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Brief Communication

Comparison of stress levels between physicians working in public and private hospitals in Johor, Malaysia

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Abstract

Objectives: Physicians are known to experience a high level of stress due to the profession itself, as well as due to factors related to the workplace, patient care, and work-life balance. Owing to the nature of public and private hospitals in Malaysia, physicians working in different settings are expected to have different levels of stress. However, there is no study to validate this assumption. The present study aimed to compare stress levels between physicians working in public and private hospitals in the state of Johor, Malaysia.

Methods: Participants were selected via stratified sampling. Participants completed an online questionnaire comprising demographic details and the Health Professional Stress Inventory. Scores on each domain and the aggregate scores were compared between physicians in public and private hospitals using a univariate analysis adjusted for potential confounders.

Results: The overall stress level between physicians in public and private hospitals was similar. However, physicians in private hospitals experienced a higher stress level related to patient care responsibilities and professional uncertainty as compared to those in public hospitals.

Conclusion: Physicians from private hospitals experience stress in different aspects of their profession as compared to physicians in public hospitals, especially with reference to patient care and career uncertainty. Measures should be taken to relieve the stress of physicians and thus improve their wellbeing.

Keywords: Burnout; Emotional stress; Health professions; Mental suffering; Physicians

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Introduction

Stress is a physiological and/or emotional reaction to an environment, event, or stressor that causes distress.¹ Though we are in an era of comfort and consolation, there is a surplus of rising demands that strain human beings physiologically and psychologically.² Occupational stress, defined as a physical or psychological disorder associated with an occupational environment, can affect the working environment and endanger the well-being of the workforce.³

Healthcare workers, especially medical practitioners, are prone to stress as well as other occupational health risks. A study conducted in KSA showed that public health sector employees are among those who have the highest level of stress as compared to employees from other sectors.⁴ Physicians have a higher risk of stress as compared to other occupations.⁵ Being in a profession which has a direct impact on human life is the main contributor of stress among physicians.⁶ Other stressors are related to the

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profession, the organization/workplace, the ability of physicians to handle stress, their relationships with other people, and work-life balance.⁵

Physicians in public and private hospitals could experience different stress levels. In public hospitals, usually a joint effort and synergy is observed among physicians of the same rank, but there could be a feeling of dominance against higher ranked physicians. The presence of a distinct hierarchy and the existence of positions such as trainee officers/housemen could amplify the problem. Junior physicians are usually affected if conflicts with their superiors are not addressed appropriately.² In private hospitals, cooperation between physicians might be less as compared to public hospitals since most of their work is individualized. The lack of cooperation could be a source of stress. On the other hand, the issue of senior–junior relationships is less obvious.

At present, there are several studies on stress among physicians, but most have been conducted in Western countries.⁷ Fewer studies have been conducted to understand the stress level among physicians in public and private hospitals in Malaysia. Therefore, the present study aimed to compare the stress levels of physicians working in public and private hospitals in Malaysia. Specifically, the current study wished to understand some of the major contributors of stress among physicians from these two types of hospitals. Therefore, it was postulated that physicians working in a public hospital have a higher stress level as compared to those working in a private hospital, owing to higher workload, as indicated by previous researchers.²

Materials and Methods

Participants

A stratified sampling technique was used in this study. A list of all private and public hospitals in Johor, Malaysia was obtained and an invitation to participate was sent to all the hospitals. All the physicians working in the hospitals that decided to participate were contacted through email, either by the researchers personally or through the hospital management. An information sheet, a consent form, and an on-line questionnaire were emailed to the selected participants. They were given one month to complete the questionnaire. If participants did not respond to our email, it was assumed that they did not agree to participate. Participants working full-time in either a public or private hospital in Johor were included. Those who were not involved in working with patients (e.g., those involved in full-time administrative work), those working in both public and private hospitals concurrently, and those unable to complete the questionnaire were excluded.

Ethical consideration

The protocol of this study was reviewed and approved by the ethics committee of Universiti Kebangsaan Malaysia (reference number: UKM PPI/111/8/JEP-2017-015) and Medical Research and Ethics Committee, Malaysia (National Medical Research Register ID: NMRR-17-38-33901).

Sample size calculation

From a previous article by Aslam et al. (2013),² the following information was derived: $\mu_1 = 2.997$, $\mu_2 = 2.187$, $\sigma = 1.39$, $\alpha = 0.05$, power = 0.80. Using the formula: $n = (Z_{\alpha/2} + Z_{\beta})^2 \cdot 2\sigma^2/d^2$, it was calculated that at least 47 physicians were needed for each study group. Considering a dropout rate of 20%, the sample size was determined as 57 physicians each from both public and private hospitals.

Questionnaire

The Health Professions Stress Inventory (HPSI) was used to assess the stress level of the participants.⁸ This questionnaire consists of 30 close-ended items, including questions concerning the life of a physician, across the four domains of patient care responsibilities, professional uncertainty, professional recognition, and job conflict.⁹ The participants were asked to evaluate their stress level for each of the situations described in the questionnaire using a scale ranging from 0 = Never to 4 = Always. The questionnaire was previously validated, with a Cronbach's alpha coefficient of 0.88 for physicians.⁸ It was supplemented with demographic questions and an open-ended question asking for suggestions to reduce stress among physicians.

Statistical analysis

The normality of the data was assessed using the Kolmogorov–Smirnov test. The differences in the characteristics between physicians from the public and private hospitals were analyzed using the Pearson's Chi-square test because they were categorical data. Confounders affecting the relationship between workplace and stress were determined using an analysis of covariance (ANCOVA). The differences in HPSI scores between the physicians from public and private hospitals were assessed using a univariate analysis with adjustment for the confounders identified through the ANCOVA. Statistical significance was defined as $p < 0.05$. Statistical analysis was performed using Statistical Package for the Social Sciences version 23.0 (IBM, Armonk, USA).

Results

An invitation to participate was sent to 12 public and 12 private hospitals in Johor, Malaysia, but only 136 participants from 10 public (70 participants) and 7 private hospitals (58 participants) completed the survey. Eight responses were rejected (3 participants worked for both public and private hospitals concurrently, 3 held administrative positions, and 2 returned incomplete questionnaires). The data from 128 participants were used for the final analysis.

The participants from the public and private hospitals were similar in terms of sex, ethnicity, and motivation to become physicians ($p > 0.05$). However, most of the participants from private hospitals were consultants and specialists, and none were medical officers ($p < 0.05$). Participants from private hospitals were also older and had a higher

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