Stress and coping between medical residents.

ABSTRACT
Objective: to check stress and coping strategies in medical residents. Method: Cross-sectional, descriptive and quantitative study of 112 residents in a University of Rio Grande do Sul, with professional and socio-demographic data form used from the Scale Work Stress and Coping Strategies Inventory. The data were organized and stored in a spreadsheet in Excel 2003 (Office XP) program and statistically analyzed with the Statistical Analysis System (SAS) software, version 9.02. The project was approved by the Research Ethics Committee, CAEE 23081.020160/2010-06. Results: 59.82% of the subjects had high stress. The causes with high average were “Working during straight hours” and “Feeling annoyed with disabilities in professional training.” Strategies for Coping of Factor Problem Solving and Social Support were the most used. Conclusion: residents identify the demands of the job as stressful and use strategies of coping centered in problem and emotion. Descriptors: Psychological stress; Internship and Residency; Nursing.

RESUMO

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STRESS AND COPING BETWEEN MEDICAL RESIDENTS
ESTRESSE E COPING ENTRE RESIDENTES MÉDICOS
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INTRODUCTION

The globalized development guides to specialization, technology, robotics and the dehumanization of interpersonal relationships in productive environments. At the same time, there is an increase in cases of diseases by exercise or work activities and a requirement for health services containing more effective policy action on health and safety at work.

It is observed that the emerging diseases, such as stress, depression and anxiety, as well as the situations of violence at work, harassment and intimidation are responsible for 18% of the health problems associated with work. Furthermore, a fourth part of this portion involves two weeks or longer without working.

This reality is a result of the changes occurring in the workplace and in organizations, with the superposition of new technologies and management strategies against old patterns. This facilitates the intensification of work, employment instability modifying the profile of health workers, as evidenced by the emergence of other forms of diseases and manifestations of suffering related to the work process. In this circumstance, there are the health professionals, in multi-professional interaction, inserted in the social and technological organizational context of the work process. These include medical residents, may be subject to diseases related to changes made to the working environment.

The doctor does his profession generally in accordance with the specialty of his training at post-graduate, as is the case of the Medical Residency, established by Decree No. 80,281 of September 5, 1977. Moreover, the same decree established the National Commission of Medical Residency (CNRM), which is responsible for the accreditation and recognition of residency programs.

In training scenarios, medical residents assume in front of patients, families and society, the everyday of art and science of medicine, under the supervision and support of preceptors from different specialties. Inserting them in the organizational context of care and educational institutions, the conquest and the solidification of spaces within healthcare teams and the acquisition of trust and credibility by the patients and families are challenges for them.

Medical residents in daily work and a caring institution, face discomforting situations, sometimes challenging, due to internal and external pressures. Among them, there are the administration of professional responsibility, dealing with seriously ill patients, fear of making mistakes, demand management of knowledge in the area and the establishment of boundaries between personal and professional identity. We highlight some training characteristics, such as sleep deprivation, fatigue, excessive care burden, excessive administrative work, problems concerning the quality of teaching and learning environment, lack of time and dedication required, anxiety about the quality and difficulty of the material to study and the evaluation system. Individual characteristics and personal situations such as gender, personality and psychological vulnerabilities can also be stressful. Therefore, being though a personal development, the period of residence may be reported as stressful by the resident.

Stress is characterized by a psychophysiological process involved the causes of stress, the evaluation of the subject in such a situation and the body’s reaction. In this sense, the evaluation of the stressful event will depend on the individual, their experiences and possible resources for coping. In addition to this, there are strategies for Coping, used by individuals as a way to cope with this causes of stress that in the cognitive perspective, can be focused on emotion and/or problem.

With all this, the following questions were formulated:

- Do the medical resident identify job demands as stressful? What are the coping strategies used by these professionals? To answer them the next objective was determined:
  - To check stress and coping strategies in medical residents.

METHOD

Descriptive, cross-sectional and quantitative study, developed in a federal university in the interior of Rio Grande do Sul (RS)/Brazil. The study population consisted of 121 medical residents in 17 specialties and 8 Areas of Expertise.

Data collection was conducted from February 15 to April 30, 2011 through a form of professionals and socio-demographic data of the Work Stress Scale (WSS), and the Coping Strategies Inventory (IEC). These instruments were applied to subjects invited and accepted to voluntarily participate in the study after being informed of the objectives and characteristics of the study. The approach to the subject was taken, in most cases, individually and sometimes in groups. Thus, it was made personal contact with medical
residents in their areas of action in the institution. At first contact, the researcher introduced himself, said the topic and objectives of the study and invited them to participate. When accepted, they combined an appropriate time and made clarifications according to the availability of the participant. The collective approach of residents occurred in the breaks in doctor’s living rooms and the procedure was as in the individual approach. When returning the protocols, data were checked and for those missing, the fulfillment of the form was asked.

The WSS, built and validated in 2004, consists of 23 items arranged in a Likert type scale of five points. 1 - Totally disagree. 2 - Disagree. 3 - Partly agree. 4 - Agree. 5 - Totally agree. The IEC, translated, adapted and validated for portuguese, consists of 66 items showing thoughts and actions that people use to cope with internal and external demands of a given stress cause. The items are arranged on a Likert scale of 4 points, where zero - “I do not use the strategy”, 1 - “I slightly used it”, 2 - “I used it a lot” and 3 - “I use it aplenty”.

The data were organized and stored in a spreadsheet in Excel 2003 (Office XP) program and statistically analyzed with the Statistical Analysis System (SAS) software, version 9.02. The internal consistency of the instruments was evaluated by Cronbach Alpha Coefficient. Qualitative variables were presented in absolute (n) and relative (%). Quantitative variables were described in descriptive measures: average, standard deviation, minimum and maximum values.

For analysis of WSS, there was the population average, and from this measurement, the responses were dichotomized into “high” and “low” stress. In addition, there was the average population per item of WSS, identifying the stress cause and the emotional reaction according to greater and lesser stress on resident responses. For Inventory Coping strategies used by participants, eight proposed classification factors were respected. Factor 1 - Confrontation. Factor 2 - Removal. Factor 3 - Self-control. Factor 4 - Social Support. Factor 5 - Acceptance of Responsibility. Factor 6 - Escape / Evasion. Factor 7 - Problem Solving. Factor 8 - Positive Reevaluation. Thus, there was the sum of scores determined in every item of the same factor, divided by the total number of items. This allowed us to identify the strategies most used by multidisciplinary residents to face stress in the workplace.

It was available to those who agreed to participate in the research, the Free Informed Consent - FIC, with information relating to the research, signing two copies (one for participant and one for the researcher) and authorizes voluntary participation in the research. It is declared that there is no conflict of interest.

This study is part of Stress, Coping, Burnout, and Depressive Symptoms in Medical Resident and multidisciplinary project, approved by the Ethics Committee in Research of the Federal University of Santa Maria/UFSM under CAEE number 23081.020160/2010-06.

RESULTS

In the analysis of the internal consistency of the WSS and IEC items, it was obtained respectively a Cronbach’s Alpha of 0.92 and 0.91.

The Factor Coping of Self-control had a lower Alpha of 0.40 and the exclusion of any item did not increase this value. Therefore, it was eliminated from the analysis for this research. Other factors obtained values of Alpha from 0.48 to 0.72. According to authors, these values are enough to show satisfactory internal reliability of the instrument.

From the population of the study, 92.56% of residents met the eligibility criteria and were part of this research, since two of them left the program, two refused to participate and five did not return the instruments.

Regarding to socio-demographic characteristics of residents, there was a predominance of male (52.68%), single (52.68%), between 26 to 30 years old, without children (91.96%), living with their family (5.54%), practice sports (58.93%), have leisure activities (75.00%) and are satisfied with the residence (94.64%).

As to Work Stress Scale, the average was 2.20 (± 0.66) where the minimum value was 1.00 and the maximum value was 4.08. On the classification of the severity of stress of medical residents, it was found that 59.82% of them had high stress and 40.18% had low stress. Table 1 shows the descriptive measures for situations of higher and lower average, i.e., representing respectively the highest and lowest stress for medical residents.
The situations of increased stress for residents were “working for long hours” and “feeling bothered with the lack of professional training.”

In the Factor Problem Solving, the most used strategy by the medical residents was “I know what should be done, so I doubled my efforts to do whatever was necessary”, it was the strategy most used by residents ($\bar{x}$ = 2.24).

**DISCUSSION**

Medical residents are in a peculiar context, since they are exposed to situations of the work and the teaching-learning process, concomitantly, that can be evaluated as stressful for them. In this sense, it was found that 59.82% of residents have high stress and 40.18% have low stress. In a research of medical residents, 79.6% of them considered their work stressful. In a research with doctors of a public hospital in South Africa, 27% of these professionals in high stress were identified.

It is noteworthy that the residency is characterized as a stressful phase, especially in the first year, being a period of immersion in the profession, with working hours dedicated to patient care in complex situations and difficult to handle. This difficulty may be related to the severity of clinical manifestations, the institutional lack and limitations and/or the improper organization of the training. This compromises the quality of life of these professionals and consequently the care provided to service users.

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About the workload, in a research with medical residents, it was identified an average workload of 66 hours without computing work and extracurricular shift. Even, when analyzing a medical residency program in pediatrics, a group of researchers found that, for residents the workload was considered heavy and there was not enough free time to study and/or for research. In this context, it is noteworthy that the Medical Residency Programs have minimum workload of 60 hours/week, with 24 hours on duty per week. In addition, 80% of the workload is developed by in-service training, being 10 to 20% for theoretical-complementary activities. It is observed that the profession has long working hours and this fact can constitute one of the main causes of stress for these professionals.
In the lack of professional training, a study highlights that the dissatisfaction of residents may be due to the general conditions of training and lack of pedagogical structure. Therefore, the resident feels unsatisfied and has the feel of "stolen time" when is in the activities of residence. Since the professional training is one of the main activities in most organizations, public and private, to invest in training is a fundamental need in all levels of the organization, providing competitive advantage by spreading knowledge.

The causes of stress of lowest average are job demands of lower stress. For medical residents, “the superior avoiding me from important responsibilities” and “The low perspective of improving in the career” are among the minor causes of stress.

In this sense, the relationship of trust between the supervisor and the resident is an important factor in interpersonal relationships. This may be linked to the performance of supervisors and their classification.

For students of general health and in particular, for medicine students, the first contacts with patients raise fears arising from their personal insecurities. Thus, the presence of the supervisor is important in these early stages. Moreover, it helps to form and determine the professional identity of future doctors and it facilitates the transition between the resident and their professional practice. However, the image from the tutor for the resident can be positive or negative, depending on their impression.

The few perspectives for career growth were evaluated as the lowest average cause of stress. This expresses that, for residents, the issue of career and professional perspectives are among the smaller causes of stress. This may mean that they believe in the hypothesis be a promising career. However, the idealized vision of the importance of the medical and the student associated with a promising career may not materialize, during the course and the residence, and be a cause of distress for some residents.

Once the causes of stress are known, strategies for coping can be elaborated. The possibility of discussion of causes of stress among the group of residents can be a strategy to mitigate the problems, support and relief from stress and reduce feelings of social isolation.

Coping strategies from the Problem Solving factor were prevalent among residents, who by identifying the demands of the environment, they move to cope the stressful situation. In this factor, the most used strategy was "I know what should be done, so I doubled my efforts to do what was necessary."

In a study among nurses in the surgery room, problem solving as a coping factor prevalent among these professionals were identified. In a research with a nurse in the intensive care unit with kidney problems patients, there was coping focused in the problem between nurses. In this sense, it is observed that for the nurses as well as medical residents, the Problem Solving factor was the most used, being a form of coping centered on the problem. This confirms the importance of the integration of the multidisciplinary team in the process of work of health institutions.

In problem solving, it is necessary to define the problem, list the alternatives and compare them with the possible desired results and to select and establish a proper action plan. Individuals who use these strategies are able to modify the environmental pressures, minimizing the causes of stress and make significant changes in the stress evaluation process.

Coping strategies as the social support factor had the second highest average, and the coping strategy most used by the study subjects was "talking someone else about the problem, seeking more information about the situation." In this sense, it is emphasized that social support involves those strategies in which the individual search for the people in their social environment, such as family, friends, doctors or coworkers in an attempt to obtain cooperation and assistance to solve their problem.

Comparing investigations with medical residents, a study with Dutch residents found that lack of social support has shown a direct effect on emotional exhaustion and depersonalization, two of the burnout indicators. Other research emphasized the importance of social support in coping with causes of stress to deal with the difficulties associated with medical residents from other cities. This study highlights that moving to an unfamiliar environment, with new responsibilities and less social support leads to potential difficulty in adapting to a new life. With this strategy, the individual does not seek to solve the cause of stress, but minimize its effects, distorting the reality or not. In this sense, less effective strategies for coping are better than those centered on the problem. Therefore, the prevalence of high stress among residents of this study may be related to the use of strategies of Social Support Factor, a way of coping focused on emotion obtaining the second highest average.
It was found that the confrontation was the factor less used by medical residents and the strategy less used this factor was “tried to run away from people in general.” A similar result was found in the surgical nurses’ area study in which the Confrontation and Acceptance of Responsibility factors were the less used by researchers. The confrontation refers to strategies that include the challenge view and attention to one aspect of the situation, involving memories of past experiences and the evaluation of possible actions and their consequences.

Reactions, coping processes and adaptation of a situation are unique to each individual, as well as the perception, identification and evaluation of a cause of stress differing from one person to another. Thus, developing coping strategies to the problems may help decreasing the negative consequences of stress among medicine students.

CONCLUSION

Studies on the population of medical resident in Brazil are from mid-90s, with difficulties in addressing issues such as care, chemical dependency, depression, emotional difficulties, stress and Burnout. The main indicated cause of stress that hinder the performance of functions and professional achievement, refer to the relationship with patients, working conditions, remuneration, hours of work, ethical dilemmas, professional responsibility, among others.

It is considered that the hospitals are recognized as stressful environments due to the rigidity of the labor hierarchy process and the present and necessary paperwork. However, such situations often hinder the speed and effectiveness of procedures considered urgent. Moreover, there is direct interaction with patients from different health needs and the frequent recovery by effective results by patients, family and society as a whole.

To cope this situation, medical residents use Coping Strategies focused on the problem, i.e., they perform the direct confrontation of the cause of stress, seeking to resolve the stressful situation. However, since the average Social Support Factor, it was observed that residents also use strategies focused on emotion. This may explain the high frequency of stress among residents since this type of strategy is considered less effective for coping with causes of stress.

This study allowed the knowledge and understanding of the causes of stress identified by medical residents, as well as the coping strategies used by them, which may facilitate closer relations between professionals of health teams, within the logic of multidisciplinary interaction, focusing the welfare of workers and human care to patients and families.

It is expected that the results of this study may contribute to the residency program in order to provide support for the establishment of actions to minimize the difficulties and mitigate the causes of stress experienced in the residence and pointed out this research. Also, to contribute with the review of work processes in hospitals and to create spaces of support and integration between the multidisciplinary teams aimed at improving the quality of life and interpersonal relationships.

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