# Burnout Syndrome among master's and doctoral students in nursing

Síndrome de Burnout entre mestrandos e doutorandos em enfermagem

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## Abstract

**Objective:** To investigate the occurrence of burnout syndrome and to identify its predictors in master's and doctoral students of graduate nursing programs.

**Methods:** A cross-sectional, descriptive, analytic study performed with 129 master's and doctoral students from three public universities. The research instruments were a semi-structured questionnaire to characterize the participants, and the Maslach Burnout InventoryTM - Student Survey. Data were analyzed using descriptive, inferential statistics and multiple linear regressions.

**Results:** It was found that 11.6% of postgraduate students had signs of burnout. The variables related to their perception about the course and its requirements were those that contributed most to the occurrence of the dimensions of the syndrome. The main predictors were: dissatisfaction with the study topic, lower perceptions of social support, and leisure opportunities.

**Conclusion:** There were signs of burnout syndrome occurring in the studied sample; the course's requirements played a relevant role among the syndrome predictors.

## Resumo

**Objetivo:** Investigar a ocorrência da síndrome de *Burnout* e identificar seus preditores entre mestrandos e doutorandos de Programas de Pós-Graduação em Enfermagem.

**Métodos:** Estudo transversal analítico-descritivo realizado com 129 mestrandos e doutorandos de três universidades públicas. Os instrumentos de pesquisa foram: um questionário semiestruturado para caracterização dos participantes e o *Maslach Burnout Inventory*TM - *Student Survey*. Os dados foram analisados por estatística descritiva, inferencial e regressão linear múltipla.

**Resultados:** Constatou-se que 11,6% dos pós-graduandos possuíam indicativo para a síndrome de *Burnout*. As variáveis relacionadas à percepção deles sobre o curso e suas exigências foram as que mais contribuíram para a ocorrência das dimensões da síndrome. Insatisfação com o tema de pesquisa, menores percepções de apoio social e das oportunidades de lazer foram os principais preditores.

**Conclusão:** Houve indicativo do desenvolvimento da síndrome de *Burnout* na amostra pesquisada e as exigências do curso tiveram papel relevante entre os preditores da síndrome.

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## Introduction

Burnout syndrome is characterized as a process of response to workplace overload that results in exhaustion. Therefore, deterioration occurs in the fundamental relationship of a person with her occupation, leading to reduced work performance, interpersonal relationships, organizational commitment, and a decline in health.[1,2]

Burnout syndrome has been exclusively related to the work process for a long time, especially among professionals with high interpersonal contact. However, with the expansion of studies on this phenomenon, the concept has been found to be applicable to other occupational contexts; in this case, students experience the academic environment, as they are integrated into an organizational structure whose activities are established and guided in a compulsory way for the specific purpose ofacquiring an academic degree.[3]

Among students, burnout syndrome is defined as a process which includes three dimensions: emotional exhaustion, understood as the feeling of being drained due to study demands; depersonalization, characterized by attitude of distancing oneself from scholarly work; and, reduced academic effectiveness, explained by the perception of being incompetent as a student.[4]

In the nursing area, the syndrome has been reported in professional qualification activities, in undergraduate and residency courses, due to the variety of stressors inherent in the academic environment.[5-8] However, studies on this syndrome in *stricto sensu* graduate students are incipient, although there are effectively stressful situations in researchers' educational program.[9]

Causes of overload and exhaustion in graduate students are related to high levels of academic requirements that are relevant to the complex functions of teaching, research and publishing. These activities require intense mental effort and many hours of study.[10]

When it does not lead to abandoning the course, lack of adaptation to this reality can generate mental suffering, sleeping difficulties, health problems (physical or psychological), substance abuse, and even suicide.[10,11]

Given the above, the following guiding questions emerged: Does burnout syndrome occur in master's and doctoral students of graduate programs in nursing (GPN)? What are the predictive characteristics of the syndrome in these students?

Investigating the occurrence of burnout syndrome and its predictive factors in *stricto sensu* graduate students is fundamental for both managers of these programs and the graduate students themselves, in order to adopt strategies to reduce tension, stress, and illness deriving from this academic level.

Thus, this study aimed to investigate the occurrence of burnout syndrome and to identify its predictors in master's and doctoral students of graduate programs in nursing.

## Methods

A cross-sectional, descriptive, analytic study performed with master's and doctoral students of three GPN of public universities in the state of Paraná, Brazil. The courses included in this study are recognized by the Coordination for the Improvement of Higher Education Personnel (CAPES) and have proposed curricula with a workload ranging from 600 to 1125 hours, divided between theoretical-practical classes and the preparation of the thesis/dissertation. For a graduate student to obtain the academic level of the master's/doctorate, he must pass a qualifying examination and defense, in addition to completing the minimum workload.

At the time of the survey of potential participants, 165 nurses enrolled in the three GPN were identified. The sample size was calculated by adopting a prevalence of 50% for the presence of the phenomenon, a 95% confidence interval, and a maximum error of 5%, resulting in a minimum of 115 respondents.

To collect the data, a semi-structured questionnaire was developed with socio-demographic, academic, occupational, lifestyle, and health

variables. Three research nursing professors in the area of occupational health previously evaluated the instrument and suggested modifications for its improvement.

To evaluate burnout syndrome, the Maslach Burnout Inventory™ - Student Survey (MBI-SS) was used, a self-administered questionnaire consisting of 15 items, which evaluated three conceptual dimensions on a Likert-type scale (0-6): emotional exhaustion, depersonalization, and academic effectiveness. It is considered indicative of burnout syndrome when a person has both high scores in emotional exhaustion and depersonalization, and low scores in academic effectiveness, according to the cutoff points determined by the authors.[12]

Data collection was performed from November of 2014 to February of 2015, by means of an electronic questionnaire sent by email with the invitation to participate. During this period, 129 graduate students became participants, with the proportional participation of each subdivision of the population.

Data were analyzed using descriptive statistics, frequency and percentage calculations for categorical variables, and median, minimum, and maximum for continuous variables. The Cronbach's Alpha was used to evaluate the internal consistency of the MBI-SS. Subsequently, a bivariate analysis was performed comparing the independent (demographic, academic, occupational, lifestyle and health) and dependent (MBI-SS dimensions) variables, using Spearman's correlation coefficient for quantitative variables and Mann-Whitney for the qualitative variables. Then, a forward selection multiple linear regression was performed for each of the outcomes, including all the variables that were statistically significant ($p<0.05$) in the bivariate analysis. The analyses were performed using the Statistical Package for the Social Sciences™, version 20.0.

Licenses to use the MBI-SS were acquired from the company Mind Garden, which manages the instrument copyright. The study was registered in Brazil under the Platform Presentation of Certificate number to Ethics Assessment (CAEE) 35451514.6.0000.5231.

## Results

Regarding the sociodemographic data, it was found that among the 129 participants, ages ranged between a minimum of 22 and a maximum of 61 years, with a mean age of 32.3 years for the master's students and 35 as the mean age of the doctoral students. Most students were female (89.9%; n=116), married (58.9%; n=76) and without children (62.8%; n=81). The individual monthly income ranged from R$ 1,500.00 to R$ 12,000.00, with a mean of R$ 3,764.00 (corresponding, in February 2015, to US$ 526.32, US$ 4,210.53 and US$ 1,320.70 respectively).

Regarding the training profile, graduate students who completed a nursing degree in public schools predominated (73.6%; n=95), and the time since graduation ranged between one and 34 years, with a mean of 8.6 years. It was found that 12.4% (n=16) of nurses had no previous professional practice experience in the area.

Regarding the academic characteristics, 61.2% (n=79) were enrolled in a master's course, and 38.8% (n=50) in a doctoral course, spending a mean of 4.8 hours every day to study, with extremes of zero and 15 hours. They considered their relationship with their academic advisors to be excellent or very good (76.7%; n = 99). The mean satisfaction with the study topic was 8.5 points, and the satisfaction with the graduate program was 7.5 points, on a scale of zero to 10. Although most manifested never having the intention to quit the program, it was found that 48.8% (n=63) of the sample had indeed had this intention.

Regarding occupational characteristics, 35.7% (n=50) were exclusively dedicated to the graduate program and received grants, while 64.3% (n=83) balanced study and work. Regarding the type of work activity, 27.1% (n=35) were professors, 37.2% (n=48) worked in nursing care, and 13.2% (n=17) had two or more jobs.

The MBI-SS had satisfactory internal consistency (α=0.719), characterized as reliable, and having good internal consistency.

Regarding the classification of the MBI-SS dimensions, based on the cut-off points, it was found that 69.8% (n=90) of master's and doctoral students had high scores of emotional exhaustion, 27.1% (n=35) had high depersonalization, and 24.8% (n=32) had low academic effectiveness. By associating these dimensions, it was found that 11.6% (n=15) of the sample had signs of burnout: 11.4% master's students and 12.24% doctoral students. Of these individuals, most were women (93.3%), up to 30 years of age (66.7%), and balanced study and work (66.7%). In addition to these graduate students, it was found that 14.7% of participants had high scores of emotional exhaustion and depersonalization, and could be considered prone to burnout.

Regression analyses performed for the syndrome dimensions are shown in table 1. The predictive model of emotional exhaustion consists of seven variables that explain 52.4% of the occurrence, and show that perception of pleasure, satisfaction with the study topic, and social support were inversely associated with that dimension. Thus, the lower the perceptions of leisure opportunities, social support and satisfaction with the study topic, the greater the emotional exhaustion score. Other variables participated directly in the model, namely, the presence of thoughts of withdrawing from the graduate program, anxiety related to studies, the difficulty of reconciling studies and personal life, and the pressure to produce scientific publications related to higher emotional exhaustion. Four predictive variables explained 45.9% of the occurrence of depersonalization. The variable thinking of quitting the graduate course had direct participation, whereas the other variables inversely related to each other: the smaller the perceptions of leisure opportunities, satisfaction with the postgraduate program and the study topic, the higher the score of depersonalization. The variables, social support, satisfaction with the study topic, and relationship with the academic advisor, were positively associated with the academic effectiveness dimension and explained 25.1% of the occurrence of this dimension. Therefore the

worse the perceptions of these issues, the lower the scores of this dimension.

**Table 1.** Predictors of three dimensions of burnout syndrome among nursing master's and doctoral students

| Models* | Beta | p-value | R† |
|---|---|---|---|
| Emotional exhaustion | | | 0.724 |
|   Leisure | -0.217 | 0.004 | |
|   Thinking about withdrawing from the postgraduate course | 0.256 | 0.000 | |
|   Anxiety related to studies | 0.002 | 0.002 | |
|   Difficulty reconciling studies and personal life | 0.207 | 0.003 | |
|   Pressure for scientific publication | 0.204 | 0.002 | |
|   Satisfaction with the topic study | -0.174 | 0.010 | |
|   Social support | -0.177 | 0.016 | |
| Depersonalization | | | 0.677 |
|   Thinking about withdrawing from the graduate course | 0.298 | 0.000 | |
|   Leisure | -0.345 | 0.000 | |
|   Satisfaction with the graduate course | -0.221 | 0.003 | |
|   Satisfaction with the topic study | -0.182 | 0.011 | |
| Academic effectiveness | | | 0.501 |
|   Social support | 0.220 | 0.012 | |
|   Satisfaction with the topic study | 0.255 | 0.002 | |
|   Relationship with the academic advisor | 0.238 | 0.006 | |

Coefficients of determination: emotional exhaustion $R^2=0.524$; depersonalization $R^2=0.459$; academic effectiveness $R^2=0.251$; *the three models were statistically significant (p=0.000); †R - Multiple correlation coefficient

# Discussion

The limitations of this study are related to its cross-sectional design, by investigating both the exposure and outcome, and thus it has low generalizability. It must be considered that it was a self-reported assessment and, therefore, responses might have occurred that are congruent with acceptable societal standards. In addition, there is a tendency for self-denial involved in the manifestation of burnout, which is therefore first perceived by colleagues.

This study highlighted important information about the phenomenon under study, indicating the need to implement actions at the institutional level, in order to promote mental health in graduate students and, consequently, prevent health problems from the syndrome.

The participants' characteristics showed the prevalence of married females with no children, with a mean age of 32 years, who were working while undertaking the graduate program. This preference can be related to an insufficient number of grants offered by programs, as well the grant

values provided within Brazil, which, in this study, represent the minimum value of income.[9] Therefore, these nurses achieved better financial possibilities by choosing employment over exclusive dedication to graduate school. However, this is an option that may predispose individuals to exhaustion, since the work tasks of nurses are by themselves considered to produce physical and psychological overload.[13]

The presence of students without professional work experience in the area indicated that some nurses opted to join the *stricto sensu* graduate program after completing undergraduate studies. This choice has proved to be a tendency in these educational levels,[14,15] even with the professional immaturity that is peculiar to most recent undergraduates, which can cause difficulties in the development of research related to practice.

Although the sociodemographic and occupational variables of graduate students were not statistically significant, and consequently did not compose the predictive models of the burnout syndrome, it should be considered that among students with signs of the syndrome, young women prevailed who balanced studies and work. Research identified that women who reconciled studying with work and household tasks, including care for children, were more likely to experience physical and mental strain, making them more susceptible to illness.[9,13,16]

Similarly, the type and the period of the program were not predictors. This suggests that master's and doctoral studies are equally intense and complex during their courses.

Regarding the signs of burnout syndrome, it was present in 11.6% of the study participants. This result differs from those obtained by studies performed with nursing residents and undergraduates, which ranged from 20.8% to 24.7%.[7,8]

However, it should be noted that 14.7% manifested a predisposition to the syndrome due to high emotional exhaustion and depersonalization, but were not part of the prevalence because they still demonstrated academic effectiveness. Another relevant datum was the presence of a high score of emotional exhaustion in 69.8% of the participants,

demonstrating that most were overworked due to the insufficiency of psychological coping resources to deal with academic demands. The presence of emotional exhaustion is worrying because it is the first dimension of the syndrome to emerge, it is the central characteristic and is associated with student absenteeism, chronic fatigue, mental health decline, and memory capacity and concentration, and these conditions can adversely affect the process of educational development.[6,17,18]

The predictive model of emotional exhaustion revealed that the intention to withdraw from the course, and anxiety, were associated with this dimension. These findings are similar to those obtained with students in other programs of study.[19,20] Anxiety is an emotional experience derived from the possibility of experiencing unpleasant future situations, and may be related to the fear of not achieving one's academic expectations.[21]

Among these tasks that require high mental load and lead to exhaustion, the pressure to produce publishable scientific texts in periodicals with a high impact factor was reported, which requires a lot of time for the graduate student, along with mental, physical and emotional skills and energy. In addition, the pressure to publish is common in higher educational institutions, present in all areas of knowledge worldwide, and publishing has been considered to certify the competence of researchers. Therefore, the presence of the "publish or perish" dilemma is expected in the *stricto sensu* training, taking into account its objectives. Thus, conducting educational activities that aim to encourage, clarify and demystify the article writing can be an essential and effective strategy for publication and, consequently, reduce mental distress and exhaustion of the graduate student.[11,22]

In a study performed in an Australian university nursing school,, it was reported that the implementation of a strategic plan to engage students and educators was essential to motivate the production of scientific papers. During 20 months, there were workshops on practical aspects of publication, scientific writing, presentation process and paper format, using search engines, where to publish, and other topics relevant to publication. These work-

shops were conducted by editors of academic journals and experienced researchers, and resulted in an improvement of participants' skills.[22]

In addition, considering the reality worldwide,[11,22] there are aspects related to difficulty and the obligation to publish, which may cause tension in graduate students, such as uncertainty about paper acceptance, the contributions and criticism of reviewers, and the publication costs, among others.

The predictors of few leisure opportunities, and difficulty reconciling personal life and studies, suggest that master's and doctoral students have insufficient time for life outside the university, prioritizing studies to the detriment of other aspects of their lives. Thus, they may consider that leisure is wasted time given the numerous activities within the graduate course deadlines. By analyzing the predominant characteristics of the sample, it can be stated that they face a triple journey including studies, work and family, which, if unbalanced, contribute to exhaustion.[6,23]

Perception of social support was inversely related to emotional exhaustion, with suggests that the support provided by family, friends and colleagues to master's and doctoral students is essential for enduring the difficulties encountered in graduate school.[23,24]

Depersonalization is a dimension that reflects the distance between study and its explanatory model. It was found that most of the variables also explained emotional exhaustion. This can be understood by the strong relationship between these dimensions in burnout syndrome, as depersonalization is an adaptative psychological response against emotional exhaustion.[17]

With regard to lesser involvement of students because of dissatisfaction with the graduate program, studies have revealed that graduate students expect a structure from the program that meets all their idealized training needs and fosters minimum conditions for research. Not having those expectations met can contribute to frustration with the program, as well as contribute to the intention to withdraw from the course.[23,25,26]

Regarding academic effectiveness, a good interpersonal relationship with the academic advisor was positively related to this dimension. It was highlighted that the advisor-student relationship is one of the most exploited aspects by studies, due to being recognized as a facilitator in the production of quality studies, in the learning process, and in the self-efficacy beliefs of graduate students. Thus, a satisfactory relationship with the academic advisor develops in the graduate student's exploratory behaviors to improve her skills, and motivates her in the development of the thesis/dissertation. However, lack of support and feedback, differences and disagreements related to the study increase the tension, stress and academic ineffectiveness.[27-29]

Satisfaction with the study topic was a predictor of all the dimensions of the syndrome, and indicated that the dissatisfaction with this item leads to exhaustion, less involvement in the study, and the sense of academic incompetence. The study topic is the thesis/dissertation focus, and the object of greatest commitment and involvement for the graduate student, thus, it is believed that investigating that to which one does not have much affinity may become a source of psychological distress and stress. The inverse can be also true, namely, studying what is considered attractive and relevant is a protector against the syndrome.[30] However, it is known that most of the times, this theme is attributed by the academic advisor in order to fulfill a project in her own reeacrh line linked to GPN, which may or may not serve the interest of master's/doctoral students.

## Conclusion

The study demonstrated signs of the occurrence of burnout in the sample. Variables related to the perception of master's and doctoral students about the course and its requirements prevailed in predictive models of the syndrome dimensions. Dissatisfaction with the study topic, lower perceptions of social support, and leisure opportunities were the main predisposing factors.

## Collaborations
Galdino MJQ and Martins JT contributed to the project concept, analysis and interpretation of data, study writing, critical review of intellectual content and final approval of the version to be published. Haddad MCFL, Robazzi MLCC and Birolim MM collaborated in the analysis and interpretation of data, relevant critical review of the intellectual content, and final approval of the version to be published.

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