



## Barriers to and facilitators for implementing an office ergonomics programme in a South African research organisation



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### ABSTRACT

The focus of this study was on the possibility of implementing an office ergonomics programme as part of a broader workplace health initiative at a South African research organisation. We explored the perspectives of actors in the workplace regarding organisational barriers and facilitators to implementing ergonomic interventions. This qualitative study presents the perspectives of three workplace actor groups: operational managers (n = 4); health and safety representatives (n = 9); and office employees (n = 4) who were involved in a previous ergonomic assessments that proposed several corrective and preventive actions. Eight factors emerged as either barriers or as simultaneous barriers and facilitators to the implementation of proposed ergonomic interventions. These are: organisational culture; information and specialist support; funding; support from operational managers; attitude towards changes; general organisational awareness; individual knowledge of ergonomics; and support from colleagues. This study is one of the first in South Africa to investigate the perspectives of workplace actors in an office setting with regard to factors that influence implementation of ergonomics initiatives to reduce work-related musculoskeletal disorders.

### 1. Introduction

The World Health Organization (WHO) recommends managing musculoskeletal disorders (MSDs) in the workplace through ongoing health promotion, mitigation and prevention activities. These interventions should aim to change behaviour regarding pain and health, as well as improve working conditions (Burton, 2010). The WHO proposes a 'healthy workplace framework and model' that encompasses a broader view of health in the workplace to include the idea of addressing physical and psychosocial problems and of promoting access to healthcare resources and community support. This model is thus essential for any business interested in maintaining a healthy and productive workforce, especially when considering MSDs, which are multi-factorial and becoming increasingly common (Whysall et al., 2006). The model has, furthermore, been used as a business tool and scientific guide to advance healthy workplace initiatives worldwide (Burton, 2010).

In the United States, the Centers for Disease Control and Prevention (CDC) developed a similar model that lists coordinated and comprehensive strategies designed to meet the health and safety needs of all employees. These strategies include programmes, policies, benefits,

environmental supports and links to the surrounding community (CDC, 2013). More recently, the CDC and the National Institute of Occupational Safety and Health (NIOSH) revised the model to align with a new initiative called the Total Worker Health (TWH) framework (NIOSH, 2016). The TWH framework incorporates ergonomics, which could be tailor-made to integrate with a company's existing health and safety activities (NIOSH, 2016).

As a specific model for best practice in office ergonomics, Chim (2014) proposed FITS, an acronym for four components that need to be addressed for an office ergonomics programme to be effective. These components are Furniture evaluation and selection, Individual workstation assessment, Training and education, and Stretching exercises and rest breaks. Other key aspects related to a FITS programme are: understanding and ensuring a fit between the interaction of individuals and their work environment and task; suitable quality of delivery that fits the desired purpose; and describing a fit healthy person in good physical condition.

In general, effective workplace health and office ergonomics programmes share the following core principles:

- an initial needs assessment or hazards identification stage (Sparling,

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- 2010; International Association of Oil and Gas Producers, 2010);
- upper management support and commitment, for example through implementation of a policy (European Agency for Safety and Health at Work, 2007; Shain and Kramer, 2004);
- encouraging and ensuring employee engagement and involvement usually using a participatory approach (Zungu and Setswe, 2007; Hallowell, 2010);
- integrating the programme into existing organisational operations (Goetzel et al., 2007; Chim, 2014); and
- monitoring and evaluation (Babu et al., 2013; Goetzel et al., 2007; Hallowell, 2010; International Association of Oil and Gas Producers, 2010).

While we know these principles are important for successful implementation, there is still a lot to learn about how they may vary in different organisational settings. In recent decades, implementation research has largely focused on organisational context, including inner and outer contextual factors (Damschroder et al., 2009). Inner context describes structural and cultural factors, such as size, leadership and organisational climate, while outer context considers inter-organisational influence, environment and politics (Damschroder et al., 2009). Implementation studies point out to several important factors predicting receptivity for innovations and knowledge management capabilities within an organisation, including a supportive organisational culture, good managerial and employer-employee relations and clarity of goals and priorities. Manager and employee opinions about innovations and their readiness to change may also be important in achieving a more receptive context for change (Verbeke et al., 1998).

The implementation of workplace health programmes may encounter barriers at multiple organisational levels, for example:

- lack of management commitment and support (Whysall et al., 2006);
- poor management attitude towards implementation (Whysall et al., 2004);
- lack of employee support (Masi and Cagno, 2015);
- lack of financial resources (Rothmore et al., 2015);
- prioritisation of operations and/or other occupational health and safety needs over ergonomic needs (Fassier et al., 2015; Masi and Cagno, 2015);
- lack of knowledge of ergonomics (Masi and Cagno, 2015; Whysall et al., 2004);
- lack of or ineffective communication and information (Fassier et al., 2015; Masi and Cagno, 2015);
- lack of time or inadequate time dedicated to ergonomics implementation (Masi and Cagno, 2015);
- non-supportive organisational culture (Rothmore et al., 2015; Whysall et al., 2004); and
- lack of specialist support (Van Eerd et al., 2010).

Facilitators for the implementation of workplace health programmes include: management support and commitment; good communication and information; knowledge of ergonomics, in particular knowledge of the benefits of the intervention; and change of management (i.e. a new manager may have a more favourable attitude towards implementation) (Fassier et al., 2015; Rothmore et al., 2015; Van Eerd et al., 2010; Whysall et al., 2006). A recent literature review found that management commitment was the most important facilitator towards successful implementation of a workplace health programme, because management is able to ensure the availability of the required resources (Burgess-Limerick, 2018).

The challenges in implementing office ergonomics programmes may differ in industrially developed and developing economies. In countries with developing economies, the implementation of ergonomics interventions may be limited by a general lack of knowledge of ergonomics, the assumption that ergonomics is a luxury and not part of a

comprehensive approach to workplace safety and health, and a limited number of qualified ergonomists (Scott et al., 2010; Guimarães et al., 2014). In developing countries such as India, office ergonomics is largely disregarded. The health of the Indian workforce is plagued by MSD symptoms due to poor workstation design, child labour and the absence of labour-saving equipment for rural women engaged in agricultural work (O'Neill, 2005).

In South Africa, the Occupational Health and Safety Act 85 of 1993 governs health and safety practices in the workplace. Section 16 of this Act charges every chief executive officer with the duty “to provide and maintain, as far as reasonably practicable, a working environment that is safe and without risk to the health of his employees” (Republic of South Africa, 1993). Risks to health include ergonomic risk factors that can lead to the development of MSDs among office workers using computer workstations (Robertson et al., 2009).

We conducted this study at a South African research organisation (henceforth called “the Organisation”) that has adopted the OHSAS 18001 management system. Following 115 cases of MSDs reported by office workers between 2008 and 2011, the Organisation conducted a survey to determine the prevalence of MSDs and other office ergonomics-related disorders among all office workers. The survey revealed five different health outcomes: lower back pain (33%); eyestrain (37%); headache (24%); sore wrist (12%); and other work-related injuries (11%) (Research Organisation, 2011). In this study, we explored the perspectives of employees and managers (actors in the workplace) regarding barriers and facilitators for implementing office ergonomics initiatives within the Organisation with a view to making recommendations for successful implementation of ergonomic interventions in an office workspace. As South Africa is a developing country this information can provide important guidance for other developing countries trying to identify key success parameters for implementing a comprehensive ergonomics programme. In addition, this information could also provide important comparative data regarding how previous models of implementing ergonomics programmes emanating from industrially developed countries, may or may not apply to developing countries.

## 2. Methodology

A qualitative research design was appropriate for the exploratory nature of this study. For this purpose, open-ended individual and focus group interviews with different groups of workplace actors was the choice of methodology to elicit understandings of the results of previous office ergonomic assessments and other related efforts undertaken in the Organisation and to make appropriate recommendations.

The study was approved by the Research Ethics Committee of the Faculty of Health Sciences, University of Pretoria (study reference number 63/2015). Written permission was obtained from the Organisation's Health and Safety Committee.

### 2.1. Study setting

The Organisation had more than 2000 employees distributed across various sites throughout South Africa. The setting for this study was the main premises of the Organisation, which is the largest in terms of geographical size and employee numbers.

### 2.2. Sampling

Three organisational units with the highest number of office ergonomics assessments in the previous four years were purposively sampled for the study. We included four operational managers from these units and four employees whose offices had previously been assessed and who were still working in the same or a similar position. The selection of participants was based mainly on the number of recommendations made for purchasable equipment and/or furniture, as

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