial—9
		Circulation—5
		Human resources—4
		Finance—2

dual interviews ($N = 13$) with RSI Committee members and other workplace participants who played key roles in the development of the ergonomic policy and implementation of the “Stop RSI” program. In order to get more “outsider” perspectives, in 2001, we extended the interviews to managers and workers not centrally involved in implementation ($N = 20$). With signed consent by participants, we conducted interviews in person or on the phone, lasting from 45 to 75 min. Purposive sampling ensured a diversity of interviewees: men and women, union and management, those with and without RSI symptoms, and employees from different departments (see Table 1).

Interviews were tape-recorded and transcribed verbatim by experienced transcribers, audited by a research team member, and then imported into NVivo (1999), a qualitative data management and analysis software. The coding framework was developed iteratively, in keeping with grounded theory techniques (Strauss and Corbin, 1990). Two of the authors open-coded (identified initial categorizations or themes) each interview. We discussed our coding approaches and collectively amalgamated, refined and added themes, until all authors were satisfied with the coding framework. Interviews were then re-coded according to the framework, and themes were grouped under three overarching categories: the context of (or factors affecting) the program, the content of the program, and the impacts of the program. Finally, the authors engaged in a more in-depth analysis of the themes within the first two categories, exploring commonalities and divergences within each theme.

3. Results

3.1. Stop RSI Program content

The RSI Committee led the “roll-out” of a suite of activities: mandatory RSI awareness workshops; training of selected employees to conduct workstation assessments on demand or once every two years; a simplified procedure for reporting WMSDs to the workplace; and the development of guidelines for the purchasing or reassignment of workstations and computer equipment (see Table 2, based on document

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