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REVIEW: LITERATURE REVIEW

Musicians, postural quality and musculoskeletal health: A literature's review



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KEYWORDS

Review; Musician; Postural quality; Musculoskeletal disorders; Efficiency **Summary** *Objective:* An analysis of the salient characteristics of research papers published between 1989 and 2015 that evaluate the relationship between postural quality during musical performance and various performance quality and health factors, with emphasis on musculoskeletal health variables.

Methods: Searches of Medline, Scopus and Google Scholar for papers that analysed the subject of the study objective. The following MeSH descriptors were used: posture; postural balance; muscle, skeletal; task performance and analysis; back; and spine and music. A descriptive statistical analysis of their methodology (sample types, temporal design, and postural, health and other variables analysed) and findings has been made. The inclusion criterion was that the body postural quality of the musicians during performance was included among the target study variables.

Results: Forty-one relevant empirical studies were found, written in English. Comparison and analysis of their results was hampered by great disparities in measuring instruments and operationalization of variables.

Conclusions: Despite the growing interest in the relationships among these variables, the empirical knowledge base still has many limitations, making rigorous comparative analysis difficult.

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Introduction

The quality of body posture in musical performers has been investigated for its impact on their health and their interpretive performance. The stress experienced by a musician's heart during a concert performance has been likened to that experienced by an elite athlete's (Inesta Mena, 2006). The psychophysical burden borne by musicians throughout their career is frequently a source of health problems, mostly involving the musculoskeletal system, which can affect both quality of life and musical performance. The prevalence of which among musicians has variously been reported as between 25% and 93% (Viaño Santasmarinas et al., 2010). According to some studies, a significant percentage (37%) of musicians suffer musculoskeletal disorders that are sufficiently serious to affect performance (Roset-Llobet et al., 2000).

A frequently cited risk factor for musculoskeletal disorders among musicians is poor posture (Queiroz de Andrade and Marques Fonseca, 2000; Pascarelli and Hsu, 2001; Byl et al., 2003; Lederman, 2003; Nyman et al., 2007; Dommerholt, 2009; Kruta De Araújo et al., 2009; Granda Vera et al., 2011; Barczyk-Pawelec et al., 2012), which has been studied from a medical standpoint (Pascarelli & Hsu, 2001; Nyman et al., 2007; Bittner-Czapińska and Janiszewski, 2004; Buckley and Manchester, 2006; Edling and Fjellman-Wiklund, 2009; Johnson and Skinner, 2009; Husseini et al., 2011) (with a view to treatment), but also from an educational perspective (Rabuffetti et al., 2007; Kruta De Araújo et al., 2009; McKenzie et al., 2009; Staes et al., 2011; Akel et al., 2010a, 2010b; Steinmetz et al., 2010; Baadjou et al., 2011; Barczyk-Pawelec et al., 2012; Blanco-Piñeiro et al., 2015), in regard to its influence on the quality of performance (Staes et al., 2011; Blanco and García Soidán, 2011; Van Der Linden et al., 2011; Lee et al., 2012). Several authors have emphasized the need for medical professionals and music teachers to collaborate in postural training programmes in order to instil postural habits that minimize risk and favour optimal performance (Barczyk-Pawelec et al., 2012; Edling and Fjellman-Wiklund, 2009).

In spite of the considerable number of studies in this field, we know of no review papers surveying its current situation (Lederman, 2003). To remedy this deficit, in this paper we analyse the objectives, design and main results of published research into the relationships among musculoskeletal health, the quality of performance, and postural quality during musical performance (or interventions aimed at improving postural quality).

Methods

Search strategy

Searches in Medline and Scopus were supplemented by others in Cinahl, the CSIC databases IME and ISOC, Redinet, Teseo, Proquest Dissertations, Dialnet, ERIC and Google Scholar. We used the MeSH descriptors posture; postural balance; muscle, skeletal; task performance and analysis; back; and spine and music. The Medline search strings were as follows:

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(MH "Posture") AND (MH "Music");
(MH "Muscle, Skeletal/PH") AND (MH "Music");
(MH "Task Performance and Analysis") AND (MH "Music")
AND Posture;
(MH "Back") AND (MH "Music");
(MH "Spine") AND (MH "Music");
(MH "Postural balance") AND (MH "Music"); and
(MH "Spine") AND (MH "Music") AND (MH "Posture").
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The period spanned by the search was January 1989 to February 2015.

Study selection

The criterion for including a study in the present analysis was that it should aim to analyse relationships between the quality of musicians' body posture during performance on the one hand, and, on the other, measures of health or physical or musical performance. Theoretical studies,

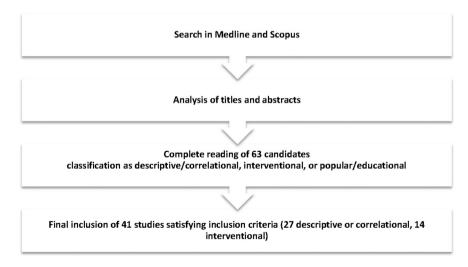


Figure 1 Flowchart of the study selection process.

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