PSYCHOPHYSIOLOGICAL AND PSYCHOSOCIAL INDICATORS OF STRESS IN PORTUGUESE HEALTH PROFESSIONALS

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AIMS

Occupational stress, defined as "the interaction of work conditions with the characteristics of the worker in such a way that job demands exceed the capacity of the worker to deal with them" (Ross & Altmaier, 1994, p. 12), has not been a political, social or health concern in Portugal, especially regarding the well being of health professionals. Only this year, there has been a Ministry of Health directive to have an office of occupational health at central hospitals, thus starting to consider this dimension of health care.

The majority of studies that have been done on occupational stress have shown a higher incidence of physical and emotional problems in stressed professionals which could lead to diminished productivity, higher rates of absenteeism, work-related injuries, premature death and family problems (Calhoun,1980; Lindstrom, 1982; Warp, 1987). The health-related professions are considered high-risk in terms of occupational stress (Greenberg, 1987; Calhoun, 1980). Although the research on stress in Portuguese health professionals has been equally scarce, these data reveal significant levels of stress and burnout for physicians and nurses (McIntyre, 1994; McIntyre, McIntyre & Silvério, 1999; McIntyre, McIntyre & Silvério, 2000; Loff, 1992; Felício & Pereira, 1994).

This paper presents partial results referring to the second phase of data collection of a larger study aimed at determining the relative importance of psychosocial indicators (perceived sources of stress, interpersonal behavior and coping style) in predicting job stress (psychophysiological, clinical and psychological responses) in Portuguese health professionals. The authors had reported previously that Portuguese health professionals present significant levels of job stress when compared to other European countries. However, there is a need for a more rigorous evaluation of job stress responses using objective measures beyond self-report data.

Two mains questions are investigated:

1. What is the relationship between self-report and objective indicators of stress?
2. What is the relative importance of psychosocial variables in predicting self-report and objective indicators of stress?

METHODOLOGY

The sample is made up of 100 health professionals (doctors, nurses, administrative personnel and auxiliary staff) who have been previously screened on a stress measure as presenting significant levels of stress (above 2/3 caseness cut off on the GHQ-12). The self-report measures are the Perceived Sources of Stress Ranking List (McIntyre, McIntyre & Silverio, 1998), the General Health Questionnaire 12 – GHQ-12 (Goldberg, 1992), the Interpersonal Behavior Survey- IBS (Mauger & Adkinson, 1980) and the Ways of Coping Questionnaire - WCQ (Coyne, Aldwin & Lazarus, 1981). The psychophysiological measures heart rate (HR), systolic and diastolic blood pressure (BP) and skin conductance (SCL) were taken during a stress protocol (11 events), and a clinical measure of cortisol was also included. The data collection is in its final stage.

PRELIMINARY RESULTS

Regarding the first question, no significant correlations were found between the subjective indicators of stress (GHQ12 and BPS), and the baseline and all event measures taken during the stress protocol (HR, BP and SCL). The exceptions were the relationships between Denial and Diastolic BP at relaxation ($r=.36$) and between Anger and SCL for all 11 events (r range =-.26 to -.33).

Regarding the second question, no significant psychosocial predictors (sources of stress, interpersonal behavior, coping style) were found for the following clinical and psychophysiological indicators of stress : Cortisol levels, diastolic and systolic BP at baseline and at stress events, HR at baseline and stress events, and SCL at baseline and stress events.

Regarding the second question, no significant psychosocial predictors (sources of stress, interpersonal behavior, coping style) were found for the following self-report measures of stress: GHQ-12, the stress responses physical symptoms, anxiety and anger (BPS), In contrast, significant psychosocial predictors were found for the stress responses denial, pressure/overload, depression, guilt and loss of control. Suppression coping and general aggressiveness were the most important predictors of stress responses (R^2 of change range: .10 to .18) although the intensity of job stress experienced in the last month was still a significant predictor for denial, depression and loss of control (Range of adjusted R^2: .06 to .11).

CONCLUSIONS

The data reported here, although preliminary, raise interesting questions regarding the future assessment of job stress in Portuguese health professionals as well as in terms of explanatory models of job stress for this population.

Regarding assessment, the lack of relationship found between psychological assessments and psychophysiological measures of stress may be explained by the need to aggregate responses over multiple testing sessions (Manuck et al.,1993). In addition, SCL measures seem to be related to self-report of anger as a stress response over multiple induced stress stimuli and may constitute a more useful stress measure for this kind of response than HR or BP (Furedy, 1993).

The lack of significant predictors for the objective measures of stress may be explained due to interpersonal behavior and coping styles being more stable characteristics than the psychophysiological single-session measures and the need to correlate those with a pattern of measures over time. Overall, these preliminary findings point to the need to explore these questions with repeated measures over time, which the authors intend to do in the larger study.

Psychosocial variables were significant predictors of several self-report measures of stress, especially for denial, depression, guilt and loss of control.
The intensity of the sources of stress in the last month, suppression coping and general aggressiveness were the most important predictors and should be considered in explanatory models.