ANALYSIS AND INTERVENTION MODEL APPLIED TO A GROUP OF POWER LINE WORKERS
MACROERGONOMIC PROPOSAL

Emilio Cadavid
Empresas Públicas de Medellín - Colombia

Luz M. Sáenz
Universidad Pontificia Bolivariana, Medellín, Colombia

Keywords: Ergonomic intervention, musculoskeletal disorders MSD, analysis and intervention model.

This proposal is based on the analysis and intervention made the work station of a group of power line workers (responsible for mounting, operating and maintaining energy power lines) of a company Public Service in the city of Medellín.

Developed as part of a pilot, an analysis model of the trade with integral vision test, classified the variables from the dimensions of Ergonomics as defined by the International Ergonomics Association (IEA): physical, cognitive and organizational. (IEA Council 2000)

He allowed understand the trade, by identifying ergonomic system variables: Person (or User), The Products, elements /machines necessaries and the context in which it develops. For each considered indicators that made assessment of the characteristics and requirements of the group of workers and that guided the criteria to understand the situation and to identify risk factors (Figure 1. Components in analysis and intervention model).

He leaned on the Epidemiological Surveillance System for musculoskeletal disorders (MSD) made by Company and designed and administered a questionnaire that objectively validated the presence of these symptoms, as well as the need to intervene it.

It also found that the ergonomic vision of the proposal was required the participation of workers and commitment of the administrative and operational structure of the Company, which was taken into account as part of the intervention, including:

The creation of a preventive program called PREPARE FOR WORK, based on a set of specific exercises for muscle-joint structures affected (identified in the initial analysis of the position of labor and based on risk factors found).

The implementation of a training program in Ergonomics and MSD, which in the first phase addressed the management of body segments related to those MSD.
Also, the intervention is currently developing a monitoring program based on feedback from the group of workers who are currently part of it and that allow the implementation and/or re-adaptation of this model in other occupations with high physical demand.

The procedure identifies the new administrative structure of the Company as an opportunity to present Ergonomics as an integrative concept and to implement actions that can be applied in different business units.

The pilot project is being developed since June 2013 and has obtained data and information that allow the Company apart from the intervention of a group of workers, a process of incorporating the work of the Ergonomics with systemic and participatory approach as a strategy health and safety of their workers.

![Figure 1. Components in analysis and intervention model.](image-url)