Burnout Syndrome in Moroccan Training Resident: Impact on Quality of Life

Jihane BELAYACHI [1], Ilham RKAIN [1], Hanane RKAIN [1], Naoufel MADANI [1], Fatiha AMLAIKY [1], Aicha ZEKRAOUI [1], Tarek DENDANE [2], Khalid ABIDI [2], Amine Ali ZEGGWAGH [2], *Redouane ABOUQAL [1, 3]

1. *Medical Emergency Dept., Ibn Sina University Hospital, Rabat, Morocco*
2. *Medical Intensive Care Unit, Ibn Sina University Hospital, Rabat, Morocco*
3. *Faculty of Medicine, Laboratory of Biostatistics Clinical and Epidemiological Research, Mohammed V University in Rabat, Morocco*

*Corresponding Author: Email: abouqal@invivo.edu

Dear Editor in Chief

Medical residency is an enriching experience; it is a required process to prepare for a solid career and personal growth of the young medical staff. In a developing country, where material and human resources are limited, the resident is compelled to overinvest in order to achieve satisfaction. In view to manage the feeling of helplessness in this complex system, psychosocial coping is required. Burnout syndrome has been described as an inability to cope with emotional stress at work (1). In this study, we aimed to evaluate the prevalence of burnout syndrome (BOS), and to investigate, whether; the sociodemographics, professional factors, and burnout syndrome; affected the quality of life (QOL) of training residents.

This was an observational cross-sectional survey including 198 Residents, conducted from April to October 2010 in Ibn Sina Teaching Hospital, Morocco. Anonymous self-administered questionnaires were distributed manually to residents of several specialties. The study protocol and consent procedure was approved by the Rabat Medical School Ethics Committee.

The questionnaire contained two sections: The first contains socio-demographics and professional characteristics including the following items: age (per year), gender, and marital status (single or married). Professional characteristics included distance from residence to work (per kilometers); specialty (Medical, Chirurgical, Medico-chirurgical, Radiology-biology-pathological anatomy, radiotherapy-oncology, and Emergency-intensive care), month in health care practice, working hours per week, and number of shifts per month. The second section contains the Arabic, and validated versions of Maslach Burnout Inventory (MBI) (2), and quality of life measures (EuroQoL questionnaire (EQ-5D)) (3-5).

MBI is a 22-item measure containing three subscales: a) The emotional exhaustion (EE) (9 items) b) the depersonalization (DP) (5 items), c) the personal accomplishment (PA) (8items). More burnout is indicated by higher scores on EE and DP, and lower scores on PA.

The first part of the EQ-5D contains a description of the health state in 5 dimensions or items: Mobility, Self-care, Usual activities,

Pain/discomfort, and Anxiety/Depression. The respondent must describes his/her personal health state at the time of giving the answers 1 (No problems), 2 (Some problems) and 3 (Unable to do/ Extreme problems). The subject's global health state is finally defined as the combination of the level of problems described for each of the five dimensions contained in the EQ-5D (3-5). Each health state can be assigned a weighted utility score based on different scoring systems. The values are ranging from -0.59 (the lowest level on each dimension) to 1 (The highest level on each dimension). Negative values indicate that some health states are valued worse than death. The second part of the EQ-5D questionnaire is a visual analogue scale (EQ-VAS). The EQ-VAS is a vertical, graduated (0-100 points) with 100 representing 'best imaginable health state' and 0 representing 'worst imaginable health state' (4).

The three subscale scores of the MBI were specified as three separate criterions variables. The characteristics of residents are summarized in table 1. Distribution of the MBI, and EQ-5D scores was summarized in figure 1.

To investigate the relationships between medical staff sociodemographics, professional characteristics, and burnout as independent variables with EQ-5D index, and EQ-5D VAS as dependent variables, Hierarchical multiple regression analysis (enter method) was used.

In the first step; a longer distance from residence to work was a significant predictor of worst quality of life for EQ-5d index, and EQ-5d VAS (β -0.004, 95% CI -0.006 to - 0.002; *P*<0.001), and (β -0.31, 95% CI -0.45 to - 0.17; *P*<0.001), and explained 21% and 22% of the variance in the quality of life respectively.

At the second step, factors associated to worst quality of life (EQ-5d index and EQ-5d VAS respectively) were; longer distance from residence to work: (β -0.003, 95% CI -0.005 to -0.002; P<0.001), and (β -0.3, 95% CI -0.43 to - 0.16; P<0.001), and EE (β -0,007, 95% CI -0.01 to - 0.004; P<0.001) , (β -0,56 95% CI -0.9 to - 0.14; P=0.009). EE explained 37% of de variance in the quality of life respectively.

Moroccan training residents have high degree of burnout as well as high EE and depersonalization. We reported the highest prevalence in the literature (3, 6). The high degree of burnout affected negatively the quality of life of emotionally exhausted resident who lives far away hospital. Thus, work conditions cause a burden on health care givers, and affect their health and wellbeing. Resident assistance programs should be implemented to improve work and learning conditions, which in turn would aid the development of professional skills and improve personal quality of life for medical residents.

Table 1: Socio-demographic and professional characteristics of residents (n = 198)

| Variables	n (%)
Age (yr) mean±SD	29.3±3.2
Gender	
Male	82(41.4)
Female	116 (58.6)
Marital status	
Single	106(53.5)
Married	92(46.5)
Specialty	
Medical	36(18.2)
Chirurgical	72(36.4)
Medico-chirurgical	23(11.6)
Radiology-biology-pathological anatomy	28(14.1)
Radiotherapy-Oncology	21(10.6)
Emergency-intensive care	16(8.1)
Distance from residence to work; Km median [IQR]	8 [4-15]
Months in health care practice, median [IQR]	24[12-36]
Working hours per week, median [IQR]	37[25-40]
Shifts per month, median [IQR]	3.5[2-5]
EQ-5D Index; Mean ± SD	0.67±0.24
EQ-5D Index; Range (min ; max)	-0.11; 1
EQ-5D VAS ; Median [IQR]	70[60-80]
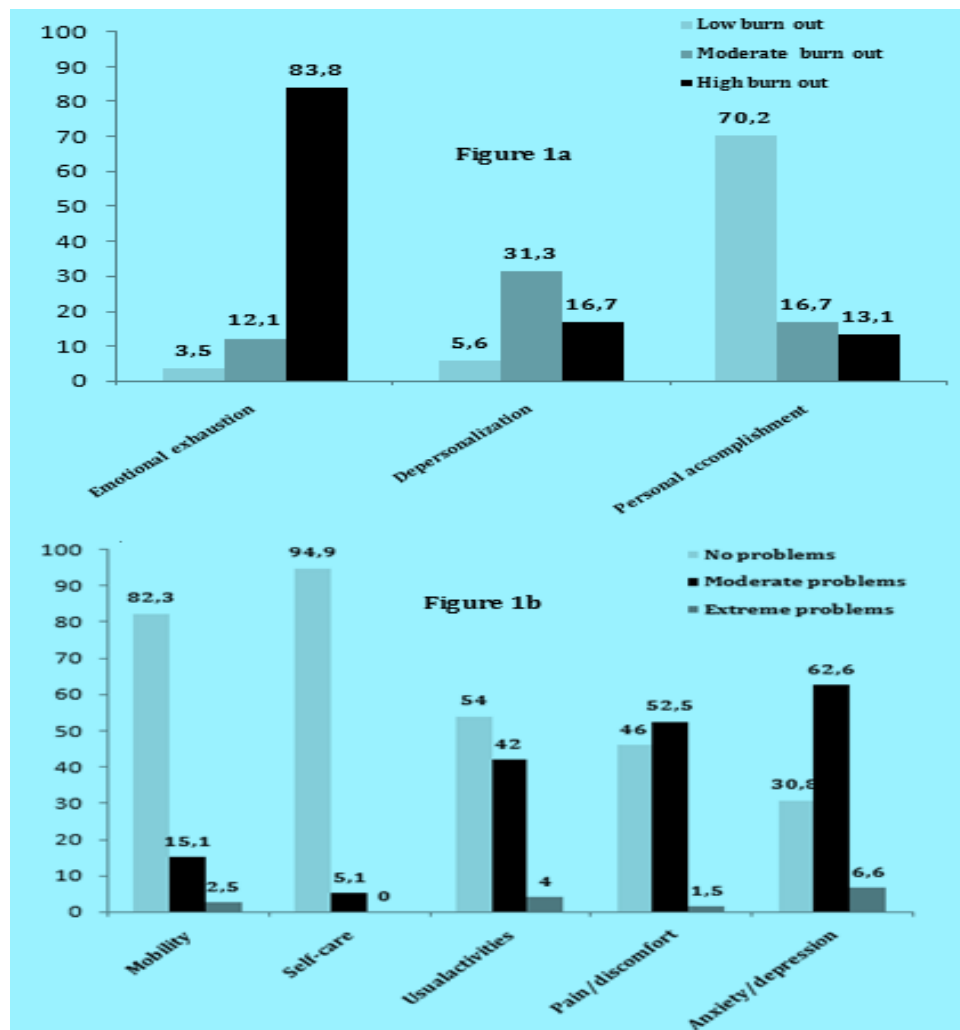
Fig. 1: Distributions of subscale scores of the MBI (1a), and EQ-5D (1b) in residents

Acknowledgement

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