DECLARATION

I, Shaun Ramroop declare that this research report is my own work. It is being submitted for the degree of Master in Public Health (MPH) in the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other University. The use of work of others has been duly acknowledged in the text.

Shaun Ramroop:

Date:

ABSTRACT

Motivation

Occupational driving has often been associated with a high prevalence of low-back pain (LBP). Truck drivers in the petrochemical industry in South Africa are vulnerable to occupational related LBP because of the very nature of their job, and this vulnerability has to date not been quantified. The individual and job factors that contribute to cause this pain are diverse and might include prolonged sitting, exposure to whole-body vibration, heavy physical work, smoking and other psychosocial factors. Studies on the prevalence and knowledge of the risk factors associated with occupational related LBP are important since they allow not only for the determination of the impact of the condition on society or on a given social stratum, but can also help to organize health services and channel investments necessary for the prevention and control of occupational related LBP.

Aim

The aim of this study was to determine the prevalence of occupational related LBP in a defined cohort of truck drivers and to ascertain if certain risk factors i.e. demographic factors of the truck drivers, manual material handling (heavy physical work), static work posture and perceived levels of whole-body vibration are associated with truck driving and LBP.

Methods

The study design chosen was descriptive, cross-sectional and quantitative in nature. For the study, the widely established "Standardized Nordic Questionnaire" (SNQ) was used to collect data. The questionnaire was divided into three sections, viz. biographical, low-back pain, and risk factors for ease of completion by the participants of this study. A total of 450 drivers participated in the study by completing the questionnaire. SPSS version 15.0 (SPSS Inc., Chicago, Illinois, USA) was used to analyze the data. Descriptive and inferential statistics was used in the analysis of the data.

Results

Of the 450 drivers, 385 (86%) experience LBP and 65 (14%) reported to have not experienced any form of LBP. On the scale of 0 to 10, 68 drivers (15%) indicated that they had pain as bad as it could be, whereas 32 drivers (7%) indicated that they suffered no back pain at all. When the severity of the pain was categorised, as low, medium and high, 40.5 % of the LBP respondents indicated that they had a high severity of LBP. Smoking, static work posture and total years of driving were all found to be significantly associated with LBP. Whole-body vibration, body mass index (BMI) and heavy physical work were found to have no association with LBP which was not expected.

Conclusion

The prevalence of occupational related low-back pain in petrochemical truck drivers was 89%. Smoking, static work posture and total years of driving were the risk factors associated with LBP amongst the truck drivers.

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DEFINITIONS

Low-back pain (LBP): Any acute or chronic pain, ache or stiffness experienced by the worker in the lower part or lumbar region of the back, lumbago or chronic recurrent discomfort in the lower back/lumbar area excluding sciatic pain radiating into the legs (Kirkaldy-Willis & Bernard, 1999).

Risk factors: Characteristics (e.g. race, sex, age, obesity) or variables (e.g. smoking, occupational exposure level, whole-body vibration, material manual handling) associated with increased probability of a toxic or adverse health effect (Karwowski & Marras, 1999).

Ergonomics: The application of human biological sciences with the engineering sciences to achieve optimum mutual adjustment of people and their work, the benefits measured in terms of human efficiency and well-being (Karwowski & Marras, 1999).

Key words: Low-back pain and risk factors.

LIST OF TABLES

LIST OF FIGURES

TABLE OF CONTENTS

CHAPTER 2

REVIEW OF LITERATURE

LOW-BACK PAIN (LBP) AND TRUCK DRIVING

CHAPTER 3

MATERIALS AND METHODS

CHAPTER 4

RESULTS

CHAPTER 5

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

LIST OF APPENDICES