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Measuring health-related quality of life among university students: a scoping review protocol

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Abstract

Background Understanding university students' health-related quality of life (HRQoL) can help propose strategies that support targeted care for this population and identify issues affecting these individuals. Therefore, it is necessary to identify the commonly used instruments and possible study designs for the university population, enabling the standardization of interventions and instruments to evaluate the HRQoL of university students. We aim to conduct a scoping review to identify the main measurement instruments and key characteristics in studies using HRQoL measures among university students. It is also aimed at identifying the foundations for guiding future research priorities.

Methods This review will consider original peer-reviewed articles that used any generic HRQoL measurement instruments exclusively used with university students aged 18–59. Validation, qualitative, language translation, or adaptation studies will be excluded. This review will follow the Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). The research will be conducted in five electronic databases (PubMed, Embase, Web of Science, Scopus, and SPORTDiscus). Two reviewers will independently screen records using predefined eligibility criteria and extract data using tables. The extracted data will include specific details about the title, authors, year of publication, HRQoL instrument utilized, participants, intervention design, and critical findings. The results will be presented in a narrative summary with data displayed in tabular and diagrammatic formats.

Discussion This proposed scoping review aims to provide a comprehensive overview of the existing methods for assessing health-related quality of life in university students. The results will help identify gaps in the literature and establish a foundation for guiding future research priorities.

Scoping review registration Registration with Open Science Framework can be found under registration number https://doi.org/10.17605/OSF.IO/FY9GU.

Keywords College, Instruments, HRQoL, Scale, Questionnaire, Adults

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Background

The World Health Organization (WHO) defines quality of life as "an individual's perception of their position in life, in the context of the culture and value systems in which they live, and about their goals, expectations, standards, and concerns [1]. This definition of quality of life given by the WHO (1995) is not limited solely to the concept of health [2], as it refers to general well-being that encompasses the objectives and assessments of an individual's physical, material, social, and emotional state, along with the extent of personal development based on a set of personal values [3]. In this context, the term that explicitly expresses the quality of life in the health domain is referred to as HRQoL, which denotes an individual's perception of their health in terms of functioning and well-being, influenced by the physical, psychological, and social demands of health [2, 4, 5].

Health-related quality of life is a multidimensional construct classified as a patient-reported outcome (PRO), utilized in clinical trials and epidemiological research, with its information being used as markers for public policies [6]. In clinical trials, PROs represent patients' responses to interventions or settings, and their outcomes are measured in absolute terms to evaluate, for example, the efficacy of an intervention and its benefits to patients compared to another, without the interpretation of the response by a clinician [7]. On a larger scale, PROs can track health issues, compare outcomes, and assess the need for care among populations [8]. Given the above, HRQoL is influenced by the immediate effects and long-term consequences of a particular treatment or the context in which the individual is situated [4].

Specifically in higher education, integration into the university environment is considered critical for establishing health-related behaviors that promote well-being throughout adulthood [9]. This stage of life contributes to changes in habits and behaviors that can directly impact individuals' quality of life [10, 11]. However, Vaez et al. found that the quality of life of university students is lower than that of non-university peers of the same age [12], a finding that suggests the university population may be more vulnerable to physical, mental, and social health issues [13, 14]. Stressors in the university context, such as academic demands, prolonged sitting, and unhealthy lifestyles, contribute to this vulnerability [15, 16]. These factors highlight that a significant portion of university students fail to meet the recommended levels of weekly physical activity [17], accumulating high levels of sedentary behavior [18], which also negatively impacts mental health [19]. Additionally, factors such as social isolation and a lack of sense of belonging are present, leading to impairments in the social and mental health of these individuals [20]. According to the study by Auerbach et al. [21], one in five university students experiences some mental disorder classified by the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)*, with an increase in the prevalence of mental health issues within this population [22].

Given this context, understanding the HRQoL of university students can aid in proposing strategies to improve treatment and care for this population and identify problems that may affect these individuals [23]. However, to understand the HRQoL of university students, it is necessary to use a PRO to assess HRQoL domains in this population [24]. The WHOQOL-BREF [25], SF-36 [26], and EQ-5D [27] are the generic instruments commonly used to assess HRQoL [28–30]. Despite their similarities, these instruments do not measure the same concepts and domains, possessing specific features to assess the subjectivity and multidimensionality that the concept of quality of life encompasses, such as specific aspects of mental, physical, and social health [31–33]. Over the years, several studies have sought to provide comparative information between these generic instruments; among this information is as follows: conceptual and measurement data, reliability, and validity are examples from these studies [29, 33–35]. However, this scoping review does not intend to compare PRO instruments since we intend to understand the quality of life of university students regardless of the type of PRO used.

Therefore, to the best of our knowledge, there is a current need to identify commonly used instruments and, as possible, study designs for the university population, enabling the standardization or adaptation of interventions and instruments to evaluate the HRQoL of university students. This population is particularly sensitive to developing psychiatric disorders and experiencing a decline in quality of life. Thus, the present research examines how HRQoL is being assessed in the university population. We seek to analyze the main instruments used in HRQoL research within this population, highlight the primary research designs, and identify study gaps. Based on the results, we will identify foundations for guiding future research priorities to analyze HRQoL in the university population.

Methods

Design

We propose conducting this scoping review to analyze the emerging evidence regarding the HRQoL of university students. A scoping review maps and examines the extent of relevant literature in the researcher's area of interest [36]. According to Munn et al. [37], a scoping review should be used to identify the types of evidence available in a given field, clarify key concepts/definitions in the literature, examine how research is conducted on

a particular topic or in a specific field, identify the main characteristics or factors related to the subject, and identify and analyze research gaps. The proposed scoping review will be written and guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) [38] checklist (S1 File). This scoping review protocol was registered in the Open Science Framework Register DOI: https://doi.org/10.17605/OSF.IO/FY9GU.

The methodological frameworks described by Arksey and O'Malley will be used [36]. These frameworks will analyze the scoping review in six (6) steps: (1) identifying the research question; (2) identifying relevant studies; (3) study selection; (4) charting the collected data; (5) collating, summarizing, and reporting the result; and (6) consultation (optional).

Identifying the research question

Our research question was formulated using the mnemonic strategy population, concept, and context (PCC), which is as follows:

- P: Adult students (18–59 years)
- C: Health-related quality-of-life assessment instruments
- C: Universities and colleges around the world

Based on that, the research question was as follows: How is health-related quality of life (C) being assessed in university (C) students (P)?

Identifying relevant studies

The research will be conducted across five electronic databases (PubMed, Embase, Web of Science, Scopus, and SPORTDiscus) by a health sciences specialist and peer-reviewed by two other researchers with experience in this field. Searches will not be restricted by date. An initial limited PubMed search was conducted to identify articles on the topic (Table 1). The text words found in the titles and abstracts of relevant articles and the index terms used to describe the articles were utilized to formulate a comprehensive search strategy for PubMed, Embase, Web of Science, Scopus, and SPORTDiscus. The search strategy, encompassing all identified keywords and index terms, will be tailored for each included information source.

Study selection

Eligibility criteria The PCC framework will guide the eligibility criteria. To be included or excluded in the review, the following eligibility criteria will be required for articles:

Inclusion criteria

Population

a) The sample must consist university students over 18 years old.

Concept

a) Studies must measure health-related quality of life.
b) Studies must report the health-related quality-of-life instrument used.

Context

a) Universities around the world

Types of evidence

a) Original peer-reviewed articles

Table 1 Search strategy for PubMed

Search	Query	Records retrieved
#1	"quality of life"[MeSH Terms] OR "health-related quality of life"[tiab] OR "health related quality of life"[tiab] OR "HRQOL"[tiab] OR "life quality"[tiab]	312,681
#2	"university student*"[tiab] OR "college student*"[tiab]	51,741
#3	"measure*"[Title/Abstract] OR "scale"[Title/Abstract] OR "instrument*"[Title/Abstract] OR "questionnaire*"[Title/Abstract] OR "score*"[Title/Abstract]	6,153,478
#4	"Adolescent*"[tiab] OR "teen*[tiab]	371,172
#5	"humans"[Filter]	22,957,049
#6	#1 AND #2 NOT #4 AND #3 AND #5	536

Search conducted on June 14, 2024, with no language limits

b) Studies published in all countries

Exclusion criteria

Studies will be excluded if as follows:

a) They used a qualitative approach.
b) They used a specific quality-of-life instrument.
c) They are validation, translation, or language adaptation studies.
d) They include elderly participants (over 60 years old).

Selection of sources of evidence The search results will be exported to the reference management software Rayyan (Qatar Computing Research Institute, QCRI), and one author will remove duplicates (M. R.). Following James et al. [39], prior to title and abstract screening, a pilot sample of 60 articles (2 sets of 30) will be selected for 3 reviewers (M. C., A. R., G. C.) using Microsoft Excel. Once inter-rater agreement reaches 80% [40], two authors (M. R. and A. R.) will independently screen the titles and abstracts of all eligible studies, resolving discrepancies through discussion until consensus is reached. If needed, a third author (G. C.) will be consulted for final decision-making. Following title and abstract screening, two researchers (M. R. and A. R.) will review the full-text articles for inclusion in the review. Again, in cases of disagreement, resolution will be achieved through discussion with the third author (G. C.). The search results will be fully reported in the scoping review and presented in a PRISMA-ScR [41] flow diagram (Fig. 1).

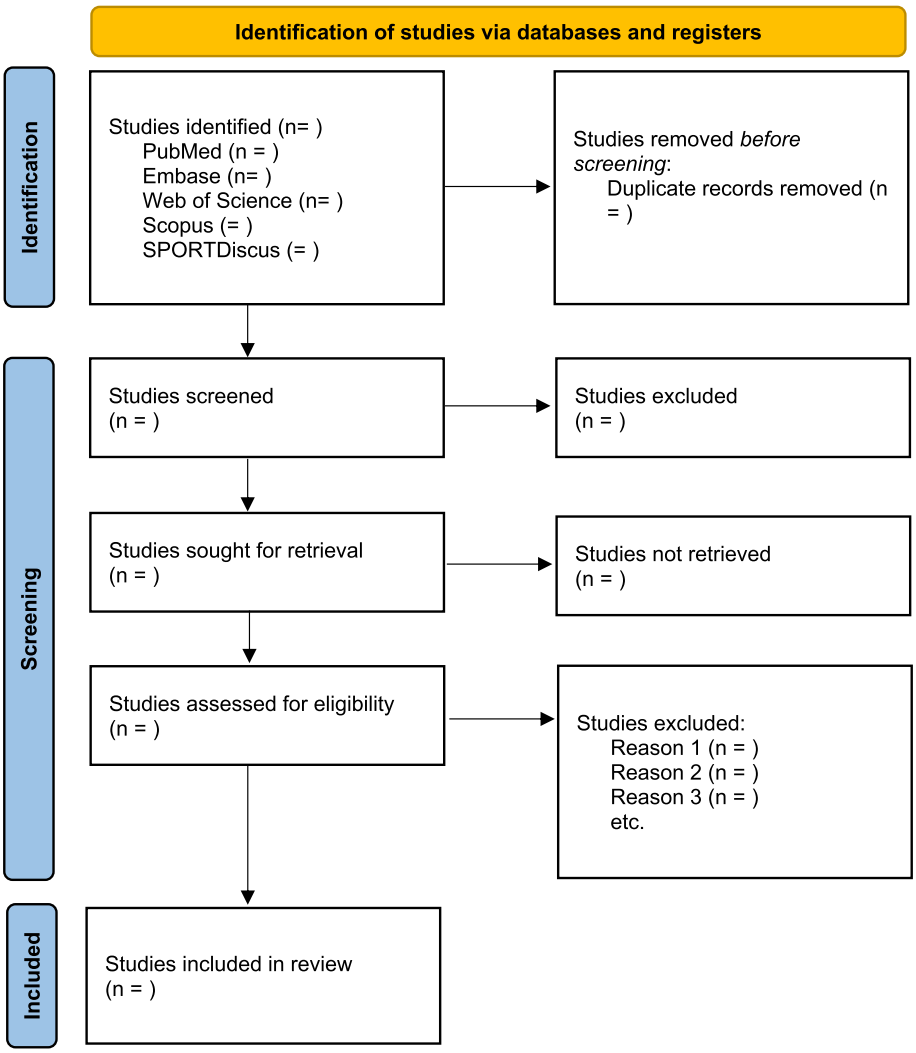

Fig. 1 A flow diagram model, based on the schematic overview of the PRISMA 2020 flow diagram for new systematic reviews, will be used in the scoping review

Charting the data

A spreadsheet for data extraction from studies included in the research has been developed (S2 File). The extracted data will include the following: (1) bibliographic information: title, author, year of publication, and journal; (2) article details: study objective, sample size, their gender and age, study design, variables analyzed, and main findings, publication language, and funding; and (3) characteristics of the HRQoL instruments: instrument name, number of items and whether they were all used, domains covered, frequency of instrument use, if used an online or face-to-face response, validated instrument, and validated translation. Two authors will compare the extracted data (M. R. and A. R.), and any discrepancies will be resolved through discussion. In cases where any of the aforementioned information is unclear, we will contact the authors of the respective study to obtain further details.

Collating, summarizing, and reporting the results

The extracted data will be presented diagrammatically or in tables aligned with the aim of this scoping review. Additionally, selected studies will be presented in a narrative summary accompanied by graphic results to elucidate the extent and nature of the studies for each extracted datum [42]. The data will be grouped into topics like Afonso's scoping review [43]. The first topic will be study selection, with the total identified studies, records screening, and retrieval; the second one will be publication-level information, with publication dates, publication language, geographical location, funding, and design of the studies; the third topic will be participant-related characteristics with sample size, sex, and age of university students in included studies; the fourth topic will be characteristics of HRQoL instruments with instrument name, number of items, if utilizes online or presential version, and there is a validated translation of instrument in the studies. Moreover, literature gaps will be identified, and implications for future studies will be suggested based on these gaps. As a scoping review does not require critical appraisal due to its exploratory nature [38], such evaluation will not be conducted.

Discussion

This proposed scoping review aimed to respond to how HRQoL is being assessed in studies conducted with university students. To our knowledge, this study will be the precursor of the nature of the research conducted so far. The strengths of this review encompass the systematic process of searching, screening, reviewing studies, and extracting data following a standardized guidance checklist. Therefore, our eligibility criteria and sources of search will be broad enough to allow the expectation to include a large number of studies to respond to this question appropriately and identify the gaps in the scientific literature related to HRQoL in universities. Consequently, the results from this review will provide the prevalence of identifying foundations for guiding future research priorities. For limitations, since a scoping review does not require critical appraisal due to its exploratory nature, such evaluation will not be conducted.

Abbreviations

EQ-5D	EuroQol 5 dimension
HRQoL	Health-related quality of life
PRISMA-ScR	Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews
PRO	Patient-reported outcome
SF-36	Short-Form 36
WHO	World Health Organization
WHOQOL-BREF	World Health Organization Quality of Life-BREF
WOS	Web of Science

Supplementary Information

The online version contains supplementary material available at https://doi.org/10.1186/s13643-025-02787-2.

Supplementary Material 1. PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for the Scoping Reviews) checklist.

Supplementary Material 2. Excel data extraction form.

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Authors' contributions

All authors contributed equally to this work. Therefore, MR, AR, CC, FC, MN, AF, CL, KW, TR, BK, and GC conceptualized the project, drafted the protocol, registered it, contributed to its development, and critically read and gave final comments.

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Data availability

The generated and analyzed data in this research will constitute the scoping review article.

Declarations

Ethics approval and consent to participate

Ethics approval is not required for a systematic review of publicly available literature.

Consent for publication

This study uses secondary (published) data; as such, consent will not be required.

Competing interests

The authors declare that they have no competing interests.

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