

COST ESTIMATION OF WORK-RELATED MUSCULOSKELETAL DISORDERS (MSDs) IN DEVELOPING COUNTRIES

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Aim

To review the cost of work-related musculoskeletal disorders in some developed countries and use it to explore similar cost in developing countries. Colombia is used as a case of focus, since it is a developing country in which information on occupational diseases and specifically work-related musculoskeletal disorders are difficult to obtain.

Methods

Two analytical approaches were used in this study: (i) estimation of the incidence of MSDs, and (ii) the calculation of the productive cost of MSDs. For the collection of data used in the estimation of the incidence of MSDs in Colombia, I used the recorded double age and sex incidence of "repetitive strain injuries" rates in Finland for 2002. The Finland statistics on occupational diseases has been used for the estimation of occupational diseases throughout the world, because they are very well defined, and their distribution are similar to those in the Scandinavian countries. The double incidence was used previously for the estimation of occupational diseases in developing countries [1]. In the calculation of the cost of MSDs, the direct cost estimation from a study [2] carried out in 1997 on the only public Worker's Compensation Administrator Company in Colombia was used as the baseline for direct cost projection.

Results

The absolute number of cases was estimated by applying the age/sex-specific rates to the appropriate age-sex population subgroups to the economically active population (labor force). The final estimation was carried out using the twice incidence rate in Finland such as has been used previously from Latin-American countries and others developing countries. The total estimate of MSDs in Colombia for the 2005 was 23477 cases, with 64.4% being men and 35.6% women. The total incidence rate was estimated as 11.6 MSDs cases per 10000 workers. The direct cost of MSDs in Colombia in the year 2005 was estimated in \$63.6 million. But adding the indirect cost, which is considered to be 2.7 times higher than direct cost [3], the total cost of MSDs in Colombia would have been \$171.7 million. This value represents around 55% of the total income of the General System of Professional Risk. It also represents around 0.2% of Colombia's Gross Domestic Product for the year 2005.

Conclusion

MSDs and their associated costs represent significant problems in developing countries with consequential impact on both productivity and workers' well-being. In the case of Colombia, as it is highlighted in this abstract, the signification of these problems is highlighted by the impact it had on productivity as reflected in its estimated consumption of 0.2% of the country's GDP in the year 2005. The systematic revision of the incidence and the cost of MSDs in developing countries are necessary to design ergonomics programs that reduce these problems.

References

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