



KEY POINT SUMMARY

OBJECTIVES

To evaluate the impact of a five-step ergonomics program and mechanical lifts on musculoskeletal injuries among employees at a 525-bed nursing home. The goal was also to find out if the intervention helped to reduce financial costs associated with staff injuries.

DESIGN IMPLICATIONS

Mechanical lifts are effective as part of a multi-pronged intervention aimed at reducing back injuries.

Resident/patient rooms and units should be designed to facilitate easy use and access to mechanical lifts.

Reducing Incidence of Low-Back Injuries Reduces Cost

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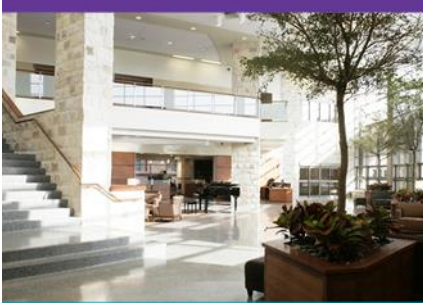
*2001 / American Industrial Hygiene Association Journal
Volume 62, Issue 4, Pages 508-511*

Key Concepts/Context

Back injuries are pervasive among healthcare workers and patient lifting is one of the primary factors contributing to low back injuries among nursing personnel. In addition to lifting patients, nursing staff lift other heavy objects frequently and also pull and push heavy loads such as stretchers, wheelchairs and food service carts. The high rate of musculo-skeletal disorders among nursing staff has received a lot of attention in the past decade and various approaches including ergonomic programs, education about lifting techniques and mechanical lifts are being used to reduce back injuries among nursing staff.

Methods

This study compared health and financial outcomes before and after an intervention was put in place to reduce musculoskeletal injuries among healthcare staff. The intervention included a five-step ergonomic program that included: (1) creation of a resident transfer evaluation team, (2) establishment of an accident review committee, (3) mandatory ergonomics training for new nursing aides, (4) regular maintenance checks for lifting equipment, and (5) direct access to the management and budget process. Additionally, during the seven-year period of the study, several mechanical lifts were purchased to support patient lifting by staff. Data was collected from existing records for the preintervention period (1992-1993) and the intervention period (1994-1998). Health and financial data collected included: type of injury, number of lost workdays associated with each injury, medical costs associated with each case in the first year of injury, average weekly compensation rate, average weekly replacement rate and the total annual cost of back injury. Statistical analyses were conducted to evaluate the effect of the intervention on these outcomes.



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Findings

- The number of lower back injuries per 100 full time nursing aides were reduced significantly from 15.7 in the preintervention period to 11.0 in the post intervention period.
- The total number of lost workdays was reduced by 58% from 1476 per year before the intervention to 625 per year after the intervention
- The number of lost workdays per full-time nursing assistant reduced from 7.8 to 3.0
- The average yearly costs associated with back injuries reduced from \$201,100 pre-intervention to \$91,800 during the intervention

Limitations

The author did not identify any specific limitations. Other limitations include:

- All aspects of the intervention did not start at the same time. As a result it is difficult to determine the exact starting point of the intervention period.
- The multifaceted nature of the intervention makes it difficult to tease apart the impact of specific interventions such as the mechanical lifts
- There is no discussion in the paper about the physical environmental considerations for a successful intervention such as the space required to use mechanical lifts compared to manual lifting