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### **Job stress, burnout syndrome and glycosylated hemoglobin level among nurses in Alexandria Main University Hospital, Egypt**

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**Background:** Nursing has been ranked as the most stressful job among healthcare professions; however, not all nurses experience the same level of stress. Those working in Intensive Care Unit (ICU) and Emergency departments are more prone to job stress and consequently burnout syndrome which may affect turn-over rates, staff retention and ultimately the quality of patient care. Only few studies have been conducted in Arab countries and middle east to assess the presence of job stress and burnout syndrome among nursing profession, therefore, the purpose of the current study was to determine the presence of job stress, burnout syndrome and glycosylated hemoglobin (HbA1c level), as possible marker of chronic stress, among nurses working at ICU and Surgical Emergency department at Alexandria Main University Hospital, Egypt.

**Methods:** A comparative cross-sectional approach was conducted in which all available female nurses working at the ICU and surgical emergency departments (n=41) were compared with an equal number of age and sex matched administrative staff. An informed consent had been obtained from all participants who were subjected to a self-administrated questionnaire that included selected items of NIOSH generic job stress questionnaire as well as Maslach burnout inventory. Moreover, blood samples were collected from the participants to assess HbA1c level.

**Results:** The study revealed that nurses had a significantly higher frequency of job stress compared with the administrative staff in each of the following domains; Intragroup conflict (22% and 14.6% respectively,  $\chi^2=13.884$ ,  $p=0.000$ ), quantitative overload (95% and 59.5% respectively,  $\chi^2=15.414$ ,  $p=0.000$ ) and Responsibility for peoples lives (87.8% and 51.2% respectively,  $\chi^2=12.947$ ,  $p=0.000$ ). In addition, Job satisfaction rates were significantly higher among administrative staff compared with nurses (97.6% and 73.2% respectively,  $\chi^2=9.762$ ,  $p=0.002$ ). Regarding assessment of burnout syndrome, frequency of nurses who had high scores in the domains of emotional exhaustion, depersonalization and personal accomplishment (93%, 36.6 and 41.5% respectively) was significantly higher compared with the administrative staff (68.3%, 7.3% and 22% respectively, (Fisher-Exact=9.037,  $p=0.007$ ,  $\chi^2=10.50$ ,  $p=0.005$  and  $\chi^2=9.706$ ,  $p=0.008$  respectively). Moreover the mean HbA1c level was significantly higher among nurses compared with the administrative staff ( $5.72\pm 0.55$  and  $5.38\pm 5.70$  respectively, Student-t-test=3.335,  $p$  value=0.001). Finally, the study revealed significant positive correlation between HbA1c level and Emotional exhaustion ( $r=0.221$ ,  $p=0.046$ ).

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