



MEASUREMENT OF THE LEVEL OF EXPOSURE TO WHOLE-BODY VIBRATION AND FREQUENCY OF SYMPTOMS AND SPINE RADIOGRAPHIC ABNORMALITIES OF AMBULANCE OPERATORS.

Martínez-Ledesma Ma Isabel (1)(2), Pichardo-Villalón Germán (2), Méndez-Vargas Ma. Martha (2), Tovalín-Ahumada Horacio (2), Sánchez-Vázquez Juan Alfredo (2)
 (1)Instituto Mexicano del Seguro Social, (2) Especialización de Salud en el Trabajo, UNAM-México. Correspondence author: ottocuca@hotmail.com

Introduction:

The study presents the findings about the exposure to full body vibrations monitoring and presence of musculoskeletal complains and radiographic abnormalities in the spine of ambulance operators.

Methods:

Vibration was measured with an accelerator in the X-Y axis taking measurements in an ambulance Model 2008. A group of 14 drivers of ambulance were recruited and a complete medical history, a musculoskeletal complains questionnaire and rays "X" test of spine were performed.

Results:

The vibration exposure results after monitoring 4-hour exposure showed values of acceleration in the X-Y axis that exceeded the permissible limit at the frequencies of 1, 1.3 and 1.6 KHz. It was observed the association among spine radiographic abnormalities, such as scoliosis and and osteophytes symptoms such as low back pain, nerves' compression (Lassage sign positive), and headache. Operators' Body Mass Index was associated to low back pain, headache and hypo responsiveness. During their job ambulance operators made an important physical lifting and carrying patients, the forced movement was also related to musculoskeletal symptoms. The most common symptoms in the studied workers were low back pain (60%), a signs of nerve's compression 40% and headache a 66.6%.

Conclusion:

The results showed different clinical manifestations possibly related to full-body vibrations. It should be mentioned that the spine injuries are multifactorial and not exclusive of mechanical vibrations. However, vibration's exposure and other factors present in their job may cause the observed damages.

Bibliografía:

- Norma ISO 2631-1. Mechanical vibration and shock. Evaluation of human exposure to whole body vibration. Part 1: General Requirements.1997. 3.- Guía de Prevención de Riesgos Laborales para la Industria Cárnica. Tema 3, Riesgos Físicos / Vibraciones. 1996: 64-65.
- Deterioro precoz de enfermedades profesionales, Organización Mundial de la Salud, ginebra 1987, primera reimpresión , España. P.p. 189-191. 5.-Ley Federal del Trabajo. Agenda Laboral 2008. Ediciones fiscales
- Tovalín, H. "Las condiciones de salud de los conductores de autotransporte urbanos de pasajeros de la ciudad de México" Salud de conductores de auto transporte. México D.F. 1991. Bol Of. Sanit Panam 111 (4) 1991. PP. 324-331.
- Tovalín H. Condiciones de trabajo de los operadores de autotransporte de la ciudad de la Cuidad de México Ruta 100, (SUTAUR). Memorias Encuentros de Médicos de Empresa STPS, 1985: 469-481.
- Pichardo, G. Vibraciones y Salud en el Trabajo. México D.F. Vibraciones y Salud en el Trabajo. Agosto 2007. Boletín FENASTAC.

		LOW BACK PAIN		ROTOS		LASSAGE		DECREASE SENSITIVITY		HEADACHE	
		NO	SI	NO	SI	NO	SI	NO	SI	NO	SI
WEAR VERTEBRAL BODIES	NO	6	8	10	4	8	6	5	9	4	10
	SI	0	1	1	0	1	0	1	0	1	0
SCOLIOSIS	NO	3	3	5	1	4	2	2	4	1	5
	SI	3	6	6	3	5	4	4	5	4	5
LORDOSIS	NO	6	6	9	3	8	4	4	8	5	7
	SI	0	3	2	1	1	2	2	1	0	3
OSTEOPHYTES	NO	4	2	5	1	4	2	1	5	2	4
	SI	2	7	6	3	5	4	5	4	3	6
6° VERTEBRA LUMBAR	NO	5	8	10	3	8	5	6	7	4	9
	SI	1	1	1	1	1	1	0	2	1	1
METAAPÓFISIS TRANSVERSE	NO	6	7	10	3	9	4	5	8	5	8
	SI	0	2	1	1	0	2	1	1	0	2
DECREASE VERTEBRAL BODIES	NO	5	7	10	2	9	3	6	6	5	7
	SI	1	2	1	2	0	3	0	3	0	3
MERGER OF BODIES VERTEBRAL	NO	6	7	10	3	9	4	5	8	5	8
	SI	0	2	1	1	0	2	1	1	0	2