

# Effectiveness of a participatory approach on the use of four ergonomic measures reducing musculoskeletal disorders among construction workers compared with no intervention.

No registrations found.

<b>Ethical review</b>	Not applicable
<b>Status</b>	Recruitment stopped
<b>Health condition type</b>	-
<b>Study type</b>	Interventional

## Summary

### ID

NL-OMON22404

### Source

NTR

### Brief title

N/A

### Intervention

### Outcome measures

#### Primary outcome

Use of ergonomic measures (doing).

#### Secondary outcome

Behavioural change phases among employers (awareness, accessibility, understanding, wanting, intention and ability) and behavioural change phases among employees (awareness, wanting and ability).

# Study description

## Background summary

### Objective:

To study the effectiveness of a participatory ergonomics (PE) implementation strategy on the use of ergonomic measures for reducing the physical work demands of construction work.

### Methods:

In a cluster randomised controlled trial, ten bricklaying companies were randomly assigned either to an intervention group which was subjected to a PE implementation strategy (N=5) or to a control group (N=5). The PE implementation strategy consisted of a consultant-guided six-step approach in which different stakeholders from the company participated. Bricklayers and bricklayers' assistants in the intervention group (n=65) and the control group (n=53) were followed for six months and their use of four ergonomic measures was compared. These measures consisted of adjusting working height when picking up bricks and mortar, adjusting working height for bricklaying at the wall side, mechanising the transport of bricks and mechanising the transport of mortar. The use of ergonomic measures was assessed by means of worksite observations and questionnaires at baseline and after six months. The behavioural change phases of the workers and the employers were determined by questionnaires and interviews respectively. Performance indicators for the PE implementation strategy were assessed through observations by researchers during the implementation process and through questionnaires completed by workers.

### Results:

The PE implementation strategy had no statistically significant effect on the use of any of the four ergonomic measures either at cluster or at individual level. None of the companies in the intervention group passed through all six steps of the PE implementation strategy. Process outcomes suggest that the ability to use ergonomic measures increased. In bricklaying, self-efficacy and skills to adapt the working height on the scaffolding improved significantly.

### Conclusion:

The PE implementation strategy did not lead to greater use of ergonomic measures in

bricklaying or in the transport of materials. The performance indicators of the PE implementation strategy and the corresponding behavioural change phases in stakeholders can help to detect essential elements of the intervention.

## **Study objective**

It has been hypothesised that, because participatory ergonomics (PE) implementation strategies intervene at all phases of behavioural change for the various stakeholders, they may be successful in increasing the use of ergonomic measures at worksites. A PE implementation strategy is defined as the involvement of people in planning and controlling a significant amount of their own work activities with sufficient knowledge and power to influence processes and outcomes to achieve desirable goals.

## **Study design**

N/A

## **Intervention**

1. A six-step participatory approach aimed at behavioural change among employers and employees within companies guided by an experienced ergonomics consultant during 6 months. Employers, work planners, foremen and representatives of bricklayers and bricklayers' assistants structured and organised the approach and process through a steering group within each company;
2. No intervention.

## **Contacts**

### **Public**

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## Eligibility criteria

### Inclusion criteria

Almost no use ( < 10% of the working time) of one ergonomic measure (adjusting the height of bricklaying materials).

### Exclusion criteria

None (employers and employees were the participants).

## Study design

### Design

Study type:	Interventional
Intervention model:	Parallel
Allocation:	Randomized controlled trial
Masking:	Open (masking not used)
Control:	N/A , unknown

### Recruitment

NL	
Recruitment status:	Recruitment stopped
Start date (anticipated):	01-01-2003
Enrollment:	118
Type:	Actual

## Ethics review

Not applicable

Application type:

Not applicable

## Study registrations

### Followed up by the following (possibly more current) registration

No registrations found.

### Other (possibly less up-to-date) registrations in this register

No registrations found.

### In other registers

Register	ID
NTR-new	NL292
NTR-old	NTR330
Other	: BBC.03.221
ISRCTN	ISRCTN84454743

## Study results

### Summary results

Scandinavian Journal of Work, Environment and Health 2005;31(3):191-204. Applied Ergonomics 2005; 36: 449-459. Thesis: 'Evidence-based implementation of ergonomic measures in construction work', Universiteit van Amsterdam, 2005 (ISBN 90-72748-46-8).