Musculoskeletal symptoms in nursing students: concept analysis

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Background: The musculoskeletal symptomatology is one of the most common conditions affecting the individual regardless of gender, age or socioeconomic context. Nursing is one of the professions in which the impact of musculoskeletal symptomatology is more evident (Ribeiro, Serranheira & Loureiro, 2017). Nursing students, once they begin their academic training, perform and experience the same situations of working conditions as the nurse, being exposed to the same factors that can trigger this musculoskeletal symptomatology (Oliveira et al., 2017).

Objective: To analyze the musculoskeletal symptomatology concept in nursing undergraduate students through Rodgers' evolutionary method.

Methods: For this study two methodologies were associated: Rodgers' evolutionary method, understands that a concept is used according to its context, is dynamic and changes over time (Dinmohammadi et al., 2016; Rodgers, 2000) and integrative literature review. The research question: What is the concept of musculoskeletal symptomatology applied to undergraduate nursing students? was formulated to the PCC acronym (Sousa, et al, 2018). The electronic research was carried in Bibliotheca Virtual em Saúde (BVS); SCOPUS and EBSCO*host* and Google Academic. Descriptors used: (musculoskeletal symptoms) OR (musculoskeletal disorders) OR (Musculoskeletal system) AND (Nursing Students). The inclusion criteria: publications in Portuguese, English and Spanish; articles with full text available and published between January 2004 and June 2018. 544 references were identified, and 10 articles were selected for final revision.

Results: Having in mind the fundamental elements of Rodgers' evolutionary method, this analysis allowed identify **characteristics**, **attributes** and **contextual** basis of the **concept**. Different forms of expression emerged to describe the musculoskeletal symptomatology. The evident terms were musculoskeletal disorders (Abledu & Offei, 2015; Kneafsey & Smallwood, 2010; Lövgren et al., 2014; Smith & Leggat, 2004), musculoskeletal symptoms (Dawson et al., 2009; Lövgren et al., 2014; Menzel et al., 2016; Singh et al., 2010; Oliveira et al., 2017), work-related symptoms (Oliveira et al., 2017) and, musculoskeletal injuries (Kneafsey & Smallwood, 2010). We chose the musculoskeletal symptomatology, because it is **characterized** as a subjective experience of alteration, function or appearance of the body (Nunes et al., 2016), not being considered a medical diagnosis. A**ttributes** are: pain; discomfort; limitation of normal activities; the most affected areas: lumbar region, neck, shoulders, wrists and knees (Lövgren et al., 2014; Nunes et al., 2016). C**ontextual** causes most described as being at the origin and consequences symptomatology: overload; repetitive movements; inappropriate postures e excessive use of the computer, changes in quality of life, anxiety, academic stress and wellbeing (Azevedo, 2017; Backåberg et al., 2014; Lövgren et al., 2014; Martins & Felli, 2013; Oliveira et al., 2017).

Conclusions: This study contribute to clarification the concept of musculoskeletal symptomatology in nursing students and describe attributes, contextual causes and health consequences. It undeniable

the importance of knowing the factors that contribute to musculoskeletal symptomatology, to intervene earlier. Nursing degree admission requires students to have cognitive, physical and emotional resources. The school must provide conditions that nursing students can deal with situations that interfere and compromise their quality of life.

Keywords: Nursing Students; Musculoskeletal Physiological Phenomena; Concept Formation

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