

REVIEW

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Life skills programmes for university-based wellness support services for students in health sciences professions: a scoping review

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Abstract

Background Student wellness is a major concern during the educational programme of health professionals, as mental distress impacts negatively on students' academic performance and success. Available literature indicates that improving student wellness has the potential to increase academic performance and success for students. Medical schools implement various forms of support to lessen student distress and enhance wellness. Mental health challenges amongst university students in health sciences professions continue to be on the rise despite support services offered by medical schools.

Methods A scoping review methodology was used and a detailed search of seven databases including MEDLINE, Ovid Emcare, Embase, Scopus, PsychINFO, and ERIC was performed. The steps of the Preferred Reporting Items extension for Scoping Reviews (PRISMA-ScR) and guidelines suggested by Arksey and O'Malley's methodological framework for scoping reviews were followed. Studies that described or investigated life skills programmes with students in health professions, including medicine and nursing fields, were included. Studies were excluded if they were not published in English and did not describe university-based support programmes with students in health sciences professions.

Results After application of the inclusion and exclusion criteria 66 articles were included and explored in detail. The identified life skills were grouped into three categories, namely cognitive skills, emotional skills as well as interpersonal and social skills.

Conclusion Life skills are necessary to enhance lifelong learning for university students in health sciences professions. These skills encompass the development of a range of competencies including personal, intellectual, social, and emotional skills. Incorporating these life skills as part of holistic student wellness programmes may be an important consideration in guiding wellness support services implemented at universities.

Keywords Life skills programmes, Academic stress, Student wellness, Health sciences professions, Wellness support services

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Introduction

Globally, it is well-documented that students in health sciences professions experience academic stress in university settings [1–3]. Academic stress has even been accepted as a normal part of students' university life [4, 5]. Academic stress, however, increases students' vulnerability to burn-out, physical ailments, psychological distress and mental health disorders [1, 6–9]. Literature reports that health science programmes, in particular, place additional academic stress on students [10–12]. Education in health science professions is a source of stress for students as they involve training of advanced competencies that require research skills, knowledge of health and the application of that knowledge to promote well-being, cure diseases and meet the health needs and expectations of individuals and populations served [13, 14].

The scoping review considered literature from disciplines that aim to train students to practice the provision of comprehensive or integrated health care in their chosen professions. Moreover, such programmes include work-integrated learning (WIL) as part of training, which requires a high level of maturity, compassion, and creativity. These demands may add to health science students' academic stress [1, 10, 15].

University settings influence various aspects of the students' lives, including academic life, health, social networks and extracurricular activities [9, 16]. The slow progression of students, high student drop-out rates and low completion rates are challenging realities that confront tertiary institutions [17, 18]. To address the university and student challenges, Zaman et al. [19] advise on the centrality of academic student support services to equip students with life skills that will increase student retention and success. Students need to acquire the necessary life skills to manage increasing university demands, improve coping mechanisms and negotiate life challenges.

It is crucial for universities to address the wellness of students and provide support that teaches life skills that help students live well-balanced lives [4, 20]. Koen et al. [4] advised that a holistic wellness approach emphasising the interdependent dimensions of wellness should be considered as part of a positive holistic learning environment.

It has been a challenge in health sciences education to define student wellness because of the multidimensionality of human wellness [21]. The wellness concept is often used similarly with concepts such as health, well-being and quality of life [22]. Stoewen [23], (p. 861) defines wellness as "a holistic integration of physical, mental, and spiritual well-being, fueling the body, engaging the mind, and nurturing the spirit". Kirkland [24] is of the view that an individual has the responsibility to contribute to their

well-being and considers student wellness as being self-aware, intentionally preventing distress and promoting well-being.

Therefore, life skills programmes that address holistic health in enhancing wellness may go a long way in reducing the crisis of high dropout rates and poor academic performance observed in health sciences education [25, 26]. A focus on holistic student wellness by universities may facilitate the training of thriving students, equipped with life skills that prepare them to succeed and become empathetic future health professionals. Abaoğlu et al. [27] suggest that life skills include knowledge and behaviours that are necessary for life roles and include a set of core skills that improve people's wellbeing and help them to be productive in their community. Abaoğlu et al. [27] further classify life skills into three categories, namely, (i) cognitive skills, (ii) emotional skills and (iii) communication and interpersonal skills [27].

Life skills encompass important aspects such as decision-making, problem-solving, critical thinking, goal setting, self-awareness, self-management skills, interpersonal communication skills, emotional management, teamwork and social skills [16, 27, 28]. These skills are recognised for their valuable contribution to health promotion in improving the psychological and physical well-being of those affected by social and environmental factors [16]. Students in health professions require these skills to cope with academic demands and the added socio-emotional and environmental aspects of their lives. A study by Räsänen et al. [29] conducted on medical students showed life skills required in medical education including problem-solving, collaboration, communication and analytical skills. These skills may help students to deal with challenges in balancing their academic work and personal lives and to promote physical, mental, and emotional well-being and competence. Furthermore, future health professionals require life skills such as knowledge analysis, collaboration, communication, and problem-solving skills in their university and working lives [29].

Life skills programmes have been described as useful interventions in enhancing students in health sciences professions' mental health, quality of life, educational attainment and future economic prospects [30].

Development and transformation in higher education demand continued effort and research in order to provide evidence regarding life skills interventions addressing the holistic wellness of students in the health sciences professions.

Aim and Objectives.

This scoping review aims to describe the life skills programmes implemented as an intervention for university-based wellness support services for students in health science professions between 2001 and 2021. It is believed

that this overview may provide insight into the trends that have shaped the implementation of life skills programmes across this time period.

The objectives of the review were to (i) identify a broad overview of literature on university-based life skills programmes in health professions education for students in health sciences professions, (ii) describe how these skills have been taught and (iii) outline the reported outcomes of life skills programmes in improving the wellness of students in health sciences professions.

In addition, instructional methods used to teach these skills, intervention activities/approaches associated with the identified life skills and the service providers and/or service teams involved in the teaching of the life skills are also described.

Methods

A scoping review method was selected to summarise and disseminate research findings. A scoping review was the most suitable method to determine the scope of existing literature on university-based student support services and available studies on life skills programmes [32]. It was therefore not the aim of this review to determine the quality of the evidence on this topic, but to provide a reader with an overview of the available literature. The Preferred Reporting Items extension for Scoping Reviews and guidelines suggested by Arksey and O'Malley's [33] five-stage methodological framework for scoping reviews were used to guide the structured methodological process followed in the review [32].

The review followed these steps namely, (i) specifying the research question by linking it with the objective of the scoping review, (ii) searching and identifying relevant studies, (iii) selecting studies for inclusion, (iv) charting the data through an iterative process of data extraction, (v) synthesising, summarising, and reporting the results.

Specifying the research question

This review examined the question: What life skills programmes have been implemented for the provision of university-based wellness support services for students in health science professions? The article aims to describe an overview of evidence about life skills programmes for the provision of university-based wellness support services for students in health science professions.

Searching and identifying relevant studies

The steps detailed in the PRISMA Extension for Scoping Reviews (PRISMA-ScR) were followed. These steps are suggested by Tricco et al. [34] and include, identifying the articles for review, screening the articles for review, deciding on the studies' eligibility, and finalising the list of studies to include in the review.

A librarian was consulted and assisted in the selection of databases and the development of the search terms. The first author (AL) collaborated closely with the librarian who guided the search strategies and assisted in mapping out the literature on student health and wellness programmes at health sciences tertiary institutions.

As the first author became more familiar with the evidence base, other keywords, sources, and potentially useful search terms were discovered and incorporated into the search strategy. The identified keywords were finalised and categorised in terms of population, support programme/service and context (Table 1). Eligible sources of evidence were searched in the databases that included Medline, Ovid Emcare, Embase, Scopus, PsychInfo and ERIC. The database search identified 25,624 records. Endnote™ was used to organize identified sources, de-duplicate and discard irrelevant records.

Selecting studies for inclusion using eligibility criteria

The first three authors (AL, ER, KvN) were reviewers and used the open-access software tool, Rayyan [35] to independently screen the articles in three stages, namely, title, abstract and full-text screening stages. The inclusion and exclusion criteria were applied to identify suitable articles for the review (Table 2). Studies not focused on life skills were excluded as well as review articles, theoretical articles, conference presentations and expert opinion articles.

The authors acknowledge the continuous developments in research regarding student support services. However, temporal parameter restrictions were carefully considered to ensure inclusion of relevant studies and feasibility associated with the scoping review process [36]. As the authors aimed to obtain a comprehensive overview of the trends that have shaped the provision of life skills programmes to health sciences students, articles published since 2001 were included.

The relevant articles were those that included programmes implemented with students training in health sciences professions including occupational therapy, physiotherapy, medicine and nursing sciences. Medicine and nursing science disciplines share similar student training needs with the other health sciences professions. These disciplines' training goals are aligned with other health sciences professions with regards to providing integrated health care as part of the interprofessional team approach in collaborative healthcare contexts [37, 38].

It was anticipated that evidence sought from these categories of health professions would add to the understanding of student support needs due to the complexity of their clinical teaching that requires clinical placements when working with clients.

Table 1 Search keywords

Population	Programme or Service	Context
Allied Health Personnel or Allied Health Occupations or Occupational Therapy or Occupational Therapists or Physical Therapy Specialty or Physical Therapy Modalities or Physical Therapists or (allied health or occupational therapy* or physical therapy* or nutritionist or speech pathology)	Stress, Psychological or Social Support or Health Promotion or Counseling or "Quality of Life" or Mental Health	Universities or (university* or higher education* or tertiary institution* or tertiary education* or college*)
AND	OR	
Students/ (MESH) or Student	Student Health Service (MESH) or student* or university health service* or support service*	
OR	OR	
Students, Medical (MESH) or Students, Nursing (MESH)	holistic or wholistic or social care or social support* or wellness or wellbeing or well-being or health promotion or counseling* or "quality of life" or mental health or stress or support service	
	AND	
	Program Evaluation or Program Development or Mental Health Services or (intervention* or program* or workshop* or tutorial* or service* or support)	

Table 2 Inclusion criteria

	Inclusion Criteria
Publication Language	Articles published in the English language
Publication Dates	Publications between 2001 and 2021
Type of Research	Empirical research studies (qualitative, quantitative, or mixed-method) published in a peer-reviewed journal
Population and context	Students in health sciences professions in university settings; including medicine and nursing sciences
Programme/ Service	Formal university or college-based student support programmes or service
Intervention programmes	Life skills-specific

Selection of relevant studies

After the articles were identified through the databases, duplicates were removed and the remaining articles were screened. The electronic search of the databases identified 25,624 records. A total of 9735 duplicate records were removed using Endnote, which left 15,889 records for the title-screening phase.

Two reviewers independently screened the articles on the title level. The first author (AL) engaged in screening all the articles, with one of the two co-authors (ER or KvN) screening each article independently as well. At this level, where reviewers did not agree on the inclusion

of a particular article, the article was included in the next review stage. After eliminating 14,268 records, 1261 records were left and entered the abstract screening phase.

The remaining articles were independently reviewed on the abstract level by the first author (AL) and one of the co-authors (either ER or KvN). When reviewers did not agree on the selection of the article, the article was included in the next phase of the review. Application of the inclusion and exclusion criteria eliminated 1105 records. A total of 156 records were assessed for eligibility on the full-text level.

Articles that remained were assessed for eligibility on the full-text level. The same process as above was followed, with the first author (AL) reviewing all the articles and two co-authors (ER or KvN) each blindly reviewing half of the papers. The inclusion and exclusion criteria were applied to identify suitable articles for the review (Table 2). When two reviewers did not agree on whether an article should be included, the third reviewer reviewed the paper as well. Decisions on inclusion/exclusion were discussed until an agreement was reached. Of the 156 records assessed on full-text level, 90 articles were eliminated, and 66 articles were included for detailed analysis. The PRISMA flow diagram indicating the different phases of the review as recommended by Tricco et al. [34] details the selection process in Fig. 1.

Charting the data through data extraction

The first author (AL) extracted the data considering the key features of the articles and the objective of the review. The data extracted considered bibliographic details such

as specified author(s) and year of publication, country, study title and aim, research method, participants, and type of student support programme, including instructional methods, key findings and outcome measures that were reported. Two authors (ER and KvN) each analysed the extracted data to validate its accuracy.

Collating and reporting the results

Basic descriptive content analysis was used by quantifying text and doing frequency counts of data extraction items to analyse and report the charted data [39]. The first author collated and summarised the data by developing categories of the identified student support programmes in the health sciences professions. Consistency and authenticity of the data were ensured through review and verification of the categories by two other authors (KvN and ER).

This review article will report on studies that described life skills programmes (n = 66) that address the wellness

support of students training in health science professions at universities. A summary of the life skills programmes is outlined and depicted in Addendum A and Table 3. This table also outlines the specific skills addressed in the programmes, based on the content analysis of the life skills programmes reported in the included studies. Studies are tabled in chronological order in order to make it possible to observe trends over time (Addendum A).

Ethical considerations

This scoping review forms part of a broader research project that was approved by the Faculty of Health Sciences Research Ethics Committee (FHS-REC) at a university in Gauteng Province, South Africa, (Ethics Clearance No.: 584/2020). Human participation is not involved in a scoping review, therefore there is no risk to any participant. However, ethical standards for research integrity and the responsible reporting of findings were adhered to.

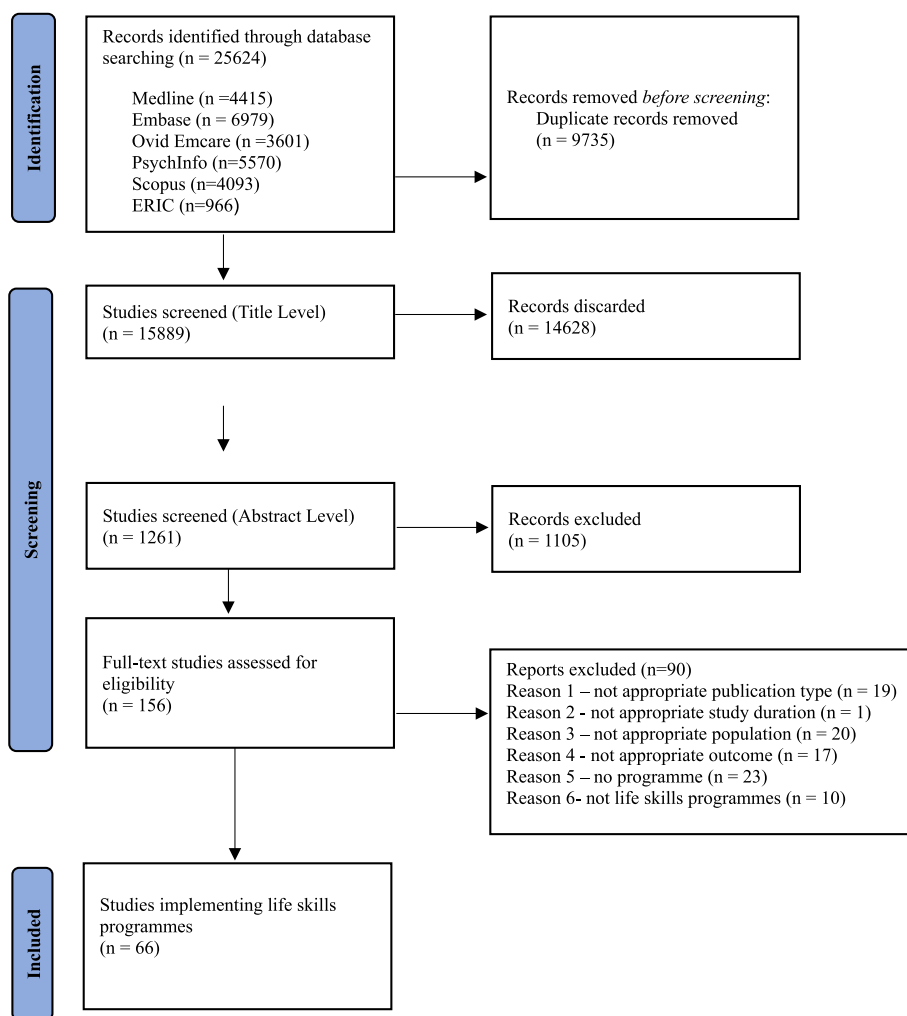


Fig. 1 PRISMA-ScR flow diagram for the selection process [34]

Table 3 Components of life skills programmes (Abaoglu et al. [27])

	Emotional skills															
	Cognitive skills					Self-Management										
	Problem-solving	Decision-making	Cognitive restructuring	Academic Skills	Clinical skills	Self-awareness	Self-efficacy	Self-reflection	Positivity	Spiritual enhancement	Emotional regulation	Time management	Study Skills	Assessment Preparation	Goal setting	Health management
1.Aboalshamat et al. 2015	✓					✓				✓		✓	✓	✓	✓	
2.Amri et al. 2011						✓		✓								✓
3.Beanlands et al. 2019										✓						
4.Bughi et al. 2006										✓						
5.Campos-Sanchez et al. 2020						✓		✓								
6.Chen et al. 2001								✓	✓							✓
7.Cheung et al. 2021						✓		✓	✓							
8.Chow et al. 2020											✓					
9.Conley et al. 2013			✓			✓			✓							
10.Damayanti et al. 2019													✓			✓
11.deVibe et al. 2013																
12.Demir and Eccan 2019			✓			✓				✓						
13.Drew et al. 2016																✓
14.Gammon & Morgan-Samuel 2004															✓	
15.Gold et al. 2019						✓									✓	
16.Gonzalez et al. 2010																
17.Goudarzian 2018	✓	✓				✓			✓		✓					✓
18.Frank et al. 2005	✓	✓	✓										✓			✓
19.Frank et al. 2007					✓											✓
20.Han et al. 2020					✓				✓							

Table 3 (continued)

	Emotional skills																
	Cognitive skills						Self-Awareness										
	Problem-solving	Decision-making	Cognitive restructuring	Academic Skills	Clinical skills		Emotional awareness	Self-efficacy	Self-reflection	Positivity	Spiritual enhancement	Emotional regulation	Time management	Study Skills	Assessment Preparation	Goal setting	Health management
61.Yazdani et al. 2010			√														√
62.Yazdani et al. 2014												√					√
63.Yearwood and Riley 2010								√	√								√
64.Yüksel and Bahadır-Yılmaz 2020			√														
65. Zargarzadeh and Shirazi												√			√		
66.Zhang et al. 2020				√	√	√	√		√	√							
Totals	9	4	12	14	14	19	4	8	15	9	22	3	6	4	3	24	

Table 3 (continued)

	Emotional skills											Interpersonal & social skills				
	Self-management					Stress management						Communication				
	Home management	Sleep and Rest	Diet, weight mx & Nutrition	Sensory regulation	Relaxation	Meditation	Mindfulness	Stress management	Coping skills	Resilience	Physical exercise	Communication	Interpersonal relationships	Assertiveness	Social support	Compassion/ Empathy
1.Aboalshamat et al 2015				✓	✓		✓				✓					
2.Amiri et al 2011					✓		✓						✓			
3.Beanlands et al. 2019					✓		✓			✓			✓			
4.Bughi et al. 2006					✓		✓				✓					✓
5.Campos-Sanchez et al 2020					✓		✓		✓							✓
6.Chen et al 2001			✓					✓			✓				✓	
7.Cheung et al. 2021					✓		✓									✓
8.Chow et al. 2020							✓			✓						
9.Conley et al. 2013					✓		✓					✓	✓			
10.Damanyantiet al. 2019								✓			✓					
11.deVibe et al. 2013							✓					✓				
12.Demir and Ercan 2019								✓				✓		✓		✓
13.Drew et al. 2016				✓							✓					
14. Gammon and Morgan-Samuel 2004								✓								
15.Gold et al. 2019													✓			✓
16.Gonzalez et al. 2010				✓							✓					
17.Goudarzi et al 2018								✓					✓			✓
89)Frank et al 2005			✓								✓					

Table 3 (continued)

	Emotional skills										Interpersonal & social skills						
	Financial mx & budgeting	Home management	Sleep and Rest	Diet, weight mx & Nutrition	Sensory regulation	Relaxation	Meditation	Mindfulness	Stress management	Coping skills	Resilience	Physical exercise	Communication	Interpersonal relationships	Assertiveness	Social support	Compassion/ Empathy
19.Frank et al. 2007		✓		✓							✓						
20.Han et al. 2020										✓							
21.Hassed et al. 2008			✓						✓		✓					✓	
22. Jamesson 2014									✓								
23.Jannati et al. 2012														✓			
24.Lobby and Vasom 2018									✓								
25.Joice et al. 2018											✓						
26.Keptner et al. 2016	✓		✓														✓
27.Kim, Kim and Kim 2015									✓								
28.Kim 2014											✓						
29.Korn et al. 2017				✓							✓						
30.Kotter & Niebuhr 2016									✓								
31.Lattie et al. 2019					✓				✓								
32.Lolaty et al. 2012									✓								
33.Mandic et al. 2020												✓					
34.McCarthy et al. 2018								✓									
35.McConville et al. 2019								✓				✓					✓
36.Melnyk et al. 2015												✓					✓

Table 3 (continued)

	Emotional skills													Interpersonal & social skills				
	Self-management																	
	Financial mx & budgeting	Home management	Sleep and Rest	Diet, weight mx & Nutrition	Sensory regulation	Relaxation	Meditation	Mindfulness	Stress management	Coping skills	Resilience	Physical exercise	Communication	Interpersonal relationships	Assertiveness	Social support	Compassion/ Empathy	
54.Van der Riet et al 2015			√		√			√										
55.Velayudhan et al 2010			√		√													
56.Vural Dogru 2021		√				√			√			√						
57.Weingartner et al 2019					√	√					√						√	
58.Warnecke et al 2011						√			√									
59.Williams et al. 2020						√								√		√	√	
60.Worobetz et al. 2020			√									√				√		
61.Yazdani et al. 2010			√						√									
62.Yazdani et al. 2014			√									√						
63.Yanwood and Riley 2010									√							√		
64.Yüksel and Bahadır-Yılmaz 2020								√	√									
65.Zargorzadeh and Shirazi 2020					√							√						
66.Zhang et al. 2020														√				
Totals	2	2	4	6	2	21	12	21	27	14	7	19	9	8	5	10	10	

Results

Characteristics of the included studies (refer to Addendum A)

Included studies are summarised and listed chronologically detailing relevant characteristics highlighting key features outlining the distribution of studies by publication year, countries of origin, research methods and reported key findings (refer to Addendum A).

Articles were published in a variety of journals including *Nursing Education* ($n=13$) and *BMC Medical Education* ($n=6$). Included studies represented data from 22 countries, most commonly the United States ($n=16$) and Iran ($n=9$). The remaining countries represented are shown in Addendum A. Many of the studies employed quantitative research ($n=53$) while others employed qualitative ($n=8$) and mixed-method ($n=5$) approaches. Most of the included studies sampled health sciences student participants in the fields of medicine ($n=29$) or nursing ($n=28$). A few of the studies sampled participants either from occupational therapy ($n=1$), physiotherapy ($n=2$), and some sampled combined interdisciplinary health sciences student groups ($n=6$) within the health professions.

A breakdown of articles over time indicates fewer articles between 2001 and 2009, with only one article recorded each year in that period, and two articles published in 2005. A slight increase is noted from 2010 to 2018 with four articles noted (in each year) with two and three articles recorded for 2012 and 2013, respectively. During 2019 and 2020 a substantial increase in the number of publications was noted, with nine and ten articles, respectively. Only three articles were recorded in 2021 on data collection completion in the first quarter of the year post pandemic.

Life skills intervention programmes that address academic stress

The suggested life skills are organised into three basic groups: (i) cognitive skills, (ii) emotional skills, and (iii) communication and interpersonal skills [27].

Cognitive skills are viewed as decision-making, problem-solving, and critical thinking whereas emotional skills comprise of self-awareness (self-efficacy, self-reflection, resilience) and self-management (time management, relaxation, and coping skills). Interpersonal relationship skills relate to making healthy relationships with others, communication and social awareness (empathy, social skills) to facilitate mental and social well-being [27].

Cognitive skills

Cognitive skills reported in several studies include problem-solving, decision-making, cognitive restructuring, as well cognitive competencies required for academic and clinical work skills. The cognitive competencies required

for academic skills ($n=14$) and clinical skills ($n=14$) are the most common skills identified in the life skills programmes followed by cognitive restructuring ($n=12$) and problem-solving skills ($n=9$). Decision-making ($n=4$) was addressed in a few of the identified life skills programmes.

Emotional skills

Studies that reported on emotional skills were grouped into self-awareness and self-management, as suggested by Abaoğlu et al. [27]. Self-awareness encompasses skills related to emotional awareness, emotional regulation, self-efficacy, self-reflection, positivity and spiritual enhancement skills. Emotional regulation ($n=22$), and emotional awareness ($n=22$) skills were reported in most studies followed by positivity ($n=14$), with self-efficacy reported in only four studies. Spiritual enhancement skills ($n=9$) and self-reflection skills ($n=7$) were also addressed in some programmes.

A substantial number of skills related to self-management skills were also referred to in many of the programmes. Stress management ($n=26$), health management ($n=23$), mindfulness ($n=21$), relaxation skills ($n=21$), physical activity ($n=19$), skills of coping with stress ($n=14$) and meditation ($n=12$) were commonly addressed in the life skills programmes. Other skills such as developing resilience ($n=7$), managing nutritional health ($n=6$) as well as study skills ($n=6$) were considered necessary for supporting healthy lifestyles and leading productive lives. Other self-management skills were reported in a few of the studies including assessment preparation ($n=4$), sleep and rest ($n=4$), goal setting ($n=3$), time management ($n=3$), home management ($n=2$), sensory regulation ($n=2$) and financial management ($n=2$).

Interpersonal and social skills

Interpersonal and social skills were also addressed in some life skills programmes. These skills are related to the ability to express oneself effectively and form healthy relationships with others such as peers, friends and family members [27]. Most skills addressed were related to showing empathy ($n=10$) including self-compassion and compassionate care for patients/clients. Additional skills were also addressed in some of the life skills programmes regarding social support ($n=10$) and communication ($n=10$) with a few studies addressing assertiveness ($n=5$) in interactional situations.

Facilitation of life skills intervention programmes

All the life skills programmes described in the included studies employed a teaching and learning approach to integrate conceptual knowledge about the different life

skills in the programmes. The format of facilitating the intervention programmes varied from small to large group teaching incorporated into either courses, workshops, lectures, seminars, or skills training sessions. These were practiced through role-playing or during personal time. The majority of the programmes were presented as non-compulsory support offerings ($n=60$) and a few were curricula embedded within academic modules ($n=6$). Some of the programmes provided homework sheets, question and answer sheets, resource manuals, booklets, or compact discs for self-teaching and practice ($n=11$). Certain interventions were web-based and provided online services ($n=4$) or were implemented through personal interactions during individual counseling and mentoring sessions ($n=4$). Some of the studies reported the use of an integrated support team or multidisciplinary team ($n=5$) for the provision of support services. The duration of the intervention programmes was scheduled in varied ways, ranging from hours, days, weeks, and months to year periods.

Skilled facilitators who were also researchers in studies ($n=36$) or experts such as trained instructors, psychologists, counselors, psychiatrists ($n=28$) facilitated some of the programmes. Facilitators were unspecified in two studies. Some of the life skills such as cognitive-behavioural (CBT) interventions, meditation and mindfulness-based interventions, stress management and relaxation techniques, yogic meditation techniques, psychoeducational interventions, dialectical-behavioural (DBT) interventions and mind-body-medicine skill-based (MBM) interventions required specialised knowledge and skills to train the students.

Effects of life skills programmes on the well-being of students

The key outcomes of the studies are summarised in Addendum A. All the studies reported beneficial effects on the psychological well-being of the students. The majority of studies ($n=35$) reported benefits resulting from participation in the life skills programmes directed at stress reduction and improving coping skills. Some of the studies ($n=23$) reported on the improvement of emotional skills such as self-efficacy, emotional intelligence and building resilience. Other studies ($n=8$) reported positive effects on cognitive competencies needed for learning, academic performance and clinical skills. Some studies ($n=14$) also reported on health promotion, and positive effects on health management, supporting healthy lifestyles and physical fitness.

Some of the studies ($n=5$) reported the positive effects of the programmes on communication, social connectedness, social support and empathy. The following services were reported as beneficial support provisions mentioned in one or two studies each, namely, motivation,

spiritual support and enhancement, individual support, peer support, academic support, mental health support, monetary support and integrated support. One study reported low usage of a social media platform for support despite the majority sign up by the participants. Another reported improved academic performance in theoretical modules but not in clinical performance.

Discussion

The purpose of this scoping review was to provide an overview of life skills programmes that have been included in university-based interventions to support the wellness of students in health sciences professions. The review additionally aimed to outline how these skills were taught and to provide an overview of the reported outcomes of these interventions in addressing the wellness of students. The review was not aimed at evaluating the quality of the included studies. To achieve the aim of the review, a scoping review was employed to identify articles reporting on university-based interventions to support the wellness of students in health sciences professions education.

The studies in the review confirmed that students in health professions experience elevated levels of academic stress throughout their training experience. As shown by studies conducted, academic stress exposes students to negative consequences such as a higher risk of depression and anxiety disorders, and substance abuse related to risk behaviours [9, 43]. The findings of the review indicated that life skills are necessary and may offer a holistic approach to education to assist students in adjusting to university life, enhancing their personal lives, and progressing their career paths [29, 44]. Life skills programmes are useful interventions in enhancing university students' mental health, quality of life, educational attainment, and future economic prospects [16, 29]. The increase in the number of articles where life skills programmes have been implemented in recent years support the importance of these programmes.

Studies show that some students present with impaired cognitive functioning and poor academic performance as a result of academic stress [9, 40]. Therefore, students require support in developing cognitive skills as this can help them to navigate their life situations and make proper choices to succeed in their academic environment. The cognitive skills in the programmes included problem-solving, decision-making, critical thinking, and academic and clinical work skills following the guidelines suggested by Abaoğlu et al. [27]. Cronin and Allen [28] explain the importance of cognitive integration in acquiring knowledge about the life skills that help people manage their daily lives. Ignacio and Chen [41] indicate that cognitive integration is an essential cognitive skill

for students in health science education, as the synthesis of various knowledge types is needed for their application in a clinical context. Notably, cognitive integration formed part of all the life skills programmes as the programmes included education sessions aimed at imparting knowledge and facilitation of the application of life skills. This enabled students to use the knowledge acquired to manage their daily lives and succeed academically. Furthermore, cognitive integration forms the basis for clinical reasoning required by students when striving to apply academic knowledge in clinical practice [41].

Abaoğlu et al. [27] explain that decision-making is an important skill to enable health management, for example when a student can make healthy lifestyle choices (physical fitness, nutrition, weight management, rest and sleep habits). Problem-solving is useful for finding solutions to the problems caused by stressors confronting students in their academic lives [27]. Amran et al. [42] add that students need to be empowered with problem-solving skills needed to manage their academic work and cope when providing services to clients during clinical practice.

Self-awareness and self-management skills are required for coping with emotional distress and enhancing the quality of life and should be included in life skills programmes for health sciences students. It is important to focus on health promotion and the identification of at-risk behaviours that may negatively impact students in health sciences professions' academic performance, wellness, and other productive aspects of the students' lives.

The experience of healthy interpersonal and social skills promotes mental and social well-being [27, 45]. Effective communication is an essential skill for health professionals and may assist students in expressing themselves effectively during patient/client interactions; and interactions with lecturers and clinical supervisors in academic and clinical work situations [46]. Social awareness includes empathy/compassion, listening actively, and respecting others, skills necessary when interacting with peers, patients/clients and people in authority [27, 46]. These attributes are essential for establishing rapport and therapeutic relationships with clients in clinical settings. Healthy professional relationships are also essential for collaboration and teamwork aimed at improving patient outcomes and quality of care [47, 48]. Developing professionalism and quality of care demands training that focuses on communication skills and effective collaborative practice.

Knowledge generation and dissemination are fundamental roles of universities. The empowerment of students is necessary to enable them to face life challenges and achieve better quality of life. Teaching life skills is

essential to the teaching-learning process. Serpil [49] proclaims that in addition to their academic qualifications, university students need to acquire life skills to inculcate positive and healthy productive progress in life. Disseminating knowledge to students may empower them to think critically, solve problems, and communicate effectively in academic and future professional environments. Available literature indicates that it is important for universities to focus on life skills education [16]. A study conducted by Zaman et al. [19] to assess the life skills of students also recommends that focus needs to be placed on the development of life skills among students in health sciences professions. It is important to consider the teaching and learning approach that will be used to facilitate the development of the necessary life skills.

Over the years literature extensively reports that students experience academic programmes in healthcare science to be a stressful undertaking [10, 43]. Challenges that create academic stress for students go beyond academic responsibilities and include personal and environmental challenges related to food security and socioeconomic factors; personal resilience, self-efficacy and physical lifestyle. [4, 51]. All the studies included in the review reported positive effects of the different life skills included in the university-based support programmes on the well-being of the students in some way. Many of the studies reported the training of life skills as one of the methods used in university-based support services to alleviate negative symptoms of academic stress, depression and mainly reported positive effects such as stress reduction, improved social functioning and coping skills thereby enhancing the quality of life of the students.

Many countries face a shortage of health professionals in the workforce and therefore struggle to meet the growing health needs and challenges of their population [52, 53]. The provision of life skills programmes that can offer holistic wellness support to health profession students could assist in addressing this situation by increasing student success rates that will contribute to higher completion rates, economic growth and social development [51, 54].

Koen et al. [4] recommended that a holistic wellness approach that emphasises that the individual dimensions of wellness should be considered as part of a positive holistic learning environment. This may facilitate the development of a range of intellectual, social, personal, and emotional competencies that are necessary for the development of deep and lifelong learning [50]. Ashwin et al. [55] recommend that the incorporation of intellectual, social and emotional support may assist students in developing expertise and security in their learning. Life skills should be incorporated to offer a comprehensive approach to education as it may enable students to be

adaptive to connect with the environment and to foster self-management [44].

Many of the programmes implemented by universities to offer support to health sciences students are aimed at teaching life skills, as it is felt to be needed by the students [6, 56]. The diversity of implemented programmes highlights a wide range of possibilities for providing students with support services. Programmes were generally focused on certain life skills, but few provided integrated interventions that addressed the entire scope of life skills [54, 57]. The diverse nature and focus of programmes that have been implemented are illustrative of an understanding that providing university-based support programmes to students in health sciences professions is viewed as important by institutions. However, principles on what to include in a programme and how it should be presented are not available [51, 57, 58]. Guidelines for the provision of student support are therefore needed to enable institutions to provide support services that enhance students' holistic wellness. Institutions should strongly consider integrating life skills education with other educational programmes in the curriculum to promote the level of students' wellness, improve social functioning, and prevent and lessen incidences of physical and mental health problems in university students [59, 60].

Limitations

The database search identified a high number of articles which prolonged the time spent on screening the articles, identifying relevant studies and analysing the data. Therefore, the analysis was only completed in 2023 and the manuscript written in 2024. Studies considered were those published only in the English language due to lack of language proficiency in other languages. Most of the included articles were sourced from the field of medicine with limited studies from other health science professions. Aligned with the purpose of a scoping review, the focus of this study was to provide a broad scope of information about what is known about life skills programmes that can support the wellness of students at universities offering health professions education. The aim of the study was therefore not to scrutinise the quality of the included articles. Follow-up studies may be indicated that can investigate the strength of evidence provided in the different studies for outcomes reported.

Implications

Based on the analysis of the review, the following implications are noted by the authors:

- Programmes to improve student wellness in health professions education have the potential to increase

academic performance and success for students. Student support services must structure services that apply a holistic approach to the provision of support harmonised with the students' critical needs.

- Programmes should address skills that will help the students acquire cognitive, emotional and social skills to equip them to manage academic stressors, adapt to university life and succeed in their studies.
- Policies and guidelines for support services provided in health professions education are required. These guidelines should promote life skills interventions as a necessary strategy to consider enhancing students' abilities to cope with the challenges of health sciences education.
- Promoting holistic student wellness and providing mental health support to students in health professions education can go a long way in supporting positive mental well-being, as well as improving academic performance and facilitating student success.

Conclusion

The purpose of this study was to provide an overview of university-based support programmes focused on the life skills development of students in health sciences professions. This review identified several life skills intervention programmes that can be incorporated into the university-based wellness support services for students in health sciences professions. Universities may need to review policies for the provision of student support or align the curriculum to integrate life skills education into the educational content. This could assist in helping students to acquire life skills that promote their mental health. It is hoped that this study will stimulate robust discussions about proactive measures incorporating life skills training that universities may implement to assist students in coping with academic stress. Furthermore, this review should inform methods to implement life skills programmes in health education.

Supplementary Information

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Supplementary Material 1.

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Authors' contributions

AL reviewed the titles and abstracts of all the articles; reviewed the full text of the included articles and wrote the main text of the manuscript. ER, and KvN independently reviewed the titles and abstracts of all articles and reviewed prepared tables and figures. KB and JD reviewed the included articles, and the prepared tables and figures. All authors reviewed the manuscript.

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Data availability

No datasets were generated or analysed during the current study.

Declarations**Ethics approval and consent to participate**

This review did not require human ethics approval or consent however ethical clearance was granted by the Faculty of Health Sciences Research Ethics Committee (FHS-REC) at a university in Pretoria, Gauteng Province, South Africa as part of a broader research project.

Consent for publication

All the authors consented to the authorship of this article.

Competing interests

The authors declare no competing interests.

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