



# Musculoskeletal symptoms in nursing students: **concept analysis**

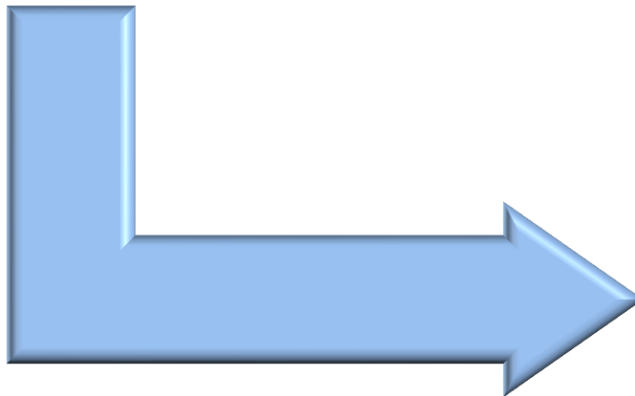
Cristiana Firmino<sup>1,2</sup>, Ana Vanessa Antunes<sup>2</sup>, Luís Sousa<sup>2,3</sup>,  
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and Celeste Rocha<sup>5</sup>

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# Background

The musculoskeletal symptomatology is one of the most common conditions in our society, affecting the individual regardless of gender, age or socioeconomic context.



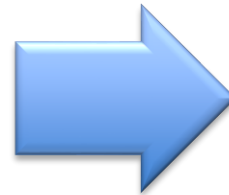
Identify various forms, words or expressions that represent the concept and, in a certain way, may be considered as synonyms.





# Background

Necessary to clarify  
the concept of  
musculoskeletal  
symptoms in nursing  
students.



Identifying:  
their attributes,  
antecedents,  
consequences and  
protective factors.

**Contribute to their minimization or prevention.**





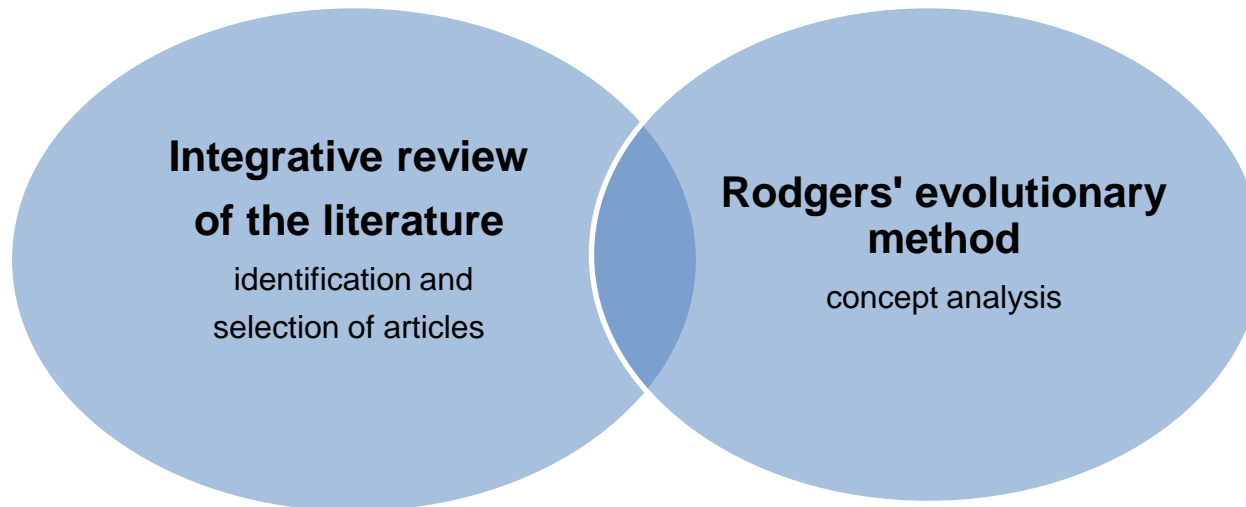
# Objective

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

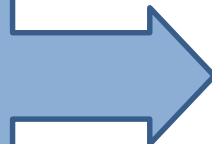




# Material and Method



EBSCO Host  
platform, Virtual  
Health Library and  
Google scholar from  
2004 to 2018



**Ten articles were included  
for final revision**





# Methods: Integrative review of the literature

Identification of the subject and selection of the hypothesis or question of research for the elaboration of the integrative review

Establishment of criteria for inclusion and exclusion of studies / sampling or literature search

Definition of the information to be extracted from the selected studies / categorization of the studies

Evaluation of studies included in the integrative review

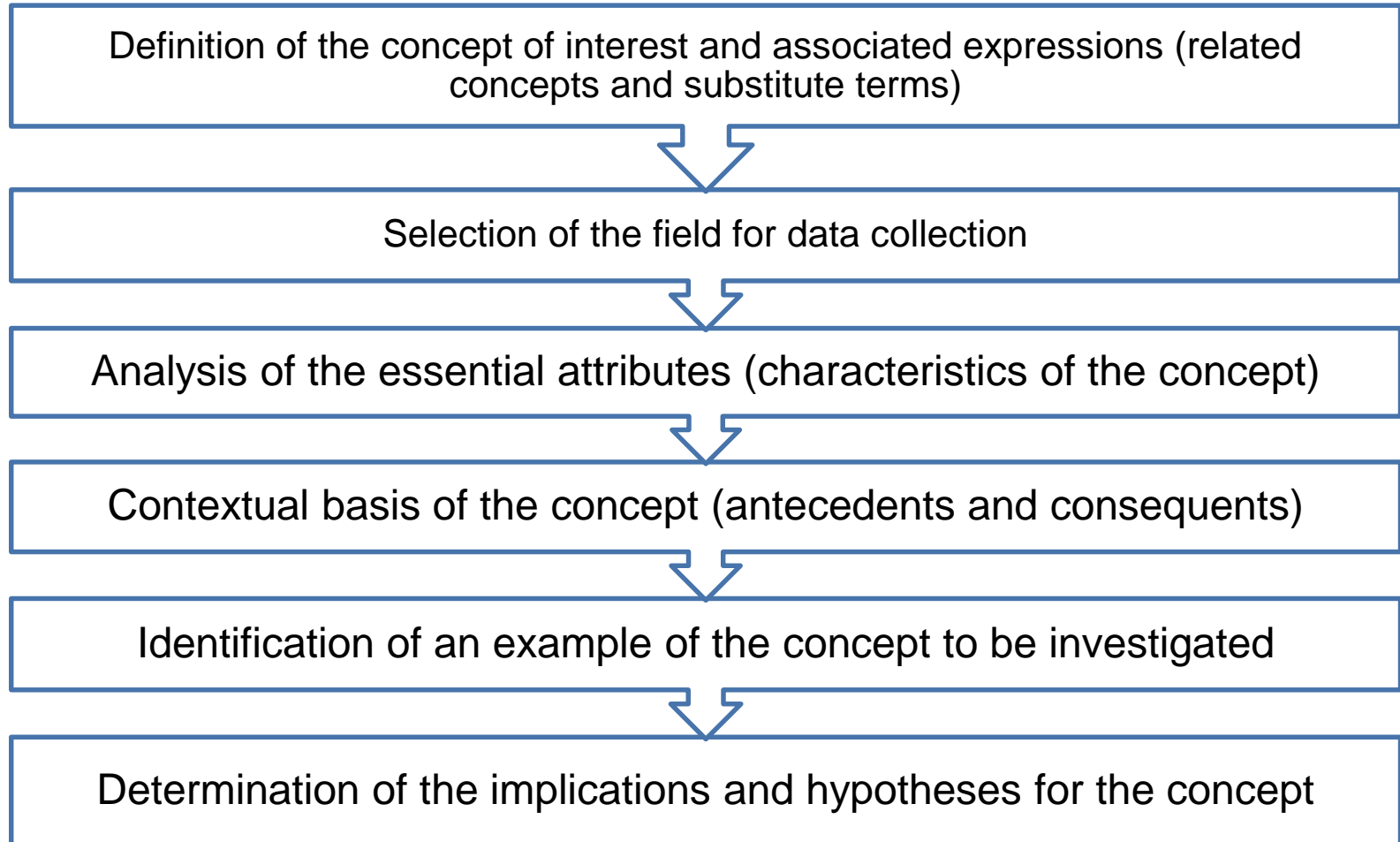
Interpretation of results [Rodgers' Evolutionary Method]

Review presentation/ knowledge synthesis [Rodgers' Evolutionary Method]





# Methods: Stages of Rodgers' Evolutionary Model





# Musculoskeletal symptoms according to Rodgers's evolutionary method

Concept characteristics (related and substitutive)	Essential attributes of the concept (express their nature)	Contextual basis of the concept (background and consequences)
<p>Musculoskeletal Disorders (1,14-17- 19) Musculoskeletal symptoms related to work<sup>(5)</sup></p> <p>Musculoskeletal symptoms<sup>(5,14-16, 21-22)</sup></p> <p>Musculoskeletal injury<sup>(17)</sup></p>	<p>Musculoskeletal pain and discomfort or numbness (1,5,14-17-22)</p> <p>Location: neck, shoulders, lumbar and cervical, knees, wrists and hands (1, 5, 14-17, 19-22)</p> <p>Limitation of normal activities such as work, domestic service or hobbies (1,5,20-22)</p> <p>Slow and insidious multicausal symptomatology<sup>(5)</sup></p> <p>Nordic Questionnaire for Musculoskeletal Injuries (1,5,20-22)</p>	<p><u>Antecedents</u></p> <p>Physical factors (inadequate postures, excessive load and positioning, repetition of movements, physical activity) (1,5,14-17, 19-22)</p> <p>Individual factors (age, female gender, previous clinical history, ethnicity)<sup>(5,17,21)</sup></p> <p>Organizational and psychosocial factors (repetitive work, high work rhythm, stress, anxiety, excessive use of the computer, nursing students, attendance of the last year of the course)<sup>(5, 14-17,19-21)</sup></p> <p>Family history and having an accident.<sup>(21)</sup></p> <p><u>Consequences</u></p> <p>altered quality of life<sup>(14-16, 19, 21)</sup></p> <p>sleep problems<sup>(5, 14-16)</sup></p> <p>academic stress<sup>(1,21)</sup></p> <p>change in life activities<sup>(14-16, 19, 21)</sup></p> <p>change in well-being<sup>(5, 14-17, 21)</sup></p>







# Adopted Concept

**Musculoskeletal symptoms are described as an unpleasant physical perception, pain, feeling of weight, tingling and fatigue of an individual, according to the individual's perception.**





# Results

Substitutive terms and related concepts, where musculoskeletal disorders and musculoskeletal symptoms were highlighted;

As essential attributes of the concept we stand out, pain and discomfort. The Nordic Musculoskeletal Questionnaire was the most used

Risk factors were identified as antecedents, and the consequences were the impact on students' lives.





# Practical implications

The development of intervention programs seems to be fundamental for the prevention of musculoskeletal symptoms.

Nursing degree admission requires students to have cognitive, physical and emotional resources.

The university / school must provide conditions so that nursing students can deal with situations that may interfere and compromise their quality of life.

Early prevention of musculoskeletal symptoms can be performed during the nursing undergraduate degree.





# Conclusions

Factors that predispose this symptomatology must be considered, such as: overload; repetitive movements; inappropriate posture; excessive use of the computer;

Attention should also be paid to the differences in gender, family history, personal history of accidents, physical exercise and others.

The use of **both methodologies together** allows to answer the outlined objective and showing once again how **qualitative methodology** can contribute to the production of useful information able to be transferred to practice.





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