**Rationale for conducting the systematic review/meta-analysis and contribution the research makes to knowledge in light of previously published related reports:**

As a mean of progression in muscle strengthening and rehabilitation programs, unstable support surfaces have been incorporated into the push-up variants. Compared to stable surface, increased serratus anterior (SA) and upper trapezius (UT) EMG during push-ups has been reported when performed on unstable surfaces such as both-sides-up (BOSU) ball (Borreani et al., 2015; Tucker et al., 2010), wobble board (Biscarini et al., 2019; Park & Yoo, 2011), therapeutic ball (Seo et al., 2013), and suspension equipment (De Mey et al., 2014; Jeong et al., 2014). However, contradictory results have been reported, observing a significant decrease or no difference in the EMG of the SA when comparing different types of unstable surfaces against stable surface (Gioftsos et al., 2016; Horsak et al., 2017; Pirauá et al., 2014). **Previous systematic reviews** showed that push-up exercises performed on unstable support surfaces increased UT EMG compared to a stable surface, without an effect in the SA muscle (Cappato de Araújo et al., 2021; Kang et al., 2019). **However, the comparative analyzes observed in those reports have grouped in a single data pool different types of unstable support surfaces –BOSU, therapeutic ball, suspension equipment, among others– without considering the possible and potential differences in neuromuscular demand induced by the individual analysis of each unstable support surface** (Mendez-Rebolledo et al., 2021)**. In this context, to our knowledge, there is no** **quantitative analysis of the evidence that groups the data according to these differences.**

For these reasons, it is necessary to carry out a systematic search of the literature that considers inclusion and exclusion criteria related to the design and execution of the main exercises in closed kinetic chain of the upper limb –push-up, push-up plus, plank, scap protraction– and at the same time distinguish between different unstable support surfaces, without combining them in a single pool of data. The findings of this research could be applied in the prescription of scapular muscle training exercises in healthy individuals and potentially in the rehabilitation of individuals with musculoskeletal dysfunctions of the shoulder complex.

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