Thoracic hyperkyphosis non invasively measured by general practitioners is associated with chronic low back pain: A cross-sectional study of 1364 subjects.

Villafañe JH, Bissolotti L, Zaina F, Arienti C, Donzelli S, Negrini S.

Abstract

OBJECTIVE: The aim of this study was to examine the association between trunk sagittal posture and nonspecific chronic low back pain (CLBP) by evaluating plumb-line distances in subjects recruited in an everyday clinical setting.

METHODS: Of the 1364 subjects recruited, 63.1% were female (mean age ± SD: 56.2 ± 16.8 years). Subjects were categorized into CLBP and control groups and were prospectively assessed over a 3-month period. They provided information about their daily activities and their history of CLBP. Prognostic factors were analysed using univariate and multivariate logistic regression analyses. A physical examination was performed to record demographic (i.e. age, height and weight) and pain characteristics, and the intensity of pain was assessed using a numerical visual analogue scale. Disability was assessed using the Roland-Morris Disability Questionnaire (RMDQ). A simple measure generally used for sagittal plane screening purposes during growth was also utilized.

RESULTS: Multivariate logistic regression analysis revealed that gender (OR = 1.70), RMDQ score (OR = 0.51) and thoracic hyperkyphosis (C7 + L3 at the plumb-line distance) (OR = 1.57) were associated with CLBP. The final regression model explained 85.6% ($R^2 = 0.56$; $P < 0.001$) of the variability.

CONCLUSIONS: General practitioners can clinically and easily assess trunk posture in subjects with low back pain to identify subjects at higher risk of CLBP.

Copyright © 2017 Elsevier Ltd. All rights reserved.