

REDUCING MUSCULOSKELETAL DISORDERS OF VITICULTURE WORKERS THROUGH A PARTICIPATORY APPROACH INVOLVING VIDEO ANALYSIS

General information

Country: France

Sector: Viticulture (agriculture sector)

Type of organisation: Vineyard, activities include grape growing, wine production and packaging

Size of organisation: Micro enterprise (less than 20 workers)

Location: Rural

Job/tasks: Prune grapevines

Workplace and task characteristics: Bending, squatting, repetitive movements, awkward postures,

Workplace participation measures:

- Technical analysis is combined with worker participation.
- Working party of workers provided continuous feedback to consultants.
- Workers involved in evaluating observational videos.
- Volunteer workers tested the proposed solution.

The action

Background

The viticulture industry is characterised by a high level of musculoskeletal disorders (MSDs). They affected the company so much that absenteeism reached 50% during the grapevine pruning season. The workforce mainly consisted of ageing workers because the company had difficulty hiring younger workers. The company contacted the Regional Health Insurance Fund, which made an initial assessment and proposed using a system that analysed videos of workers tackling MSD risks.

Participants and stakeholders

The intervention involved ergonomics experts from the Regional Health Insurance Fund, the company and the workers. The external ergonomics experts used a video analysis system to assess MSD risks of workers carrying out their work on site combined with worker participation.

Participatory approaches, methods and tools

Planning the intervention

To plan the intervention, the Regional Health Insurance Fund experts held two meetings, one with the managing director and one with the workers. During the meeting with the managing director, the ergonomic experts examined the work situation and the aim of the intervention.

The meeting with the workers was used to explain the intervention's aim and what was going to be done. The ergonomic experts explained that after an analysis of the situation to gain insight into their activities, they would film and work with them in the form of a working party. An important aspect of the meeting was to explain to the workers that the consultants were impartial and ready to listen to them. They explained that the results would remain anonymous and not be given to the company.

Setting up the working party

A working party of workers was set up and used throughout the process in various ways. As this is a small company, it included the workers and the managing director. They were involved in validating the video analysis, testing solutions and deciding how the final solution would be implemented. The ergonomics experts provided MSD training to working party members to raise awareness and help them understand the link between job activities and MSDs. He also outlined various possible solutions.

Filming the workers

The consultants studied the company's workstations to determine which work situation was the most relevant for filming and analysis. Many details were considered. They included, among others, the analysis of the work situation in both favourable and poor conditions, the different modes of operation and the different characteristics that could affect the way the workers do their job.

Analysing the film

The video of the work situation was then imported into a video analysis system. The postures and their angles were scored according to a guide based on established ergonomic criteria. The biomechanical characteristics, the factors that worsened the condition and the exposure time were all considered in the analysis.

The working party then validated the results of the video analysis to check that they were consistent with the real situation and the opinions of the workers, particularly the effort needed to do a particular task. Considering members' feelings about and experience in performing the work, the working party gave its view on the expert ergonomists' scores concerning working postures and their angles. Once the scores were agreed on, the group validated the representation of the work situation by the consultant. This is important because each worker may be performing the same task, but depending on the attributes of the worker, such as age, gender and size, the work situation differs.

Deciding on solutions

The working party was then involved in research and testing the solutions. Using the video, the working party also identified the technical, organisational and social factors relevant to the particular work situation. Following the study of the work situations, management decided which ones needed the most urgent attention.

After the solutions had been chosen by the working party leader (the managing director), they were presented and fully explained to the working party. The workers and the managing director collaborated in the working group to define how to test the solution. This included when, how long it would last, who would test it, what effects testing would have on normal work and how it would be set up.

The workers tested the solution and were filmed again. The solution was assessed using the video analysis system and reviewed by the group. During this stage, the aim was to enable the workers to see themselves in the future and understand how effective and relevant the solution was likely to be in reality before it was fully implemented.

Finally, the working party was involved in deciding how the final solution would be implemented.

The chosen solution was to introduce a seat that helps eliminate poor posture.

Case extracts

The working party members used paid working hours for training and to participate in the working group. The reduction of sickness absence outweighed the costs in terms of worker time and new equipment.

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Resources, costs and benefits

The Regional Health Insurance Fund ran the intervention. The working party members were given time off work for the training and to participate in the working group. The company financed the new seats. The reduction of sickness absence outweighed the costs in terms of worker time and new equipment.

Analysis

Barriers

No major problems were encountered.

Facilitators

- Support by the Regional Health Insurance Fund.
- External ergonomics expertise to analyse the situation and guide the working group.
- Management and workers collaborated, which can be more doable in a small business.
- Workers involved in all stages of the process in a systematic way.
- The worker opinions were an integral part of the expert analysis, and were used to modify and verify it.

Lessons learned

- Using worker's experience to verify an analysis by experts ensures that it is realistic.
- Worker participation leads to a simple and practical solution.
- Involving workers from the start and throughout the intervention allows them to see that they have a voice, and that their problems and ideas are acknowledged.
- Worker participation in testing and implementation helps ensure it is done in a practical way with the least disruption.

Transferability

This approach is transferrable to other sectors and organisation sizes. Although this example used video analyses and simulation systems, the same approach can be applied to follow up on other types of risk assessment and ergonomics analysis. Small organisations may need the support of external ergonomics expertise and a facilitator for the participation.

References and further information

The information on this case was compiled by EU-OSHA. No additional written material is available.