

The relevance of psychological support to medical resident and specializing in radiology and imaging diagnosis*

A importância do apoio psicológico ao médico residente e especializando em radiologia e diagnóstico por imagem

Glauce Cerqueira Corrêa da Silva¹, Evandro Guimarães de Sousa², Luiz Antônio Nogueira Martins³, Rogério Christiano Buys⁴, Alair Augusto Sarmet Moreira Damas dos Santos⁵, Hilton Augusto Koch⁶

Abstract Objective: To highlight the relevance and necessity of implementing a service to provide psychological support to physicians specializing in radiology and imaging diagnosis. **Materials and Methods:** Qualitative research with application of a questionnaire to 219 residents and trainees in radiology and imaging diagnosis, in the period between 2007 and 2009. The questionnaire included questions regarding their psychosocial profile, perception of the level of relationship with the service team, level of learning, psychological difficulties and evaluation of the prevalence of anxiety and depression symptoms according to the Hospital Anxiety and Depression Scale. **Results:** Among the respondents, 116 (53%) were women and 103 (47%) were men. Most of them, 170 (77.6%), were in the age range between 20 and 30 years. It was observed that 51.1% of the respondents presented anxiety and 54.8%, depression symptoms. Among the respondents, 44.8% showed interest in seeking psychological assistance to address their problems. **Conclusion:** The implementation of a service to provide psychological support to residents and trainees in radiology and imaging diagnosis should be done by psychologists specialized in hospital and clinical psychology, skilled to welcome and assist them to deal with difficulties in the training, as well as in their adaptation and integration, thus contributing to reduce stress and symptoms of anxiety and depression.

Keywords: Internship and medical residency; Anxiety; Depression.

Resumo Objetivo: Ressaltar a importância e a necessidade da implantação de um serviço de apoio psicológico ao médico em formação em radiologia e diagnóstico por imagem. **Materiais e Métodos:** Pesquisa qualitativa. Aplicação de um questionário a 219 residentes e especializando em radiologia e diagnóstico por imagem, no período de 2007 a 2009, constituído por perguntas referentes a perfil psicossocial, percepção do nível de relacionamento com a equipe do serviço, nível de aprendizagem, dificuldades psicológicas e avaliação da prevalência de sintomas ansiosos e depressivos pela Escala Hospitalar de Ansiedade e Depressão. **Resultados:** Dos médicos alunos entrevistados, 116 (53%) eram do sexo feminino e 103 (47%) do sexo masculino. A maioria, 170 (77,6%), encontrava-se na faixa etária de 20 a 30 anos. Observou-se que 51,1% apresentaram sintomas ansiosos e 54,8%, sintomas depressivos. Do total dos alunos, 44,8% manifestaram desejo de buscar assistência psicológica para auxiliar na orientação de seus problemas. **Conclusão:** A inserção de um serviço de apoio psicológico para médicos em formação em radiologia e diagnóstico por imagem deve ser feito por psicólogos especialistas em psicologia hospitalar e psicologia clínica com competência para auxiliar na formação do médico aluno, por meio do suporte às vicissitudes do treinamento, no acolhimento, adaptação e integração, contribuindo para a redução do estresse e dos sintomas de ansiedade e depressão.

Unitermos: Internato e residência médica; Ansiedade; Depressão.

Silva GCC, Sousa EG, Nogueira-Martins LA, Buys RC, Santos AASMD, Koch HA. The relevance of psychological support to medical resident and specializing in radiology and imaging diagnosis. *Radiol Bras.* 2011 Mar/Abr;44(2):81-84.

* Study developed at the Unit of Radiology – Santa Casa da Misericórdia do Rio de Janeiro (SCMRJ), Rio de Janeiro, RJ, Brazil.

1. PhD, Psychologist at Unit of Radiology – Santa Casa da Misericórdia do Rio de Janeiro (SCMRJ), Rio de Janeiro, RJ, Brazil.

2. PhD, MD, Member of the Technical Chamber of National Committee for Medical Residency, Ministério da Educação, Brasília, DF, Brazil.

3. Associate Professor, Department of Psychiatry, Universidade Federal de São Paulo (Unifesp), Coordinator for the Center of Assistance and Research in Medical Residency (NAPREME), São Paulo, SP, Brazil.

4. PhD of Psychology, retired Associate Professor, Instituto de Psicologia da Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, RJ, Brazil.

5. PhD, MD, Member of the Committee for Teaching of Colégio Brasileiro de Radiologia e Diagnóstico por Imagem (CBR), Associate Professor, Department of Radiology, Universidade Federal Fluminense (UFF), Niterói, RJ, Brazil.

6. Titular Professor of Radiology, Universidade Federal do Rio de Janeiro (UFRJ) and Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio), Head of the Center of Radiology, Santa Casa de Misericórdia do Rio de Janeiro (SCMRJ), Rio de Janeiro, RJ, Brazil.

Mailing Address: Dra. Glauce Cerqueira Corrêa da Silva. Rua Marquês de Paraná, 62, ap. 401, Flamengo. Rio de Janeiro, RJ, Brazil, 22230-030. E-mail: glauce@centroin.com.br

Received February 8, 2011. Accepted after revision March 14, 2011.

INTRODUCTION

During courses, both residents and trainees experience some contradictions between the dream of becoming a radiologist and the daily reality that must be faced until the conclusion of their professional education. Sometimes, such contradictions lead these professionals to develop anxiety and depressive reactions, impairing the study and learning, the development of

genuine interest, relationships and the achievement of satisfaction with their profession.

Among radiologists, the emotional aspects have caused uneasiness since the 1930's. An editorial published in 1933 by the journal *Radiology* mentioned the preoccupation with the effects of depression on radiologists, highlighting the issue of excessive workloads and the potential impairment of their professional competence and relationship with peers⁽¹⁾.

According to Borus⁽²⁾, the medical residency is a determinant of several changes, both in professional personal life of the individuals. They leave their families and affective relationships, their hometowns, their social lives and dive into an entirely new environment. Many of these individuals need to increase their incomes to face expenses, taking on duties at emergency services. They need to learn to cope with the distance, illnesses of parents and relatives that sometimes are close and often are far away, the death of loved ones, the disengagement from family life, the uncertainties of the new social life and, of course, the new responsibilities. With all such factors potentially interacting with the training, it is advisable that the preceptors develop competencies and abilities to deal with such situations⁽³⁾.

According to the American Medical Association, medical residents constitute group at risk for emotional and behavioral disorders. Among such disorders, depression, anxiety and sleep deprivation are considered as stress triggering factors of⁽⁴⁾.

Anxiety is an emotional state, a feeling of intense uncertainty, of imminent danger. Depression is a pathological state of sad and painful mood associated with reduction of both physical and psychological activity⁽⁵⁾.

The literature⁽⁶⁾ describes a high degree of emotional suffering among physicians and medicine students, expressed as high suicide rates⁽⁷⁾, high prevalence of depressive and anxiety disorders⁽⁸⁾, alcohol and drugs abuse⁽⁹⁾, besides very frequent professional dysfunctions⁽¹⁰⁾, such as symbiotic relationship with patients, apparent coolness or emotional distance from patients and denial of personal vulnerabilities⁽¹¹⁾.

The mental health of physicians is surrounded by myths and fears. Daily activities and practice provide them with the necessary conditions to deal with frustration and failure. However, students should be made aware of such challenges which they will certainly face, and should be properly guided and motivated to seek for help to face them, and thus to develop their emotional maturity⁽¹²⁾.

According to Mello Filho^(13,14), the fear of failing in professional achievements and the uncertainties in relation to the labor market for the newly graduates, encourage students from medicine courses to seek medical residency as a means to remain "students" for a longer period of time, thus obtaining the support and guidance from a preceptor. However, such fact generates more anguish, anxiety, stress and depression, as such individuals do not feel capable of achieving professional autonomy.

For Nogueira-Martins⁽¹⁵⁾, medical residents face stressful situations involving the fear of making mistakes and errors because of the fatigue, lack of time, excessive responsibility and lack of personal organization, in addition to the level of personal expectation with respect to their performance in medical residency.

The stress in medicine professional education reaches its apex at medical residency: the transition from student to physician, excessive responsibility, lack of time for social and family interaction, exhaustion and sleep deprivation, heavy workload, and fear of making errors, are factors that may contribute to the development of depressive states, with suicidal ideation, and abusive use of alcohol, illicit drugs and medicines⁽¹⁵⁾.

Early in 1995, Millan & Arruda⁽¹⁶⁾ developed a study in 82 medicine schools in Brazil with the purpose of cataloguing those with a history of providing psychological assistance to their students. Only 26.8% of the schools reported such kind of support.

Amongst the several centers providing psychological support to medical residents and health professionals, three should be mentioned for their pioneering work⁽¹²⁾:

NAPREME – Núcleo de Assistência e Pesquisa em Residência Médica (Center of Assistance and Research in Medical Resi-

dency) created in 1996 at Universidade Federal de São Paulo/Escola Paulista de Medicina (Unifesp/EPM). It is a service of psychological support for medical residents and fellows. The objectives of this center include: providing guidance, psychological and psychiatric assistance to medical residents and fellows, supporting the preceptors in medical residence and post-graduation programs, reducing training stress, and preventing professional dysfunctions and emotional disorders in medical residents and fellows, as well as developing research projects aimed at improving medical residence and post-graduation programs⁽¹⁵⁾.

GRAPAL – Grupo de Assistência Psicológica ao Aluno da Faculdade de Medicina da Universidade de São Paulo (FMUSP) (Group of Psychological Assistance to Students of the Medicine School at University of São Paulo). It is also a service of psychological support for students. Since 1986 it provides assistance to FMUSP students to medical residents at Hospital das Clínicas. The Group aims at qualifying the education of medical residents by providing psychological support whenever necessary⁽¹⁶⁾.

REPAM – Serviço de Retaguarda Emocional para o Aluno de Medicina da Faculdade de Ciências Médicas da Santa Casa de Misericórdia de São Paulo (FCMSCSP) (Emotional Rearing Service For Medicine Students of the Medical Sciences School of Santa Casa de Misericórdia de São Paulo). The service was created in 1997 to assist students by providing an environment where, along their education, they can be reared on their emotional issues, so as to minimize the impact of such issues on their well being and professional development⁽¹⁷⁾.

The Unit of Radiology and Imaging Diagnosis of Santa Casa da Misericórdia do Rio de Janeiro counts on a service of psychological support to medical residents and trainees, from their admission, by means of selection interviews, to the completion of their education. Such service is in operation since 2007 and, over the last four year, has already provided more than one hundred sessions for assistance to students during all the phases of the course. The Psychology Service has become a cornerstone for a good learning performance

of students with the main objective of preventing anxiety, anguish and depression, and also supporting the students to enhance their determination and self organization thus collaborating in maintaining a high level of motivation. The process as a whole follows a protocol comprising group dynamics, individual sessions, and evaluation of students' self esteem, knowledge and sensibility.

Based on the experience in this field both in Brazil and in other countries, the present study is aimed at highlighting the relevance and the need for the implementation of services of psychological support to residents and trainees in radiology and imaging diagnosis, contributing to reduce the levels of anxiety and depression as well as the interference of such factors in the students' motivation and performance.

MATERIALS AND METHODS

A survey on the levels of anxiety and depression affecting trainees and residents in courses of post-graduation in radiology and imaging diagnosis was developed at Santa Casa da Misericórdia do Rio de Janeiro (CESANTA) and Pontifícia Universidade Católica do Rio de Janeiro (PUC-Rio). Over the period from 2007 through 2009, were investigated. Symptoms of anxiety and depression were identified and quantified by means of the Hospital Anxiety and Depression Scale (HADS) in 219 students undergoing training in the speciality with low academic performances.

The HADS comprises seven items evaluating anxiety (HADS-A) and seven other items evaluating depression (HADS-D). Each one of such items can be graded from zero to a maximum of three, thus allowing for a maximum score of 21 in each one of the two scales.

In order to detect the frequency of anxiety and depression collected on each one of the items at HADS, the cutoff points recommended by Zigmond & Snaith⁽¹⁸⁾ were utilized:

HAD-anxiety: no anxiety – from 0 to 8 points; with anxiety – equal or higher than 9 points;

HAD-depression: no depression – from 0 to 8 points; with depression – equal or higher than 9 points.

The analysis of such data corroborates the need for a larger series evaluating the relevance of psychological support to residents and trainees that is currently under development.

RESULTS

In the analysis of the psychosocial profile of the 219 interviewed students, 116 were women (53%) and 103 were men (47%). As regards, age range, most of the students, 170 (77.6%), were between 20 and 30 years, 44 (20.1%) were between 31 and 40 years, three (1.4%) were between 41 and 50 years, and only two (0.9%) were above the age of 50 years. The marital status distribution was the following: 171 (78.1%) students were single, 43 (19.6%) were married and five (2.3%) were separated.

In the HADS assessment, it was observed that 51.1% of the students presented anxiety while 48.9% did not. In the depression scale, 54.8% of the students presented depression related to their professional and academic activities, while 45.2% did not. Also, along the study, it was observed that 98 students (44.8%) presented concomitant symptoms of anxiety and depression.

Students with grades below 5.0 in academic performance presented or reported the following problems: symptoms of anxiety or depression, lack of time for studying, personal problems regarding relationship with family members, pregnancy, death of family members, missed tests, financial problems, apathy and lack of responsibility in relation to their choice for the specialty, lack of time and organization and related problems in their work, study, leisure and attention to their families.

On the other hand, the students with mean grades > 7.0 in academic performance did not present any apathy focus, neither the development of anxiety nor depression.

The analysis of the questionnaires demonstrated that 14.2% of the students would seek a psychologist to control their anxiety, 12.7% to get wiser guidance on their conflicts of interests, 9.2% for help with personal issues that might put professional life at risk or into doubt, and 8.7% when they felt themselves unhappy, anguished or irritated.

DISCUSSION

It is known that depression and sleep deprivation are the greatest problems affecting trainees and medical residents, and are considered as stress triggering factors^(15,19), as already reported by Bjorksten et al.⁽²⁰⁾, as they observed that medical residents felt apathetic, unsatisfied with themselves, shy, inhibited, lonely, complaining of the rigidity of the rules and work hours, besides few sleep hours. In the comparison between their results and the results of the present study, similarities are observed in relation to little rest time in association with poor social life, besides personal, affective and family problems, which are accountable for many of the detected problems such as anxiety in 51.1% of the students and depression in 54.8%, which may also be considered as stress triggering factors.

As the results obtained in the present study are compared with those reported by Klein⁽²¹⁾, one notices similarities in the physicians' failure in the caring for themselves, in relation to their needs for sleep, nutrition, leisure, etc., considering that only 12.7% of the students would seek help and guidance to deal with their conflicts of interest, and 9.2% for personal problems. Such behavior would be indicative of defenses related to primitive anguishes present in every human being, such as the fear for their own destructibility, fragility and helplessness.

In the comparison with this study, one observes similarities at NAPREME^(15,19), where the main complaints lead to the diagnosis of anxiety and depressive disorders. At GRAPAL⁽¹⁶⁾, the main complaints are associated with adaptive crises. On the other hand, at REPAM⁽¹⁷⁾, whose focus is on undergraduate medicine students, the main complaints are related to interpersonal relationships (both within and outside the academic community), conditions associated to anxiety, depression or a combination of both.

In the present study, it was observed that the demand for the psychology service was highest in the first year of medical residence, followed by the second and third years. Data reported in the literature^(15,19) indicate that 30% of first-year medical resi-

dents present clinical signs of depression, whose onset is observed at the second month, increasing around the eighth month of training; 22% of residents in the second year, decreasing to 10% in the third year of medical residency. It is during the first year that the residents present the highest indices of anxiety, as they are introduced to a new range of knowledge and at the same time, they need to become self-confident to appropriately perform their practice. Additionally, they need time to study and develop researches. This is a time of doubts and uncertainties regarding their careers. In the ensuing residency years, as the residents become more familiar with the daily routine, such pressures become less noticeable in their daily activities. And so does with trainees specializing in radiology and imaging diagnosis.

In the present study, it was observed that the psychology service allowed the students to develop awareness on their psychological profile. At admission, the students were welcomed to the service. Subsequently, the stress triggering factors that might affect their daily activities were identified. A third step was a weekly follow-up in order to reduce anxiety, anguish, depression, lack of determination and organization, as well as to identify potential sources of problems arising from conflicts, both in the professional and personal spheres. The whole process followed a protocol comprising group dynamics, individual sessions, evaluation of students' self-esteem, knowledge and sensibility levels, in addition to the daily observation of the assistance delivered to the patients by the resident or by the trainee. The psychologist also focused on their performance during the tests, on their level of interest, dedication to the service, on their relationship with colleagues, supervisors, preceptors, staff and other workers, on their punctuality, on their individual conversations about cur-

ricular development and performance, the self-confidence in their practice, their competence, their conflicts, learning levels, on the challenges to be faced, besides on the reduction of stress by means of group dynamics before examinations.

CONCLUSION

The implementation of a service of psychological support for residents and trainees in radiology and imaging diagnosis, with emphasis on self-knowledge and relational processes, is useful to promote their mental and physical health and to improve their relationship with the medical team members. Also, it is useful to reduce training stress levels, generating lower indices of emotional disorders in their professional education, with both professional and personal development of residents and trainees, enabling them to engage in the humanization process involved in the medical career.

Thus, the physicians can complete their education with a higher level of confidence in their competence and become better prepared for teamwork, and for a better relationship both at the physician-patient and at the physician-staff levels, besides being better prepared to deal with the adverse conditions of the profession with less stress.

REFERENCES

- Menville LJ, Allen B. The effect of the depression on radiology. *Radiology*. 1933;20:313-5.
- Borus JF. Recognizing and managing residents problems' and problem residents. *Acad Radiol*. 1997;4:527-33.
- Sousa EG, Koch HA. A residência em radiologia: o ponto de vista do médico residente. *Radiol Bras*. 2001;34:65-70.
- Silva GCC, Koch HA, Sousa EG, et al. Ansiedade e depressão em residentes em radiologia e diagnóstico por imagem. *Rev Bras Educ Med*. 2010; 34:199-206.
- DSM-IV-TRTM – American Psychiatric Association. Manual diagnóstico e estatístico de transtornos mentais. 4ª ed. Porto Alegre, RS: Artmed; 2002.
- Millan LR, De Marco OLN, Rossi E, et al. O universo psicológico do futuro médico: vocação, vicissitudes e perspectivas. São Paulo, SP: Casa do Psicólogo; 1999.
- Schernhammer ES, Colditz GA. Suicide rates among physicians: a quantitative and gender assessment (meta-analysis). *Am J Psychiatry*. 2004; 161:2295-302.
- Peterlini M, Tibério IF, Saadeh A, et al. Anxiety and depression in the first year of medical residency training. *Med Educ*. 2002;36:66-72.
- Milling TJ. Drug and alcohol use in emergency medicine residency: an impaired resident's perspective. *Ann Emerg Med*. 2005;46:148-51.
- Weinger MB, Ancoli-Israel S. Sleep deprivation and clinical performance. *JAMA*. 2002;287:955-7.
- Nogueira-Martins LA. Saúde mental dos profissionais de saúde. *Rev Bras Med Trab*. 2003;1:59-71.
- Azman S. Saúde emocional do médico. CMDV – Portal do deficiente visual. [acessado em 22 de agosto de 2010] Disponível em: http://www.cmdv.com.br/lermais_materias.php?cd_materias=484
- Mello Filho J. Psicossomática hoje. Porto Alegre, RS: Ed. Artes Médicas; 1992.
- Mello Filho J. Identidade médica. São Paulo, SP: Casa do Psicólogo; 2006.
- Nogueira-Martins LA. Residência médica: estresse e crescimento. São Paulo, SP: Casa do Psicólogo; 2005.
- Millan LR, Arruda PCV. Assistência psicológica ao estudante de medicina: 21 anos de experiência. *Rev Assoc Med Bras*. 2008;54:90-4.
- Bellodi PL. Retaguarda emocional para o aluno de medicina da Santa Casa de São Paulo (REPAM): realizações e reflexões. *Rev Bras Educ Med*. 2007;31:5-14.
- Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand*. 1983;67: 361-70.
- Nogueira-Martins LA, Obara CS, Macedo PCM, et al. NAPREME: os fundamentos para a criação do serviço e o relato da experiência de um ano. Documentos CEDEM (FMUSP). 1998;12:5-17.
- Bjorksten O, Sutherland S, Miller C, et al. Identification of medical student problems and comparison with those of other students. *J Med Educ*. 1983;58:759-67.
- Klein M. Algumas conclusões teóricas sobre a vida emocional do bebê. In: Klein M, Heimann P, Isaacs S, et al. Os progressos da psicanálise. Rio de Janeiro, RJ: Zahar; 1952. p. 216-55.