

O DESEQUILÍBRIO ESFORÇO-RECOMPENSA E O COMPROMETIMENTO EXCESSIVO COM O TRABALHO EM DOCENTES DE MEDICINA E ENFERMAGEM DE UMA INSTITUIÇÃO PÚBLICA.

EFFORT-REWARD IMBALANCE AND OVERCOMMITMENT AT WORK IN MEDICINE AND NURSING FACULTY IN A PUBLIC INSTITUTION.

EL DESEQUILIBRIO ESFUERZO-RECOMPENSA Y EL COMPROMISO EXCESIVO CON EL TRABAJO EN DOCENTES DE MEDICINA Y ENFERMERÍA DE UNA INSTITUCIÓN PÚBLICA.

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RESUMO

Estudos de estresse ocupacional com o modelo desequilíbrio esforço-recompensa no trabalho em docentes de medicina e enfermagem não foram descritos pela literatura. Objetivos: 1) Estimar as prevalências de desequilíbrio esforço-recompensa e do comprometimento excessivo com o trabalho em docentes de medicina e enfermagem. 2) Verificar a existência de associação dessas variáveis de acordo com os grupos de docentes. Método: foi realizado um estudo transversal com 232 docentes de uma instituição pública do Estado de São Paulo no período de abril a novembro de

2009. Instrumentos aplicados: questionário sociodemográfico e ocupacional e o questionário de desequilíbrio esforço-recompensa no trabalho (*Effort-Reward Imbalance - ERI*). Foi utilizado o teste do qui quadrado para verificar a associação das variáveis entre os grupos de docentes. Resultados: as prevalências de desequilíbrio esforço-recompensa encontradas foram de 31,3% nos docentes de enfermagem, 14,1% nos docentes de medicina e 17,7% na amostra geral, com diferença significativa entre os docentes ($p=0,006$). As prevalências de comprometimento excessivo com o trabalho foram similares nos docentes de enfermagem, medicina e na amostra geral (45,8%; 39,7% e 40,9% respectivamente), com diferença não significativa entre os docentes ($p=0,738$). Conclusões: A proporção de docentes de enfermagem com desequilíbrio esforço-recompensa foi 2,2 vezes maior em relação aos de

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medicina. Ambos os grupos de docentes apresentaram elevadas prevalências de comprometimento excessivo com o trabalho, o que evidencia, nestas categorias profissionais, marcantes características pessoais de maior necessidade de controle e dificuldade para se desligarem dos compromissos advindos do trabalho. Novos estudos poderão contribuir para medidas preventivas e interventivas relacionadas ao estresse ocupacional em docentes de medicina e enfermagem.

Palavras-chave: Esgotamento profissional. Estresse ocupacional. Epidemiologia. Docentes de Medicina. Docentes de Enfermagem.

ABSTRACT

Occupational stress studies with effort-reward imbalance at work in medical and nursing faculty have not been described in literature. Objectives: 1) To estimate the effort-reward imbalance and the overcommitment at work in medical and nursing faculty. 2) To verify if there is an association of those variables according to faculty groups. Method: A cross-sectional study was achieved with 232 professors of a public institution in São Paulo State from April to November in 2009. Applied instruments: a sociodemographic and occupational questionnaire and an

effort-reward imbalance at work questionnaire (Effort-Reward Imbalance – ERI). The chi-square test was used to verify the association of variables between faculty groups. Results: Prevalence of effort-reward imbalance was 31.3% in nursing faculty, 14.1% in medical faculty and 17.7% in overall sample, with significant difference between faculty ($p = 0.006$). Prevalence of overcommitment at work was similar in nursing and medical faculty as well as in overall sample (45.8%, 39.7% and 40.9% respectively), without any significant difference between faculty ($p = 0.738$). Conclusions: The effort-reward imbalance in nursing faculty was 2.2 times higher compared to medical faculty. Both faculty groups presented a high prevalence of overcommitment at work, which denotes remarkable personal characteristics of better controlling needs and difficulty in relaxing after work in those professions. Further studies may contribute to preventive and interventional measures related to occupational stress in medical and nursing faculty.

Keywords: Burnout. Occupational stress. Epidemiology. Medical Faculty. Nursing Faculty.

RESUMEN

Estudios de estrés laboral con el modelo de desequilibrio esfuerzo-recompensa en el trabajo en docentes de medicina y enfermería no han sido descritos en la literatura. Objetivos: 1) Estimar la prevalencia de desequilibrio esfuerzo-recompensa y el compromiso excesivo con el trabajo en docentes de medicina y enfermería. 2) Verificar la asociación de estas variables según grupos de docentes. Método: Un estudio transversal de 232 docentes de una institución pública del Estado de São Paulo fue realizado de abril a noviembre de 2009. Instrumentos aplicados: cuestionario sociodemográfico y ocupacional, y el de desequilibrio esfuerzo-recompensa en el trabajo (Desequilibrio Esfuerzo-Recompensa – ERI). Fue utilizado el test chi-cuadrado para evaluar la asociación de las variables entre los grupos de docentes. Resultados: Las prevalencias de desequilibrio esfuerzo-recompensa encontradas fueron 31,3% en docentes de enfermería, 14,1% en docentes de medicina y 17,7% en la muestra general, con diferencias significativas entre los docentes ($p = 0,006$). Las prevalencias de compromiso excesivo con el trabajo fueron similares en docentes de enfermería, medicina y en la muestra general (45,8%, 39,7% y

40,9% respectivamente), con diferencia no significativa entre los docentes ($p = 0,738$). Conclusiones: La proporción de docentes de enfermería con el desequilibrio esfuerzo-recompensa fue 2,2 veces mayor en comparación con los docentes médicos. Ambos grupos de docentes presentaron una gran prevalencia de compromiso excesivo con el trabajo, lo que demuestra, en estas profesiones, características personales distintivas de mayor necesidad de control y dificultad para romper con los compromisos laborales. Nuevos estudios podrán contribuir para medidas de prevención y de intervención relacionadas con el estrés laboral en docentes de medicina y enfermería.

Palabras clave: Burnout. Estrés laboral. Epidemiología. Docentes de Medicina. Docentes de Enfermería.

INTRODUCTION

The scientific community has been interested in occupational stress, and some theoretical models have been developed with important contributions to epidemiological researches. Among them, the psychosocial model of effort-reward imbalance at work (Effort-Reward Imbalance – ERI) stands out as an important predictor of stress in the

work environment, defined by the absence of reciprocity between the expended effort and the obtained rewards.¹ Stress is characterized by the individual's commitment under job demands in order to get different rewards: promotion, financial gain, recognition or esteem in labor relations or job security. The full model also includes the overcommitment (OC) at work correlated to the personal characteristics of greater control, recognition and difficulty in relieving the commitments.² Some prevalence of variables obtained by this model at physicians and nurses working have been described, although there are not studies with similar results in the investigated job categories. Therefore, this research was conducted to 1) estimate the prevalence of effort-reward imbalance and overcommitment at work in medical and nursing faculty; and 2) verify if there is an association of those variables according to faculty groups.

METHOD

A cross-sectional study was achieved with medical and nursing faculty (n=263) of a public institution in São Paulo State from April to November in 2009. The questionnaires were collected soon after being applied, with a response rate of 88.21% for a

sample of 232 professors, consisting of 184 medical and 48 nursing staff.

The authors have fulfilled the ethical principles of Helsinki Declaration. The project was approved by the Research Ethics Committees of Marília Medical School (protocol 575/06) and Federal University of São Paulo (protocol 391/09) with the following applied instruments: 1) a sociodemographic and occupational questionnaire, prepared by the researcher, and 2) an effort-reward-imbalance-at-work questionnaire (ERI).³

The ERI questionnaire consists of 23 questions being 17 with dichotomous responses (agree or disagree), scored from 1 to 5 according to stress level, in which 6 questions are related to effort and 11 to distinct rewards. The remaining 6 questions approach overcommitment (OC) and are scored from 1 to 4 with Likert scale responses (strongly disagree to strongly agree).³ The instrument has been validated in Brazil with health professionals of a public university. The reproducibility (intraclass correlation coefficient) of the questionnaire regarding the effort, reward and overcommitment was 0.76, 0.86 and 0.78 respectively. The internal consistency (Cronbach's alpha) for

similar dimensions was 0.68, 0.78 and 0.78 respectively.⁴ The questionnaire has a good performance in researches employing the full model as it considers the overcommitment at work.⁵

The overcommitment at work is shown at low, medium and high intervals established from the cutoff points of scores in tertiles, with the highest tertile as reference. The effort-reward imbalance (ERI) was obtained by the sum of effort score (e), divided by the sum of reward score (r), multiplied by a correction factor (c=0.5454) by employing the formula: $e / (r \times c)$. The results were dichotomized to obtain an indicator of presence (values greater than 1) or absence (lesser or equal 1) of imbalance.³ It was used the chi-square test to verify the association of variables between faculty groups, and the program SPSS 18.0 (SPSS Inc., Chicago, United States) to analyze data.

RESULTS AND DISCUSSION

Sociodemographic and occupational characteristics of faculty general sample

As for the sociodemographic characteristics, 53.4% were men, of which 34.5% aged 46 to 55, 28.4% aged

36 to 45, 19.4% aged 25 to 35, 15.5% aged 56 to 65, and 2.2% aged over 65 years. As for marital status, 76.3% had stable relationship and 53.4% had one or two dependents.

As for workplaces, 39.2% worked in only one institution, 41.8% had more than one job, 13.8% had more than two jobs and 5.2% worked at least in three places beyond the institution. Paid duties were performed by 38.8% of the professionals.

Prevalence of quantitative variables

As for the effort-reward imbalance (ERI > 1), prevalence of 14.1% in medical faculty and 31.3% in nursing faculty has been identified with significant difference between groups. Because of scarcity of researches in those categories, some other similar studies are presented with the following effort-reward imbalance: 22.8% in German nurses⁶, 24.1% in Canadian nurses⁷, 19.07% in Chinese physicians⁸, 18.5% in Swiss physicians⁹ and 25.1% in German physicians¹⁰. Recent research with Swiss physicians and nurses has identified prevalence of 21.6% and 18.7% respectively¹¹.

In relation to overcommitment at work (high tertile), medical faculty has presented 39.7%, and nursing 45.8%,

without any significant difference between them.

This variable focuses on the personal style of adaptation comprising attitudes and emotions caused by exaggerated effort to obtain recognition, and difficulties in relieving the work. Lower prevalence (15.7%) was identified in German physicians¹⁰, and

similar values were found in Japanese medical residents and French nurses, with overcommitment of 44.4% and 40.8% respectively^{12,13}. A Brazilian study has identified overcommitment at work in 26% and 10% of neonatal ICU physicians and nurses respectively, with significant difference between them¹⁴.

Table 1 – Association of effort-reward imbalance (ERI) according to faculty group in a Higher Education Institute, Marília–SP, Brazil, 2009.

ERI	Faculty		
	Medicine n(%)	Nursing n(%)	Total n(%)
≤ 1	158(85.9)	33(68.8)	191(82.3)
> 1*	26(14.1)	15(31.3)	41(17.7)
Total	184(100.0)	48(100.0)	232(100.0)

*Chi-square test p = 0.006

Table 2 – Association of overcommitment at work (OC) according to faculty group in a Higher Education Institute, Marília–SP, Brazil, 2009.

OC tertile	Faculty		
	Medicine n(%)	Nursing n(%)	Total n(%)
Low	61(33.2)	14(29.2)	75(32.3)
Medium	50(27.2)	12(25.0)	62(26.7)

High*	73(39.7)	22(45.8)	95(40.9)
Total	184(100.0)	48(100.0)	232(100.0)

*Chi-square test $p = 0.738$

As far as it has been observed in this master's dissertation by Graduate Program in Psychiatry and Medical Psychology at UNIFESP, this research is the first one to describe the variables of effort-reward imbalance in medical and nursing faculty.

In this study it was possible to identify higher prevalence of effort-reward imbalance in nursing faculty compared to medical faculty, enabling to assert that the ratio of effort-reward imbalance in nursing faculty was 2.2 times higher than in medical faculty. The results have shown that nursing faculty devotes high efforts while obtaining low rewards at work, which implicates more imbalance when compared to medical faculty.

As for the overcommitment at work (high tertile), similar proportions were identified in both groups. The high rates in those two categories suggest equal exposure to occupational stress, with more controlling needs at work and difficulty in relieving the commitments.

In regard to those findings, new researches on those outcomes may contribute to preventive and interventional measures, related to occupational stress in medical and nursing faculty.

However some limitations should be highlighted. A paucity of research on those models and professional categories has limited the extension of the debate, and the accuracy of the conclusions on the prevalence results. The restriction of the study to only one education institution precludes the generalization of findings. Concerning statistical analysis, the results of a dichotomized effort-reward imbalance (ERI) equation may limit the categorization of presence or absence while assuming an established cutoff point of 1. As a continuous measure, the ratio ERI may bring more specific results on scores variation, and produce stronger statistical evidence¹⁵. While a self-assessment tool, ERI questionnaire favors logistic and economic aspects for data collection, and the feasibility of

epidemiological researches with distinct methodological design. Nevertheless, there may be limitation on the individual integral approaching, and on the complexity of his particular behavior, when standardized quantitative measure of self-assessment is used.

ACKNOWLEDGEMENTS

To physicians Bruno da Cunha Tomaz, Cíntia Lopes Dias e Saulo Nardy Nader for their assistance in data collection.

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Sources of funding: No
Conflict of interest: No
Date of first submission: 2015-02-08
Last received: 2015-02-09
Accepted 2015-02-09
Publishing: 2015-06-30