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Review of quality of life among the college students in relation with stress

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Abstract

Purpose: Prolonged stress condition results in the triggering of various diseases and these stress related somatic events can affect the quality of life. The present study deals with the association between quality of life and stress level in college students. Second thing the potential variables that influence this association.

Method: Papers of last five years published in scopes, Web of science direct, PubMed and virtual Health Library (BVS) were systematically reviewed. For this it was used the following search terms ; “quality of life”, related with the term “stress” and ‘students’ in the title, abstract or keywords all entered in a single search and connected by the Boolean operators “AND”.

Results: Among the identified 124 articles in the scientific literature only 11 articles were selected for the investigation of the theme. On investigation, quality of life was frequently negatively associated to stress.

Discussion: The systemic review points out the negative association between stress and quality of life in college students.

Keywords: Life among, college students, stress

1. Introduction

Quality of life (QOL) is the perceived quality of an individual’s daily life that is an assessment of their wellbeing or lack thereof. This includes emotional, social and physical aspects of the individual’s life. According to Hane Selye, “Stress is the non-specific response of the body to any demand, whether it is caused by, or results in, pleasant or unpleasant conditions”. While students want to perform well in their studies, in their quest to achieve these goals, they could experience situations and events that cause stress. The most common stresses that a college student experiences are academic requirements, finance difficulties, peer pressure, pressure of studies, extracurricular activities, lack of support system etc. These stresses hamper the quality of life (QOL) of the college students

2. Methods

2.1 Study design

A systematic review was conducted on the recent scientific production (i.e., published papers along the last five (5) years), following Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).

2.2 Search strategy

Article searching was performed electronically to locate peer reviewed articles using the following search terms: "quality of life", restricted to the title, "stress" and "students" in the title, abstract or keywords, all entered in a single search and connected by the Boolean operator "AND".

The following databases were assessed Web of Science, Scopus, Science Direct, PubMed and Virtual Health Library (BVS) databases, between November and December 2015.

2.3 Inclusion and exclusion criteria

For inclusion in the subset of studies for data extraction, the screened studies had to be published in English, between 2011 and 2015, and address “quality of life” and “stress” among

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University students as the main goal. The use of the term “quality of life” restricted to the title during the search procedure is justified by its multidimensional feature, being often used as a generic term to indicate a good general state and not as an objective outcome, as proposed here.

Narrative reviews, non-peer reviewed articles, theses, books or chapters, abstracts and editorials were excluded from the search. Articles with incomplete information or with full text not available were also excluded, because this may limit the analysis

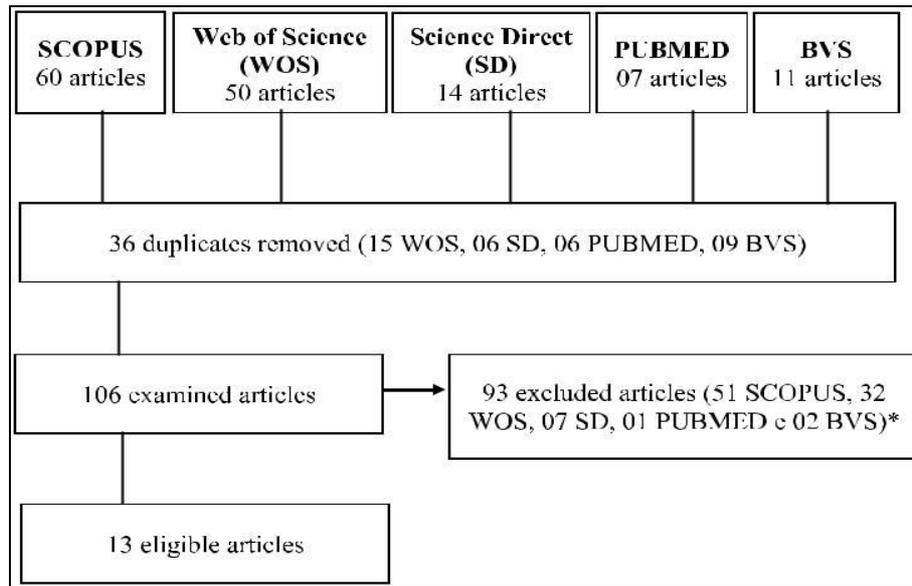


Fig 1: Flowchart of articles selected on the systematic review. *Articles were excluded mainly because: 1) the study presents unsuitability in the proposed outcome (i.e., not address quality of life and stress jointly); 2) the study population does not meet the proposed criteria (i.e., does not included university students); 3) full text with incomplete information or unavailable.

Table 1: Quality assessment ratings for studies investigating the proposed thematic

	Methodological items								Judgment
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	
Kleiveland <i>et al.</i> [17, 12]	þ	þ	þ	þ	þ	n/a	þ	þ	þ þ
Pagnin and Queiroz [13]	þ	þ	þ	þ	þ	n/a	þ	þ	þ þ
Domantay [15]	þ	þ	þ	þ	þ	n/a	þ	þ	þ þ
Paro <i>et al.</i> [20]	þ	þ	þ	þ	þ	n/a	þ	þ	þ þ
Van Vendeloo <i>et al.</i> [21]	þ	þ	þ	þ	-	n/a	þ	þ	þ
Awadh <i>et al.</i> [11]	þ	þ	þ	þ	-	n/a	þ	þ	þ
Taylor <i>et al.</i> [14]	þ	þ	þ	þ	-	n/a	þ	þ	þ
Jamali <i>et al.</i> [18]	þ	þ	þ	þ	þ	n/a	þ	þ	þ þ
Crăciun [10]	þ	þ	þ	-	-	n/a	þ	þ	þ
Bhandari [16]	þ	þ	þ	þ	þ	n/a	þ	þ	þ þ
Meyer <i>et al.</i> [3]	þ	þ	þ	-	-	n/a	þ	þ	þ
Pekmezovic <i>et al.</i> [19]	þ	þ	þ	-	-	n/a	þ	þ	þ
West <i>et al.</i>	þ	þ	þ	þ	þ	n/a	þ	þ	þ þ

(þ þ) - All or most of the criteria have been fulfilled. Where they have not been fulfilled the conclusions of the study or review are thought very unlikely to alter. (þ) - Some of the criteria have been fulfilled. Those criteria that have not been fulfilled or not adequately

described are thought unlikely to alter the conclusions. (-) - Few or no criteria fulfilled the conclusions of the study are thought likely or very likely to alter.

Table 2: Description of the main findings of the studies identified in literature review.

Author (year)	Population	Instrument/Outcome	Results
Kleiveland <i>et al.</i> [17]	227 nursing students	Stress: Impact of Event Scale (IES)	33.9% had moderate or high levels of stress, Negatively associated with QoL (po0.01).
	Mean age: 27.4 years old	QoL: Quality of life scale (QOLS)	
Pagnin and Queiroz [12].	193 medical students	Stress: Social Readjustment Rating Scale	Burnout and sleeping difficulties together, explain, respectively 22% and 21% of the variation in the
Domantay [13].	Mean age: 21.4 years old 527 medical students 78.9% between 19 and 24 years old	QoL: WHOQOL-BREF Stress: Perceived Stress Scale QoL: SF-36	Physical and psychological aspects of QoL. The average score of the eight domains of QoL varies from 51.36 to 85.83. Depression, stress and burnout were associated
Paro <i>et al.</i> [15].	1350 medical students; Mean age: 22.7 years old	Stress: Maslach Burnout Inventory QoL: WHOQOL-BREF	With lower QoL scores. Women had lower scores of physical and psychological domains of the QoL (po0.05); Burnout scores were different between the sexes, with higher emotional exhaustion in women and

			depersonalization values in men (po0.05).
Van Vendeloo <i>et al.</i> [20].	105 orthopedics residents Mean age: Not informed	Stress: Maslach Burnout Inventory QoL: Two analogous questions	18% [n/419] of the residents had poor QoL and n fi 47% [n/449] were dissatisfied with the balance between their personal and professional life; Some symptoms of burnout were found in 28%
Awadh <i>et al.</i>	26 master's degree students in pharmacy (MPharm) and 100 master's degree students in other areas that not in pharmacy (Non MPharm); o30 years 53.8% [n/414] (MPharm) and 67% [n/467] (Non-MPharm)	Perceived Stress Stress: Scale QoL: SF-12	[n/429] of residents. N 65.4% [n/417] of MPharm reported feeling nervous and often stressed in the month before the interview, against 51% [n/451] of the master's in other areas (i.e., Non-MPharm). The average perceived stress scale showed no significant difference among MPharm and Non- MPharm.
Taylor <i>et al.</i> [11].	1039 undergraduate students; Mean age: 20.4 years old;	Stress: Perceived Stress Scale QoL: Quality of Life Enjoyment and Satisfaction Questionnaire – Short Form	The chronic insomnia group had worse sleep patterns, fatigue, depression, anxiety, stress and QoL.
Jamali <i>et al.</i>	1086 medical students	Stress: SF-36 (Mental	Being male, living with family and daily physical

3. Results

Fig. 1 provided a flow diagram outlining the systematic review process. The initial literature screening identified 142 articles.

After read the titles and abstracts and exclude duplicated articles, 106 articles were examined, of which, after read the full texts and apply the inclusion criteria, only 13 articles were considered eligible. Table 1 exhibits the scores in the checklist for quality evaluation of selected articles.

Information about author (year), population, instruments/outcome and main results from the selected articles were extracted and summarize on Table 2.

Three of the selected articles evaluated undergraduate students from different study area. They found that the perceived stress was negatively correlated to physical and mental domains of the QoL, as well as to acculturative stress [10]. One of those studies pointed out that individuals with chronic insomnia exhibited significantly lower quality of life [11]. Finally, students of medical sciences had the lowest scores in almost all QoL domains and it was associated to depression symptoms [3].

Previous finds also revealed that medical students present a worse physical health associated to emotional exhaustion and sleep difficulties. Burnout dimensions and sleep difficulties explained 22 and 21% of the variance in the physical and psychological domains of QoL, respectively.¹² Notwithstanding, another study showed that medical students with moderate to major perceived stress had lower QoL.¹³ Additionally, previous finds pointed that QoL domain scores did not differ significantly among medical students from different medical schools, and also indicated that male sex, daily physical activity, and studying in the basic sciences stage, are independent predictors of higher QoL scores [14].

In fact, compared with males, the female medical students had lower scores on the physical and psychological domains of QoL. For males, personal distress scores were inversely correlated with the psychological domain of QoL, while for females, the personal accomplishment scores were moderately correlated with the personal distress [15]. In other hand, a Brazilian study showed weak association between quality of life domains and the stress dimension [16].

Evaluating nursing students, it was observed that 33.92% experienced moderate or high levels of stress, which was negatively associated with QoL [17]. Another research involving psychology students showed that QoL was direct related to coping strategies, once this are able to reduce the stressful experiences, preventing impacts in the QoL [18].

Finally, three articles addressed the QoL and stress among postgraduate students (i.e., residents, master degree students).

The screened study with the biggest studied population in this review, is one of those, and showed that QoL was classified as being “as bad as it can be” or “somewhat bad” by 14.8% of postgraduate students, and symptoms of emotional exhaustion, at least weekly, were reported by 45.8% [19]. In a study including only orthopedic trainees, poor quality of life were found in 18.1% and some symptoms of burnout were seen in 27.6% of studied sample [20]. Only one study evaluated master's degree students and found a negative correlation between per-ceived stress levels and mental health among Pharmacy and non-pharmacy master's students.

4. Discussion

This study identified 142 articles in the scientific literature, but only 13 articles were classified as eligible as previously mentioned, studies involving medical students were the majority in this review, resulting in a total of 2609 students evaluated. Taken together, the findings point to the QoL deterioration of the studied population, being associated with burnout syn-drome [12, 13, 15], sleep disturbances [12], stress and depression. Depression, in its turn, has also been reported as a major problem and of growing prevalence in university students, being associated to anguish and concerns that afflict the students.

Along the healthcare training students faced situa-tions that generate stress, as the requirement of practical skills, such as performing invasive proce-dures. For them, stress levels can lead to learning disabilities, increasing the possibility of errors. Then, the stress impacts on their careers cause concerns, so that, it is important to develop adaptive coping mechanisms that result in students less prone to maladaptive strategies such as alcohol consumption, isolation, anxiety, depression, or even ignore the stress.

The healthcare training is emotionally demanding and therefore at some point can be stressful. The stress is due to, among other factors, academic pressure, perfectionist standards and the demanding nature of the healthcare practice, which involve emotionally stressful situations. Thus, the impact may not be restricted to the student QoL impairments, but also the patient care and the relationship established with the same High levels of stress during medical school can lead to the development of burnout syndrome, which is characterized by a state of physical and mental exhaus-tion connected to work or activities of care.³⁴ To deal with this highly prevalent condition, educators must develop a greater awareness and understanding of the aspects of the medical learning, proposing interventions focused on creating welfare.

Stress is involved in the genesis of several organ

dysfunctions, may compromise the health status independently of age, gender or socioeconomic status, so that, the stress-related disturbances are among the most common causes of medical consultations and psychologists. Nevertheless, the period of academic training, a key period to the development of the countries and, therefore, encouraged by the state to achieve better development indices, is characterized by exposure to stressful situations^[5].

It is important to note that, only three studies were developed with postgraduate level students. In which students were engaged in medical residency programs, it was evidenced that between 105 orthopedic residents^[20] and among 16394 medical residents of the United States^[19] a poor quality of life and some Burnout symptoms.

As the moment of academic medical training, medical residency, also configures itself in a high level stress environment and risk of impairment to mental health. Since the emotional imbalances, depression, and burnout are commonly reported during this period. Thus, it is plausible to consider that the improvement of the learning environment can contribute to improving QoL and reducing the risk of burnout in this population^[20].

The academic environment, especially at master's or doctoral level, is replete of methodological requirements, such as short deadlines to conclude disciplines and dissertation/thesis, need for publications in high-concept journals, among other factors, which was investigated by only one study.

The psychological suffering is inherent in academic life, being labeled and identified in different ways and levels. The difficulties encountered in the institution itself to conduct projects, disseminate the research and in the "scientific independence" process are the most reported as psychological distress sources. The obvious exposure of masters and doctoral students to stress and the scarcity of studies assessing the impact of this phase of academic life on QoL deserve attention, constituting, therefore, a gap in the literature and an issue that needed to be deeply investigated.

Therefore, it is evident the need for conducting researches involving large samples and more diverse techniques, such as longitudinal and intervention studies, in order to propose strategies to mitigate potential consequences from the high stress levels exposure during academic life and the subsequent deterioration of quality of life these students. Moreover, it is important to point that QoL and stress are outcomes that could be evaluated by different psychometric instruments, difficulty comparisons among different studies.

5. Conclusion

In sum, the results of this systematic review highlights the negative association between stress and QoL in university students, through the deterioration of various aspects related to physical and mental health. Also pointed that factors as Burnout, sleep disorders and depression can maximize this negative association, deteriorating even more the QoL. It is pointed out, the reduced number of studies that address the raised issues together (i.e., stress and QoL in university students), as well as, their restriction to the students from medical sciences and the small number of studies - only one identified item - of postgraduate students in master's or doctoral degree from several knowledge areas.

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