Hand-arm vibration syndrome among a group of construction workers in Malaysia.
(Síndrome de vibración mano-brazo entre un grupo de trabajadores de la construcción en Malasia)

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OBJECTIVES:
To determine the extent of hand transmitted vibration exposure problems, particularly hand-arm vibration syndrome (HAVS), among construction workers in Malaysia.

METHODS:
A cross-sectional study was conducted on a construction site in Kuala Lumpur, Malaysia. 243 workers were recruited. Questionnaire interviews and hand examinations were administered to 194 respondents. Vibration magnitudes for concrete breakers, drills and grinders were measured using a 3-axis accelerometer. Clinical outcomes were compared and analysed according to vibration exposure status.

RESULTS:
Vibration total values for concrete breakers, impact drills and grinders were 10.02 ms(-2), 7.72 ms(-2) and 5.29ms(-2), respectively. The mean 8 h time-weighted hand transmitted vibration exposure, A(8), among subjects on current and previous construction sites was 7.52 (SD 2.68) ms(-2) and 9.21 (SD 2.48) ms(-2), respectively. Finger tingling, finger numbness, musculoskeletal problems of the neck, finger coldness, abnormal Phalen's test and abnormal light touch sensation were significantly more common in the high vibration exposure group (n=139) than the low-moderate vibration exposure group (n=54). Mean total lifetime vibration dose among exposed subjects was 15.2 (SD 3.2) m(2) h(3) s(-4) (ln scale). HAVS prevalence was 18% and the prevalence ratio of stage 1 and higher disease in the high vibration exposure group versus the low-moderate vibration exposure group was 4.86 (95% CI 1.19 to 19.80).

CONCLUSIONS:
Hand transmitted vibration is a recognisable problem in tropical countries including Malaysia. The current study has identified clinical symptoms and signs suggesting HAVS among construction workers exposed to hand transmitted vibration in a warm environment.