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A Questionnaire Survey of Tehran Bus Drivers' Musculoskeletal Health, Work-Related Risk Factors:

A Comparison between BRT and Ordinary-Bus Drivers

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Abstract— Purpose: To evaluate the prevalence of the Musculoskeletal Disorders (MSDs) amongst urban Ordinary-bus and BRT-bus drivers (O-BDs and B-BDs respectively).

Method: 314 urban O-BDs and B-BDs in Tehran city were asked through Standard Nordic Questionnaire added by some general questions required for the research. It was then analyzed via SPSS 18 (PASW) software.

Results: All disorders except for the one at Left-wrist region showed no significant differences between O-BDs and B-BDs. Parameters age, bus model, years of professional bus driving, working days per month, working minutes per day, time taken in each half-way with and without traffic jams, sporting and smoking have yielded significant outcomes across these two groups of bus drivers. Besides, B-BDs have shown their mean to be greater than O-BDs with the aspect of working days per month, and time taken in each half-way with and without traffic, and O-BDs have shown to be greater than B-BDs in mean with respect to working minutes per day.

Conclusions: Although B-BDs, on average, work fewer hours per month, and their typical more up-to-date bus systems provide them with better working conditions, and also their driving mostly in dedicated lanes keeps them more distant from common street traffic jams, they have shown no

significant differences with O-BDs in almost all of the disorders, due to prolonged and non-interrupted half-ways besides significantly less resting times at terminals.

Keywords—Musculoskeletal Disorders (MSDs); BRT-Bus Driver (B-BD); Ordinary-Bus Driver (O-BD)

I. INTRODUCTION

In recent decades by Industrialization in developing countries, the number of injuries and work-related accidents has increased among required sedentary jobs [1]. Driving – especially ‘bus’ driving – is the one that has gained much attention in literature. The literature indicates three salient categories of disorders prominent in populations of bus drivers: Cardiovascular Diseases, Gastrointestinal Disorders, and Musculoskeletal Problems [2]. Musculoskeletal Disorders are defined as any tissue damages in Musculoskeletal and Neural system that disturb their performance [3]. These disorders are mainly due to the vibration, repeated shocks, noises, varying climate conditions, long durations when city-bus drivers sit behind