III Jornades de Recerca i Innovació Educativa
Innovació i coeducació
8 i 9 de novembre de 2019

LA CONDICIÓN FÍSICA COMO FACTOR DE RIESGO PARA EL DOLOR DE ESPALDA EN POBLACIÓN ESCOLAR: REVISIÓN SISTEMÁTICA

González-Caldentey, Rosa; Muntaner-Mas, Adrià; Vidal-Conti, Josep; Palou-Sampol, Pere

Universitat de les Illes Balears
Grup d'investigació en Ciències de l'Activitat Física i l'Esport

INTRODUCCIÓN: El dolor de espalda es uno de los mayores problemas de salud a nivel mundial. El dolor en la zona lumbar, a menudo, se inicia durante la infancia y se intensifica a lo largo de la adolescencia y edad adulta. Estudiar e identificar los factores de riesgo asociados al dolor de espalda es un requisito para, posteriormente, poder desarrollar una prevención primaria efectiva. El objetivo del presente estudio es examinar la relación entre la condición física y el dolor de espalda de la zona lumbar en la población escolar.

DISEÑO DEL ESTUDIO: Se realizó una búsqueda sistemática en la literatura sobre la asociación del dolor lumbar con la condición física en edad escolar desde el inicio hasta julio de 2019.

RESULTADOS Y CONCLUSIONES: La literatura muestra hallazgos inconsistentes sobre la asociación entre el dolor lumbar y los componentes de la condición física, posiblemente debido a la metodología utilizada en los diferentes estudios. A pesar de la alta prevalencia de dolor lumbar y de los estudios realizados, existe una falta de comprensión de los factores de riesgo: la relación entre la condición física y el dolor lumbar es inconsistente.

Table 1. Associations between physical fitness components and LBP during youth

Physical fitness component		Authors	Main results
Associated	Aerobic capacity	Perry et al., (2009)	Increased likelihood of back pain in boys was associated with greater aerobic capacity
	Muscular strength	Bernard et al., (2008)	CLBP was associated with poor endurance strength of the trunk extensors, with hip extensors weakness and with quadriceps weakness
		Bernard et al., (2014)	14-to-16-year-old group: LBP teens were showed to have weaker extensors and stronger flexors than the healthy teens
		Mueller et al., (2018)	Athletes with BP showed significantly lower peak torque for all conditions in extension/flexion EMG amplitudes of the trunk of athletes with BP were higher for dorsal muscles in rotation and extension
		Mueller et al., (2017)	Higher SEGM amplitudes for BP athletes in the ventral and transverse muscles
		Perry et al., (2009)	BP in girls was associated with greater abdominal endurance Trunk extensor endurance in girls also showed a U-shaped relationship between this variable and diagnosed back pain
		Salminen et al., (1992)	There was a subgroup with recurrent LBP with decreased trunk muscle strength
		Sjölie & Ljunggren (2001)	LBP was found to be highly associated with low lumbar extension strength
	Flexibility	Balagué et al., (2010)	Unrestricted range of motion in the sagittal plane (flexion and extension) was higher in those with a history of LBP
		Dorneles et al., (2016)	The results indicated that only flexibility in girls was able to predict LBP
		Kujala et al., (1994)	Lumbar extension was associated with LBP among girls Hip flexor tightness, forward bending, and lumbar flexion was associated with LBP among boys
		Perry et al., (2009)	In boys, there was a U-shaped relationship with diagnosed back pain
		Salminen et al., (1992)	There was a subgroup with recurrent LBP having a different spinal mobility pattern
		Sjölie & Ljunggren (2001)	LBP was found to be highly associated with high lumbar mobility-extension ratios
Not associated	Aerobic capacity	Perry et al., (2009)	A relationship between aerobic capacity and back pain was absent for girls
	Muscular strength	Balagué et al., (1993)	Non-specific low back pain was not correlated to trunk muscle strength
		Balagué et al., (2010)	Isoinertial trunk performance was not associated with LBP in adolescents
		Bernard et al., (2014)	11-to-13-year-old group: No significant difference in isokinetic performance was found between NBP and LBP children
		Dorneles et al., (2016)	Strength/resistance was not able to screen low back pain
		Kujala et al., (1994)	Strength was not associated with LBP
		Merati et al., (2004)	Isokinetic and isometric trunk muscle strength probably play a minor role in back pain occurrence in children
		Mueller et al., (2017)	Drop jump ground reaction force variables did not differ between NBP and BP athletes
		Perry et al., (2009)	A relationship between BP and abdominal endurance was absent for boys Trunk extensor endurance also showed no association with pain in boys
	Flexibility	Bernard et al., (2008)	In the control group, no links were found between pain and muscle flexibility
		Perry et al., (2009)	The sit-and-reach distance, an indication of both spinal flexion and hamstring flexibility, was unrelated to BP in girls

ROM: Range of Movement; CLBP: Chronic low back pain; NBP: No back pain; BP: Back pain; SEMG: Surface Electromyography; EMG: Muscular activation pattern

IDENTIFICACIÓN DEL PROYECTO : PID181954

Irie Institut de Recerca i Innovació Educativa UIB - GOIB

Contact details: Department of Pedagogy and Specific Didactics, Faculty of Education, University of Balearic Islands, Balearic Islands, Spain. Electronic address: gonzalezcaldenteyrosa@gmail.com

Universitat de les Illes Balears