



**BULLETIN OF
HIGH INSTITUTE
OF PUBLIC HEALTH**

Special Issue
Proceedings of the
INTERNATIONAL CONFERENCE
ON
HEALTH, ENVIRONMENT AND DEVELOPMENT

Alexandria, Egypt

October 14-17, 1996

Volume 27
Number 1
January 1997
(Supplement)

Reprint

Epidemiological Relation Between Illnesses and Injury Occurrence Among Industrial Workers in Alexandria

Abdel Moneim I.* Ahmed MH,† El Bably R‡

Depts. of Occupational Health,* & Biostatistics,† High Institute of Public Health Alexandria University, Egypt

‡ Occupational Safety Office, Manpower Labour Ministry, Egypt

Abstract: The present study followed the 6 monthly reports of illnesses and accidents issued from 925 companies in Alexandria from the year 1990 to the end of 1994. The aim of this work is to test the presence of a relationship between illnesses and injury occurrence in different types of industries. The involved companies were categorized according to their main activity into 5 types: spinning and weaving, chemical, engineering, food processing and service companies. The illnesses were divided into acute [less than 7 days sick leave] and chronic illnesses. Simple and multiple regression analyses were utilized involving the frequency and severity of injuries as dependent factors and the number of workers, the frequency and severity of both acute and chronic diseases as independent factors. Results indicated that large companies showed a significantly higher frequency and severity of occupational injuries [$P < 0.001$]. This holds true for all types of industries except the engineering category. All regression analyses revealed a significant positive relationship between frequency and severity of injuries and each of the number of workers, frequency and severity of acute and chronic illnesses. Stepwise regression showed that frequency of acute illnesses is the most important predictor of frequency of injuries while number of workers is the first predictor of severity of injuries. This can be useful as a preliminary tool for locating weak points in the preventive strategy to be adopted in different industries.

INTRODUCTION

The total national health care expenditure in Egypt is escalating rapidly in recent years. The Health Insurance Organization is suffering from a huge deficit amounting to hundreds of millions L.E in 1996. Controlling these costs represents a major challenge to the country. One commonly accepted strategy to control health care costs is work-site health promotion programs.¹⁻³ In the United States, a recent survey issued by the DHHS 1993 documented that 81% of 1507 companies with 50 or more employees offer work-site health promotion programs.⁴ Although evidence in support of work-site health promotion programs is accumulating, the relevant question here is whether there is a positive relation between occupational injuries and disease occurrence in general [as an important cost burden]. Such an association if established would add to the justification of the application of better work-site health care strategy.

The literature is deficient in describing the risk for occupational injuries among workers

with different levels of health risk factors and different types of diseases. Smith et al. found a protective effect of influenza against workplace accidents, which could be explained in terms of a person with influenza being less likely to work and therefore at a lower risk of experiencing a workplace accident.⁵ This might not always hold true, as it has been described that human performance is affected by such minor ailments.⁶ Furthermore, cardiovascular affections in workers having good work-site health promotion programs, did not give higher rate of absenteeism and health care costs as in industries not having these programs.⁷ On the other hand, Bursy, did not found significant association between plasma cholesterol and occurrence of occupational accidents.⁸

The aim of this study is to reveal the relation, if any, between disease occurrence and accident rates among different types and sectors of industries in Alexandria in an endeavor to provide the policy makers a clearer view of the present health care system provided to workers.