# Evaluation of stress in students graduating from Occupational Therapy

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**Abstract:** Introduction: Preparation for professional practice concurrent with personal growth of the students graduating from Occupational Therapy can trigger stress. Objective: The present research aimed to evaluate the prevalence of stress indicators in 31 students graduating from the course of occupational therapy of a public University. Method: Data were collected through a semi-structured interview for characterization of the profile of the participants and the Lipp Stress Symptoms inventory. Results: The results indicated that all were female, age of 21 years and 4 months old and single. The majority (84%) presented indicators of stress in some phases, with predominance of resistance (61.5%), followed by exhaustion (34.6%). Students have reported difficulties in meeting the training rules, reduced recreation and leisure time, emotional involvement with the patients problems. They also reported good relationsship with supervisors and students. Conclusion: The results reveal the need for emotional support as a primary factor for the students' academic and professional success.

Keywords: Students, Stress, Occupational Therapy.

# Avaliação do estresse em estudantes concluintes de terapia ocupacional

Resumo: Introdução: A preparação para a prática profissional, concomitante com o processo de amadurecimento pessoal dos estudantes concluintes de curso, pode desencadear situações de estresse. Objetivo: A presente pesquisa teve por objetivo avaliar a prevalência de indicadores de estresse em 31 estudantes concluintes do curso de terapia ocupacional de uma universidade pública. Método: Para a coleta de dados, foram utilizados um roteiro de entrevista semiestruturada para caracterização do perfil dos participantes e o Inventário de Sintomas de Estresse de Lipp. Resultados: Os resultados indicaram que todos pertenciam ao gênero feminino, com média de idade de 21 anos e 4 meses, e eram solteiras. A maioria (84%) apresentou indicadores de estresse em algumas das fases, com predomínio da fase de resistência (61,5%), seguido da exaustão (34,6%). Os estudantes relataram dificuldades no cumprimento das regras de estágio, diminuição do tempo para lazer e descanso, sentiram-se afetados emocionalmente pelos problemas dos pacientes e referiram boas relações com supervisores e colegas de estágio. Conclusão: Os resultados revelam a necessidade de suporte emocional como fator primordial para o sucesso acadêmico e profissional dos estudantes.

Palavras-chave: Estudantes, Estresse, Terapia Ocupacional.

#### 1 Introduction

Based on Resolution CNE/CES nº 6 of February 19, 2002, of the Board of Higher Education of the National Council of Education, the undergraduate Occupational Therapy course has the profile of a generalist, humanist, critical and reflective, trained professional in all its dimensions and based on ethical principles, in the clinical-therapeutic and preventive field of occupational therapy practices. The course must have a minimum of 3,200 hours, of which 20% must be reserved for the compulsory curricular internships.

Resolution no 451 of February 26, 2015, of the Federal Council of Physical Therapy and Occupational Therapy (COFFITO), considers the internships as:

[...] a supervised educational act, developed in several practice scenarios, within the context of teaching-service articulation, in the work environment, and aimed at training for productive work [...], learning, acquiring skills and abilities specific to the specificity of the professional activity, as well as the experience of multi, inter and transdisciplinary practice in curricular contextualization, aiming at the development of the academic for work and for the citizen's life (CONSELHO..., 2015, p. 1).

The internships are a special stage in the process of academic training, allowing the articulation of the concepts of a theoretical nature and of a practical nature acquired during the course, as well as its application in the care of patients from different care services (RIBEIRO; AMARAL, 2008). It also enables students to develop and improve skills and knowledge in professional practice (MESTRINER JUNIOR et al., 2011). The importance of the multiplicity of places to professional practice and the interaction with professionals and teams as essential elements to favor the formation of students with argumentative potential is highlighted (DOMINGUES; AMARAL; ZEFERINO, 2009). The authors also highlight that the first curricular internships can generate contradictory feelings in students because when they start their activities, they experience insertion in the profession and experience the restlessness shared by students who have already had practical experience.

In the apprentice position, the student needs time to be able to control their emotions, to understand and accept their difficulties, needing a period of adaptation. The stressful nature of the beginning of a professional exercise together with the individual characteristics of each subject have been indicated as responsible or triggers factors of emotional disorders in students, especially in the health area (FRANCO, 2001). The stress is highlighted among these health problems that includes the interaction between personal characteristics, the environment and established relationships, requiring the student to mobilize skills that, when not present, may constitute risks to their physical and mental well-being, capable of triggering processes of illness (FRANÇA; RODRIGUES, 2011).

The stress is considered a general adaptation syndrome faced by the individual in the presence of an aggressor stimulus, which can cause different types of reactions, such as escape or confrontation (SELYE, 1965). It is characterized by a condition of physical and mental tension capable of triggering an imbalance in body functions, diminished immunity and propensity for the appearance of diseases (LIPP; MALAGRIS; NOVAIS, 2007). According to Selye (1965), it consists of three phases: alert, resistance and exhaustion. Lipp (2003) suggests the inclusion of the quasi-exhaustion phase, intermediate between the resistance and exhaustion phases.

Considered as positive, the alert phase occurs from contact with the stressor agent, requiring a preparation of the body, a state of readiness and a response that if not appropriate, it will cause problems, being common at this stage changes in sleep, irritability, and muscle tension. The resistance phase results from the presence of the stressor agent or the increase in its intensity, requiring the body an adaptive response that if not occur, it can cause debilitation and predispose to diseases. At this stage, the symptoms are difficult to memorize, concentration, irritability, decreased libido and physical tiredness. In the phase of quasi-exhaustion, the state of tension is high and difficult to control, with the depreciation of the physical and emotional capacity. Also, discomforts and illnesses are common, especially those considered opportunistic that tend to increase with the fall of immunity, being frequent symptoms of insomnia, almost no libido, fatigue, decreased productive capacity, anxiety and mood changes. Facing the inability of the body to react to the stressor, the exhaustion phase can cause physical and psychological exhaustion, requiring professional support for coping actions, a phase in which insomnia, low productivity, depression, gastric problems and disinterest of social contact occur (LIPP; MALAGRIS; NOVAIS, 2007). In research with medical students of the 11th and 12th periods of the course, stress and suffering situations were identified due to the excess of theoretical and practical academic activities, leading to the commitment of leisure and difficulties to harmonize aspects of academic and personal life (MEYER et al., 2012; AGUIAR et al., 2009; MOREIRA; VASCONCELLOS; HEATH, 2015). In the same direction, similar results were found regarding the presence of stress, concerns and uncertainties regarding the professional perspectives in Physical Therapy students (SANTOS et al., 2012).

Langoski et al. (2014) identified the presence of stress in graduating students of Dentistry related to bureaucratic demands, forms of evaluation and the overload of academic activities. Stress and depression indicators were identified in nursing students, emphasizing the need for emotional support to cope with difficulties (MOREIRA; FUREGATO, 2013), as well as different and significant levels of stress in Psychology students (ASSIS et al., 2013).

As described in the previous studies, the academic background of the student in the health area was overloaded with academic activities, difficulties to reconcile commitments of the university and personal life, uncertainties about the professional future, concern with evaluation forms of their theoretical and practical performance and the need for emotional support to cope with difficulties.

There were no studies found on stress with students of occupational therapy, which justifies the accomplishment of this research, whose objective was to evaluate the prevalence of stress indicators in students who completed the Occupational Therapy course.

# 2 Method

It is a cross-sectional cohort study that allows verifying the momentary situation of a specific population of a given reality according to Rouquayrol and Almeida Filho (2006). In this sense, the present design was opted, since the supervised internship period is characterized by a stage in the trajectory of student training marked by practical experiences that require theoretical and practical articulation and that, when poorly administered, they can generate stress. Thirty-six graduate students of the Occupational Therapy course at a public university in the State of São Paulo were invited. There were 31 of them who agreed to participate voluntarily. As an inclusion criterion, the condition to be concluding and to be supervised, as well as the agreement to participate, was considered.

#### 2.1 Instruments

The collection instruments used were: a) Inventory of Lipp Adult Stress Symptoms (ISSL) (LIPP, 2000). It is an instrument composed of a list of physical and psychological symptoms and it is organized through three tables addressing different stages of stress and the respondent indicates the symptoms he felt in the last 24 hours, in the last week and in the last month, respectively; b) a semi-structured interview guide to characterize the participants' profile (age, marital status, education level and gender), hours of internships, main difficulties found in the internship management, as well as in relationships with the institution, teachers and patients.

# 2.2 Data collection procedures

There were different procedures for data collection: contact with the course coordination to show the project and request permission to access the students; contact with the students to show the research objectives and invite them to participate; scheduling of interviews. Participants signed a Free and Informed Consent Term and the project was approved by the Research Ethics Committee, under protocol # 0843/2013.

#### 2.3 Data analysis procedures

The ISSL data analysis was performed according to the application manual of the instrument, showing the classification by phases according to the frequency of symptoms presented. It is necessary to obtain a score higher than six occurrences to consider the individual in the alert phase. In the resistance phase, the score has to be greater than three; in the phase of quasi-exhaustion, a score greater than nine; and in the phase of exhaustion, greater than eight. The analysis of the answers regarding the script of the semi-structured interview was carried out by absolute frequency and percentage of occurrence and organized in figure and tables.

#### 3 Results

There were 31 students concluding the Occupational Therapy course of a public university, from 2013, all women, single, with a mean age of 21 years old and 4 months, with a standard deviation (SD) of 0.89 participating in the study.

The results of the evaluation of stress indicators in occupational therapy students are shown in Figure 1.

The data revealed that 26 students (84%) were included in some phase of stress and five of them (16%) did not say anything. The resistance phase was predominant with 16 responses (61.5%), followed by the exhaustion phase with 9 (34.6%) and in the quasi-exhaustion only 1 (3.9%). The main difficulties of the internship were investigated through semi-structured interviews, in which difficulties were identified in the administration of the internship (compliance with internship and/or institution rules, workload, amount of free time, lunch time and displacement to the stages) and of interpersonal relationships (dealing with the emotional demand of the patient, individual or group care of the patients, relationship with colleagues and supervisors, emotional support), as presented in Table 1.

# 3.1 Internship administration

Concerning the difficulty in complying with the internship rules and the rules established by the institutions where they carry out the internship (for example compliance with entry and exit times, length of service, filling of medical records, evaluation and attendance protocols, clothing, hygiene and care related to workers' health and safety), 23 students (74.2%) reported having difficulty and 8 students (25.8%) did not say anything.

Regarding the workload, 23 students (74.2%) reported it as adequate and 8 students(25.8%) considered it to be excessive. Also, 26 (83.9%) students also mentioned the decrease in free time for leisure and rest, and only 5 (16.1%) students considered it as adequate. It should be emphasized that, besides the workload related to the internship (average of 20 hours), there is the development of complementary activities (activity planning, reports, clinical case studies, etc.), which require additional time to practice, institutions. Added to this workload, there is the development of the Course Completion Work (TCC), a fact that may justify little availability of leisure and rest time.

There were 25 (80.6%) of the total number of participants considering adequate time for lunch and displacement from one place of internship

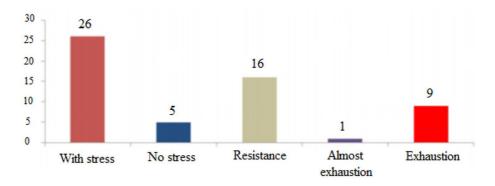


Figure 1. Result of the Lipp Stress Symptom Inventory (ISSL). Source: Prepared by the authors.

**Table 1.** Main difficulties reported by students in the internship.

Category	Difficulties	Yes	No
Internship administration	Compliance with internship and/or institution rules	23 / 74.2%	08 / 25.8%
	Workload	08 / 25.8%	23 / 74.2%
	Amount of free time	26 / 83.9%	05 / 16.1%
	Lunch time and displacement to the internships	06 / 19.4%	25 / 80.6%
Interpersonal Relationships	Dealing with the patient's emotional demands	28 / 90.3%	03 / 9.7%
	In individual service	21 / 67.7%	10 / 32.3%
	In group service	22 / 71%	09 / 29%
	In relationship with interns	08 / 25.8%	23 / 74.2%
	In relationship with supervisors	01 / 3.2%	30 / 96.8%
	Need for emotional support	10 / 32.2%	21 / 67.8%

Source: Elaborated by the authors.

to another, and only 6 students (19.4%) reported insufficient time to move from one institution to another who perform internships in different areas of activity and locations on the same day.

# 3.2 Interpersonal relationships

In this item, aspects related to the trainee-patient relationship are addressed, generally permeated by doubts, uncertainties, and insecurities regarding the new skills and competencies required. Besides the trainee having to articulate theoretical and practical knowledge required to apply techniques and procedures, the therapeutic relationship requires handling of the symptoms and dealing with human suffering - in this case, the trainee's suffering. In this, 28 (90.3%) students reported they feel emotionally affected by the problems presented and/or reported by the patients, of which 10 (32.2%) pointed out the need for emotional support.

The trainee-supervisor relationship can be a facilitator, since it can contribute to the development of a safe and welcoming environment for the trainee, reducing anxieties and assisting in problem-solving and skills acquisition. However, impaired relationships between them can hinder the trainee's performance, causing distress and insecurity. In this study, 30 (96.8%) trainees considered the relationships appropriate.

#### 4 Discussion

In this study, the sample was exclusive of the female gender. In a study by Haddad et al. (2010) on the profile of students from 14 undergraduate courses in the health area, the authors identified that 90% of the students of occupational therapy were female. The prevalence of this gender in health courses is also pointed out by Matos, Toassi and Oliveira (2013).

The results of this research indicate that most of the students (86%) who completed occupational therapy presented symptoms of stress. Regarding the variables gender and health area, it is possible to mention similar results with students from other courses in the health area (AGUIAR et al., 2009; ASSIS et al., 2013; TORQUATO et al., 2015).

Regarding the justifications about the prevalence of stress in female students, Aguiar et al. (2009) consider that women admit more easily the presence of indicators when compared to male. Lameu, Salazar and Souza (2016) suggest that gender differences may occur due to biological, cognitive and behavioral

characteristics, as well as work overload and family care, but they point out that new research on this subject is needed to confirm these differences.

In this study, a significant prevalence of stress was observed in the final students of occupational therapy, especially in the resistance phase, which suggests that the stressors in the training activities are maintained. This predisposes the appearance of symptomatology, such as the difficulty of memorization and concentration, irritability and physical fatigue. However, this fact cannot be accurately stated, since the research did not investigate the specific presence of symptoms, but rather the stages of stress that refer to the mentioned sets of symptoms. On the possible effects of the presence of these symptoms in the resistance phase, it is possible to see impairments in learning and academic performance, as well as in the relationships with the patient, a fact identified by Souza, Medeiros and Ribeiro (2007) when researching Nursing students, who also highlighted the non-compliance of academic tasks such as the use of coping strategies and self-protection by students to prevent illness, a fact often interpreted as neglect of responsibilities.

Also in the stress prevalence of the resistance phase, similar results were identified in students of courses in the health area, mainly due to the initiation of the professional practice and the responsibility present in the direct contact with the patient, as well as with the treatment (AGUIAR et al., 2009; MOREIRA; VASCONCELLOS; HEATH, 2015; TORQUATO et al., 2015).

Also, there were 9 (34.6%) students identified in the exhaustion phase. It should be emphasized that at this phase students may present some symptoms, such as physical and psychological exhaustion, impaired performance, sleep and eating disorders, as well as social life, demanding intervention or professional assistance. Only one (3.9%) student is in the phase of quasi-exhaustion, whose manifestation of illness is frequent.

Andrade, Valim-Rogatto and Rogatto (2011) suggest the need for control and stress reduction programs in university students to reduce symptomatology, as well as the restructuring of the internships to contemplate time flexibility and allow them to complement their academic activities and have space for leisure. Souza, Medeiros and Ribeiro (2007) also indicate the need to distribute the internship activities in a single period to better manage time and create qualified listening space for the student's

demands, assisting him in the elaboration of coping strategies to stressful situations.

Besides the articulation of theoretical and practical knowledge in the course of the student training, the internship involves learning to deal with the stressors characteristic of professional practice, developing skills in a personal and professional setting, and revert this knowledge to the benefit of the population (RUDNICKI; CARLOTTO, 2007). Carlotto, Nakamura and Câmara (2006) suggest that trainee health students may be vulnerable to the development of emotional disorders at the onset of practical activities.

Although the internship can be considered as a period of training in which the trainee must present a more elaborated theoretical repertoire, it is emphasized that the activities are supervised, a condition that assists in the development of skills.

The fact that the internship is concentrated in the last year of the course may favor the emergence of anxiety and stress at the beginning of professional practice. Although in the referred course the introduction to observation practices occurs, the direct contact with the patient occurs only in the last year. There are studies that portray this condition, for example, with medical students in Ceará, where the presence of stress was identified in 49.7% of them, the highest incidence (62.7%) from the fourth and the prevalence of the resistance phase (AGUIAR et al., 2009). In a study with students of the Physiotherapy course (TORQUATO et al., 2015), the authors identified a high prevalence of stress in the resistance phase, especially in students of the last year. In this sense, the mentioned literature corroborates the idea that the internship in the last year of the course can favor the development of stress in the students. Other aspects mentioned as stress factors in the last year are activities related to the development of TCC and concerns about the future insertion in the labor market (TORQUATO et al., 2015), Rodrigues and Veiga (2006) highlighting the contact with a different reality as a stress factor, usually related to the place of internship and to supervision. In this way, it is possible to point out, based on the mentioned literature, a set of factors that favors stress in trainees, with emphasis on the activities concentrated in the last year, the development of a final monograph, the confrontation of their reality with the patient's reality, generally different, and uncertainties about the professional future.

No studies in the literature dealing with stress in students of occupational therapy have been identified occupational (ASSIS et al., 2013).

In this research, it was possible to verify some difficulties pointed out by the concluding students of occupational therapy that could help in the understanding of the prevalence of stress. Aspects related to internship management and interpersonal relationships required in this phase can be highlighted among these difficulties. The results are similar or close to the literature on students from other healthcare courses.

Regarding the rules of the internship and the institution, most students pointed out difficulties in fulfilling them, as well as reported shortages and free time, since the internship activities occupied almost the entire amount of the weekly workload. This fact has also been identified in Nursing students, emphasizing the presence of overload due to the fact that the daily journey is uneven and elevated, which can cause tensions and emotional imbalances (MONTEIRO; FREITAS; RIBEIRO, 2007). Similar results were found by Binotto and Schaurish (2010) with Nursing students. However, in research with students of Physical Therapy, they did not find relevant associations between the time and the academic activities developed in the different periods of the course (SANTOS et al., 2012). As mentioned previously, the authors recommend the distribution of activities in just one shift, emotional support, routine reorganization and inclusion of leisure activities as coping strategies as flexible coping strategies.

#### 4.1 Emotional demand of students

Most students (90.3%) reported difficulties in dealing with patients' emotional demands, causing interference in their emotional states with possible implications on the effectiveness of their clinical practice. In a study that investigated different roles of the occupational therapist, the authors emphasized that the difficulty of dealing with the suffering of the other requires an internal availability and maturity for listening to life histories, complaints related to socioeconomic difficulties, lack of housing and employment, that is, a confrontation of realities (EMMEL; ROSA, 2001).

The training of the occupational therapist involves theoretical and practical aspects, as well as concerning the professional and personal identity. When the trainee does not show emotional maturity, he may be emotionally affected by the

patient's demands, creating expectations regarding the patient's evolution, often failing to separate his/her professional and personal identity, which can lead to emotional overload (CAVALCANTI; GALVÃO, 2007). The relief of tensions caused by the reports and/or pathological conditions presented by the patient can be minimized as soon as this trainee shares his difficulties with co-workers and supervisors in a climate of respect and emotional comfort (RUDNICKI; CARLOTTO, 2007). In this sense, the qualified listening by the supervisors of the demands presented by the students in the daily routine of the professional practice is pointed out as an effective strategy to deal with the stressful situations (SOUZA; MEDEIROS; RIBEIRO, 2007), a fact that can be considered positive, since in this study the personal relationships among supervisors were considered to be predominantly positive. It is also important to share the difficulties among students, as a possibility of emotional support, as mentioned by Rudnicki and Carlotto (2007), whose results point to good relationships among students.

# 4.2 Relationships with the supervisor and colleagues

It is believed that the positive relationship between supervisor-trainee is fundamental for the development of professional and personal skills since the establishment of a good relationship can ease anxieties and stress in the face of uncertainties and insecurities, before and during therapeutic interventions. It is up to the supervisor to assist the student in the process of the internship, assuming a posture that emits trust and able to manage the student's anxieties before this new phase of their academic life (RESTREPO; JARAMILLO; MARÍN, 1998). In the same direction, the correcting supervisor points out appropriate techniques and stimulates the reflection of the practices, contributing to the promotion and/or the increase of the self-confidence of the trainee in the accomplishment of the interventions (GONÇALVES; MELO, 2011).

Regarding the relationship with colleagues, most of the students considered it as a positive relationship. The importance of teamwork is emphasized and it is pointed out that the integration of the group favors reflection and discussion of theoretical and practical aspects, which enriches professional training. Group work depends on the involvement and commitment of members, as they must interact continuously (CAVALCANTI; GALVÁO, 2007).

However, even in the favorable relationships with colleagues and trainees, 32.2% pointed out the need for emotional support as a way of searching and mobilizing personal and professional resources to ease the transition from the student-professional role, even though he is still in the role of the trainee.

Another aspect highlighted in the literature refers to the structure of the internship, which sometimes it is shown in a fragmented and short duration, which does not favor student learning and professional maturity, and may cause interference in the quality of care (DOMINGUES; AMARAL; ZEFERINO, 2009).

In this sense, it is possible to consider that the exercise of the internship activity is permeated by situations that may favor the prevalence of stress in students due to their characteristics of direct contact with the patient, the confrontation between theory and practice, the consequent responsibility in professional roles, the internship management and the relationship with interns, supervisors, and professionals.

# 5 Conclusion

The results of this research reveal the importance of further studies on this theme, which have not yet been studied in the area, and highlight the prevalence of stress in students of occupational therapy, indicating the need for emotional support as a form of disease prevention and quality promotion of their lives. Emotional support refers to actions taken to accommodate the student regarding the difficulties in dealing with the patient's problems, separating their personal demands, limitations of therapeutic action, coping with death and responsibilities.

Regarding the specificities of the internship and the demands arising from the direct relationship with the patients, it is important that the structure and supervision of the internship do not constitute additional factors capable of affecting a condition that already contains a scenario that can reveal fear, uncertainties, suffering, and sickness of students, as in the case of the stress that was the object of this research. Such a condition is worrying, as it may still interfere with the quality of care and patient care. In this sense, emotional support for university students by the institution, supervisors, teachers, and staff is a key factor for students' academic and professional success.

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#### **Author's Contributions**

The authors also participated in all stages of the text and approved its final version.