Ergonomic Evaluation of Post Mechanical Effects of Vibration on Commercial Bus Drivers

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Abstract

Movement by road is the major means of transportation in Nigeria whose population is estimated at about 170 million people. Commercial bus drivers are daily faced with the rigours of travelling for more than 8 hours at a stretch (even at nights) on roads characterized by several imperfections and defects. This situation results in exposure to low-frequency vibrations whose effect include; loss of concentration, fatigue, lower-spine damage and several other physiological problems. This study covers statistical analysis to ascertain the correlation and level of this health challenges with the vehicle and road conditions. The analysis is needed for economic planning, road design, redesigning of vehicle seats ergonomically to reduce whole body vibration exposure and improve the bus driver health and productivity.

Keywords
Bus drivers, fatigue, Low-frequency vibration, Whole body vibration exposure, Ergonomic vehicle seats, Statistical analysis