Impact of anxiety and depression symptoms on perceived self-efficacy in nursing students

Impacto dos sintomas de ansiedade e depressão na autoeficácia percebida em estudantes de enfermagem

Impacto de los síntomas de ansiedad y depresión en la autoeficacia percibida de estudiantes de enfermería

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Abstract

Objective: To identify the relationship between perceived self-efficacy and self-esteem and the presence of anxiety and depression symptoms in students at the beginning of the undergraduate nursing course.

Methods: Cross-sectional study developed in two public Higher Education Institutions. The sample consisted of 82 participants. Three validated instruments were used to measure the variables: Rosenberg Self-Esteem Scale, General Self-Efficacy Scale and Hospital Anxiety and Depression Scale.

Results: Most students showed anxious symptoms (73.2%) and moderate levels of self-esteem (89.0%) and perceived self-efficacy. College students with anxiety and depression symptoms had lower scores of perceived self-efficacy than those without anxiety and depression (p<0.001).

Conclusion: The presence of anxiety and depression compromises undergraduate nursing students' perceived self-efficacy. These results are adequate stimulus for the implementation of mental health care programs at universities, which, in the medium and long term, may provide healthier, more satisfied nurses that will offer competent and safe care to their clients.

Resumo

Objetivo: Identificar a relação da autoeficácia percebida com a autoestima e a presença de sintomas de ansiedade e depressão de estudantes no início do curso de graduação em Enfermagem.

Métodos: Estudo transversal, desenvolvido em duas Instituições de Ensino Superior públicas. A amostra foi constituída por 82 participantes. Utilizaram-se três instrumentos validados para mensuração das variáveis: Escala de Autoestima Rosenberg, Escala de Autoeficácia Geral e Percebida e Escala Hospitalar de Ansiedade e Depressão.

Resultados: A maioria dos estudantes apresentou sintomas ansiosos (73,2%) e níveis moderados de autoestima (89,0%) e de percepção de autoeficácia. Os universitários com sintomas de ansiedade e depressão apresentaram escores de autoeficácia percebida inferiores àqueles sem ansiedade e sem depressão (p<0,001).

Conclusão: A presença de ansiedade e depressão compromete a percepção de autoeficácia de graduandos de enfermagem. Esses resultados adequam-se como um estímulo para a implementação de programas de ajuda em saúde mental nas universidades, que, em médio e longo prazos, poderão propiciar enfermeiros mais saudáveis, satisfeitos e que proporcionarão a seus clientes uma assistência competente e segura.

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Resumen

Objetivo: Identificar la relación de la autoeficacia percibida con la autoestima y la presencia de síntomas de ansiedad y depresión de estudiantes al inicio de la carrera de grado de Enfermería.

Métodos: Estudio transversal, llevado a cabo en dos instituciones públicas de educación superior. La muestra estuvo compuesta por 82 participantes. Se utilizaron tres instrumentos validados para la medición de las variables: Escala de Autoestima Rosenberg, Escala de Autoeficacia General y Percibida y Escala Hospitalaria de Ansiedad y Depresión.

Resultados: La mayoría de los estudiantes presentó síntomas ansiosos (73,2 %) y niveles moderados de autoestima (89,0 %) y de percepción de autoeficacia. Los universitarios con síntomas de ansiedad y depresión presentaron una puntuación de autoeficacia percibida inferior a aquellos sin ansiedad ni depresión (p<0,001).

Conclusión: La presencia de ansiedad y depresión compromete la percepción de autoeficacia de estudiantes universitarios de enfermería. Estos resultados se presentan como un estímulo para la implementación de programas de ayuda en salud mental en las universidades que, en el medio y largo plazo, podrán proporcionar enfermeros más saludables, satisfechos y que ofrecerán a sus clientes una atención competente y segura.

Introduction

University students experience stressful situations, as well as personal and professional obstacles that need healthy coping strategies to overcome these negative factors positively. Those attending the first year of university are more exposed to conflicts, mainly related to the time management needed to organize their new academic and personal routine. In addition, a large part of these undergraduates is away from home for the first time, facing limited family and financial support network, while at the same time needing emotional resources to adapt successfully to new social and academic contexts.[1-3]

The requirement imposed in this period of transition from high school to higher education, added to new activities and skills necessary for the training of nurses can generate emotional instability and psychological disorders. All this new context provides conditions of vulnerability for the development of stress,[1] low self-esteem,[4] anxiety and depression disorders,[2,5] risk of suicide and suicide[6] in nursing students.

Facing the challenges imposed at this stage requires self-assessment and continuous mobilization of internal and external resources to cope with the new life, and a positive attitude towards themselves can help individuals to face the misfortunes of academic life and later, of their professional life.[2,3]

In this perspective, self-efficacy appears as an important construct associated with the mental health of young university students. Self-efficacy is a person's belief in his/her ability to perform and organize tasks with the desired effect. These beliefs in personal efficacy can affect life choices, the level of motivation, resilience in the face of adversity and vulnerability to stress, anxiety and depression.[7]

Having high levels of self-efficacy is vital for nursing students and nurses. Within the academic context, if students believe in their abilities, they use all their resources and try their best to achieve goals in different situations. On the contrary, students and nurses with low self-efficacy would not take the necessary actions for their patients, would develop low clinical self-esteem and consequently, would not start performing the tasks without the security in their skills in search to shield themselves against errors, while at the same time they would deprive their clients of comprehensive, quality and effective care.[8]

The national and international literature on self-esteem,[1,4,6,9] anxiety and depression[2-5] of nursing students is relatively solid, although it still points to gaps in the behavior of these variables. Clinical studies aimed at improving mental health in the university population have shown favorable results, despite their focus on managing anxiety, depression and stress.[10]

This scenario may result from the lack of consistent evidence of the relationship between self-efficacy and other factors that interfere with mental wellbeing. The valorization of individuals' positive aspects, such as personal effectiveness, constitutes a decisive resource for mental health promotion through emphasis on the construction of individuals' socio-emotional skills to the detriment of the disease-centered model. The results of this study can indicate promising paths of interventions focused on strengthening the capacities of individuals and the consequent prevention of negative behaviors,

such as anxiety, depression, low self-esteem and self-destructive behavior. In addition, they can be a guide for the university during the development of comprehensive and effective mental health care initiatives for future professionals.

Investigations on self-efficacy are scarce, especially when compared to other conditions related to mental health in the Brazilian scenario. In the context of learning, self-efficacy is usually an aspect to be strengthened in order to form competent, safe, determined, motivated, confident people who persist in the face of adversity.

Thus, in view of this knowledge gap, the aim of the present study was to identify the relationship between perceived self-efficacy with self-esteem and the presence of anxiety and depression symptoms of students at the beginning of the undergraduate nursing course. The hypothesis is that participants with anxious and depressive symptoms and reduced self-esteem have a low perceived personal efficacy.

Methods

Correlational cross-sectional study developed in two public Higher Education Institutions (HEIs) that offer teaching, research and extension to nursing students and other students on a full-time basis. These institutions were chosen because researchers were inserted in the data collection fields and there was opportunity to assess possible differences in the mental health of participants from different regions of Brazil (Southeast and Midwest).

The population consisted of all students enrolled in the 1st year of undergraduate nursing in HEI 1 (n=60) and HEI 2 (n=30). The preference for freshman students was justified because this period represents a transition of cycles, change of environment and routines, in addition to greater demand for responsibilities and autonomy.

The following eligibility criteria were established: being enrolled in the 1st year of the course, no history of failure, age of 18 years or older and being present on days of data collection. Since this is a population-based study, no sample calculation was performed. Of the 90 possible participants, two

were excluded due to failure and six because they were absent at the time of data collection. Thus, the sample consisted of 82 students that represented 91.1% of the population.

For the characterization of participants, a questionnaire consisting of the following variables was applied: personal (sex, age, marital status, origin); academic (satisfaction with the course and profession, if nursing was the first choice in the entrance exam, ideation of abandoning the course); and social variables (support at the university, exercise of paid professional activities and overload with academic activities).

The following instruments were used for mental health assessment: General Self-Efficacy Scale (GSE), Rosenberg Self-Esteem Scale (RSE) and Hospital Anxiety and Depression Scale (HADS).

The General Self-Efficacy Scale consists of 10 items with responses ranging from one to five. Each item measures the achievement of goals and the internal perception of success. Higher scores indicate greater perceived self-efficacy in a 10-50 range.[11] This scale was adapted and validated for several countries, showed good internal consistency and was suitable for use in Brazil with Cronbach's alpha (α) of 0.81.[11]

The RSE was validated for Portuguese in 2001[12] and has been the most widely used scale in national and international literature for the assessment of self-esteem with high internal consistency (α=0.90).[13] This is a four-point Likert scale ranging from "strongly agree" to "strongly disagree". It consists of 10 items that measure a single dimension: five for the assessment of the individual's positive feelings about him/herself and five for the assessment of negative feelings. The sum of responses can vary from 10 to 40 points, and self-esteem is interpreted as follows: >30 points=high or satisfactory; 20 to 30 points=average; <20 points=low or unsatisfactory.[12]

The HADS had an initial proposal to measure symptoms suggestive of anxiety and depression in a clinical hospital setting, but later it started to be used in other environments, including healthy people and higher education students.[14,15] This scale has the function of screening for symptoms but not of establishing diagnoses. It is widely used in the

literature because it is easy to understand, objective and consistent (HADS-A α= 0.79 and HADS-D α= 0.84).[16] It has 14 anxiety and depression questions intercalated. Each HADS item includes four possible answers (0 to 3), totaling a maximum score of 21 points for each subscale. Students with a score equal to or greater than nine in each subscale were considered as having symptoms of anxiety and/or depression.[16]

Students were identified through the attendance list offered by the course coordinators of HEIs 1 and 2. University students were approached personally in the classroom with an invitation to participate in the study. After acceptance and signature of the informed consent form, data collection began in September 2018 and was performed by researchers themselves.

To ensure equivalence in data collection at the two HEIs, researchers standardized the form of application of instruments. They were distributed to each student in their seats without the influence of researchers or teachers, in an average time of 30 minutes. Then, instructions for completing the instruments were read and at the end, students deposited their answers in a closed envelope.

Data were processed and analyzed using the Minitab 17 program (Minitab Inc.). Descriptive analyzes were performed for the variables of sample characterization, such as sex, marital status, origin, satisfaction with the course, among others.

The Analysis of Variance (ANOVA) test with Games-Howell's multiple comparison test was used to compare the scores of perceived self-efficacy with categorical variables with more than two levels. The t test for independent samples was used to compare the self-efficacy scores with categorical variables with up to two levels and the Spearman correlation test was used to analyze the self-efficacy scores and the age of students. The normality of data was checked by the Anderson-Darling test and the level of significance applied for the tests was 0.05 or 5%.

This study was approved by the Research Ethics Committee of HEI 1 in June 2018 under number 2.691.383 and of HEI 2 in September 2018 under number 2.920.649; it complies with resolution number 466/12,[17] related to research involving human beings.

Results

Eighty-two students from the 1st year of undergraduate nursing participated in this study. Most were female (71; 86.6%), had no partner (76; 92.7%) and belonged to HEI 1 (52; 63.4%). Most students reported living with their parents (39; 47.6%), having a harmonious family relationship (70; 85.4%), having sufficient financial resources for their livelihood (50; 61.0%) and not performing paid work (76; 92.7%).

A representative portion of participants stated that nursing was not their first course choice in the college entrance exam (48; 59.3%), and out of these 48 students, 36 (73.5%) would like to have studied medicine. Most said they are satisfied with the course (76; 92.7%), with the profession (76; 92.7%) and do not think about abandoning it (49; 59.8%), but feel overwhelmed with the activities involved in it (70; 85.4%).

The average age of the 82 students evaluated was 19.8 years, with standard deviation of 3.9 years and median of 19.0 years. The coefficient of variation of this distribution was 19.8%. The minimum age was 18.0 years and the maximum age was 39.0 years.

Most students showed anxious symptoms (60; 73.2%) and moderate self-esteem (73; 89.0%). Only one participant was classified as having high self-esteem (1.2%), and depressive symptoms were present in 31.7% of the sample (n=26).

The students' perceived self-efficacy was moderate, with an average of 31.4 points (range from 10 to 50 points), standard deviation of 7.4 points and median of 32.0 points. The distribution variation coefficient was 23.7%, with a minimum value of 15.0 points and a maximum of 50.0 points. There was no statistical difference in scores of perceived self-efficacy between participants of HEI 1 and HEI 2 (P=0.453).

A relationship between the perceived self-efficacy and anxious (HADS-A; P<0.001) and depressive (HADS-D; P<0.001) symptoms was observed. Students with anxiety and depression had scores of perceived self-efficacy lower than those without anxiety and depression. The other categorical variables were not associated with participants' self-efficacy (p>0.05) (Table 1).

Table 1. Relationship between the perceived self-efficacy and the variables of sample characterization, self-esteem, anxious and depressive symptoms (n=82)

Categorical variables	Perceived self-efficacy		p-value*
	n(%)	Mean±standard deviation	
Sex			
Female	71 (86.6)	31.0±7.4	0.238
Male	11 (13.4)	34.1±7.6	
Marital status			
With partner	6 (7.3)	33.5±7.1	0.496
No partner	76 (92.7)	31.3±7.5	
Higher Education Institution – HEI			
HEI1	52 (63.4)	31.9±7.1	0.453
HEI2	30 (36.6)	30.6±8.1	
Resides with			
Parents	39 (47.6)	32.1±6.9	0.823**
Grandparents	2 (2.4)	32.0±12.7	
Others	41 (50.0)	30.8±7.9	
Family relationship			
Conflicting	12 (14.6)	33.4±6.1	0.259
Harmonious	70 (85.4)	31.1±7.7	
Satisfied with the profession			
No	6 (7.3)	30.3±8.7	0.755
Yes	76 (92.7)	31.5±7.4	
Satisfied with the course			
No	6 (7.3)	28.3±9.1	0.419
Yes	76 (92.7)	31.7±7.3	
Feels overwhelmed			
No	12 (14.6)	34.0±8.2	0.255
Yes	70 (85.4)	31.0±7.3	
Self-esteem[3]			
Low	8 (9.8)	30.1±6.2	0.551
Moderate and high	74 (90.2)	31.6±7.6	
HADS-A			
With anxiety	60 (73.2)	29.4±6.9	<0.001
No anxiety	22 (26.8)	37.1±5.7	
HADS-D			
With depression	26 (31.7)	26.5±6.9	<0.001
No depression	56 (68.3)	33.7±6.6	

*p-value for the t test for independent samples at P<0.05; **P value referring to the Analysis of Variance test (ANOVA) at P <0.05; [3]One individual of the distribution classified as HIGH Rosenberg self-esteem was grouped with other individuals classified as MODERATE Rosenberg self-esteem in order to enable the associative analysis.

The results also showed a very weak correlation between scores of perceived self-efficacy and the age of students (r=0.197; P=0.076).

Discussion

Although this investigation, which was aimed at assessing the relationship between self-efficacy and self-esteem and anxious and depressive symptoms, was conducted in two centers with a representative sample, some limitations must be considered. One of them refers to the cross-sectional design that pre-

vents the evaluation of variables over time. In addition, there was failure to measure variables that could influence participants' perceived self-efficacy, such as: stress, family dynamics, ways of coping, social support and addictions. Thus, further studies are needed to clarify these gaps.

However, the results of the present study add relevant scientific data on the mental health of undergraduate nursing students and on some wellbeing indicators that can be strengthened in order to prevent them from becoming ill. Self-efficacy has proven a promising determinant in the construction of psychic resources, since it prepares young people for the assertive coping of personal and academic stress, and relieves the negative effects of depression and anxiety.[18]

Thus, the present data reflect an advance in the context of primary prevention, as they demonstrate the importance of a broad look at these positive emotional resources in young people, especially in the first years of the undergraduate course. These strategies are essential to prevent the onset of negative clinical and mental conditions to the detriment of programs aimed at students with depression and anxiety already installed.

Based on these factors, this study opens the way for the development of psychoeducational programs within the university, which can stimulate and teach students to strengthen their emotional skills with a focus on promoting self-efficacy, self-esteem, skills in interrelationships and in the use of positive coping strategies. In the medium and long term, these measures may provide healthier, more satisfied nurses who will provide competent and safe care to their clients.[19]

The results of this study showed moderate self-efficacy among participants and the inverse relationship of this construct with anxiety and depression symptoms.

Recent scientific evidence corroborates these findings[19,20] and clarifies that satisfactory levels of personal efficacy play an important role in protecting mood and anxiety disorders,[18,21,22] because they can act as a psychological resource to overcome stress.[18,21] When investigating the role of self-efficacy in the positive and negative mental

health of German students, the results suggested that it functions as a buffer against daily stress by providing a protective effect on these individuals' mental health.[21]

Supporting these results, data from 2,160 Chinese university students evaluated throughout a year showed that daily stressors were associated with the increase in symptoms of depression, anxiety and stress and decreased wellbeing. Self-efficacy was identified as a mediator between stress and these mental conditions while directly related to participants' positive mental health at the same time.[18] It is postulated that in the face of a challenging situation, individuals with good personal efficacy are more confident in their ability to face challenges and experience better life satisfaction and wellbeing.[22]

Clinical research conducted at three universities in Asia concluded that the high self-efficacy contributed to the improvement of depression and attributed this result to students' greater recognition of their strengths and to the use of this tool in new and different ways. Participants were able to dedicate themselves to studies more effectively and handle academic tasks more skillfully. In addition, higher rates of feelings of success, empowerment and positive emotions were observed.[19]

The results of the described studies support a body of evidence of the inverse relationship between the perceived self-efficacy with anxiety and depression found in this study.

In this study, self-efficacy was not related to the other sociodemographic characteristics, although in the literature studies indicating certain trends, such as the association with family relationships and self-esteem, were identified.[23,24]

An association between conflicting family relationship with decreased general self-efficacy was found in adolescents. However, even in situations of family conflicts, adolescents who found social support in the interaction with their peers and academic success had higher levels of self-efficacy, compensating the effects of negative parental relationships.[23] This result highlights the important role of the university in the construction of the individual, of professional competence and of

support networks that help and buffer the negative effects of possible conflicting relationships. In our study, the measurement of this information was objective, dichotomous and not detailed with the use of specific instruments, as in the study where this relationship was identified,[24] and maybe for this reason we have not found a significant relationship.

Diverging from the current findings, the positive relationship between self-efficacy and self-esteem has been confirmed in studies involving university students.[19,25-27] The evidence falls on building positive mental health. In other words, individuals' confidence in their own ability contributes to maintain optimal levels of self-esteem, since they feel more capable to cope with stressful situations.[27]

Additionally, the literature highlights that the academic environment and relationships established with educational authorities such as professors and clinical nurses throughout the undergraduate course can also influence the levels of self-efficacy in nursing students. Interactions based on embracement, cooperation, respect and trust can positively influence this construct in these individuals.[28] Through these results, it is recommended that HEIs assist their students' emotional and academic development through preventive programs with actions of mental health promotion, early identification of negative emotions and the offer of psychological support to vulnerable students,[3] especially those at the beginning of the course.

Portraying and reinforcing the importance of the mental aspects studied here, not only throughout the academic path, but also as essential tools for professional performance, a recent study conducted with 1,307 nurses aged 22-60 years demonstrated that professionals with high levels of self-efficacy and self-esteem scored lower on the Burnout scale. These findings confirm the beneficial implications of individuals' positive beliefs and attitudes towards themselves on the negative effects of the workload. In addition, professionals with high levels of personal efficacy also scored higher on global self-esteem, thereby reflecting the close relationship of these variables.[29]

Conclusion

The findings of this study indicated moderate self-esteem and perceived self-efficacy, in addition to elevated symptoms of anxiety and depression. Low scores of perceived self-efficacy were related to the presence of anxious and depressive symptoms. These results reflect the compromised well-being of students and the need for effective and attractive mental health care within the academic scope, especially in the first years of undergraduate nursing.

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Collaborations

Melo HE, Severian PFG, Eid LP, Souza MR, Sequeira CAC, Souza MGG and Pompeo DA contributed to the project design, analysis and interpretation of data, writing of the article, relevant critical review of the intellectual content and final approval of the version to be published.

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