Mentoring and perceived stress level among private medical students: a Malaysian perspective

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Abstract

This study aimed to assess the association between a mentoring program and self-perceived stress among 242 medical students from a private medical faculty in Malaysia. Stress was measured by a Perceived Stress Scale questionnaire. The mean stress level was 18.9 (±4.8). Younger students (< 21 years old) had higher stress levels than older students (p=0.011). Students who regularly attended mentoring activities and those who consulted their mentors had lower levels of stress than those who did not (p<0.001). Students who believed that mentoring helped them to manage their problems had lower levels of stress (18.1±3.8) than those who did not (24.6±6.7, p<0.001). Mentoring was seen to reduce stress levels among medical students.

Keywords: Mentoring, stress, medical students

1. Introduction

Mentoring involves matching an inexperienced person (protégé or mentee) with another more experienced person (mentor), who will individually provide sustained guidance and support (Lester & Johnson, 1981; Zey, 1991). The mentoring relationship is viewed as key for academic, personal and professional development (Kram, 1985; Jacobi, 1991; Ramani et al., 2006), and the benefits of this relationship are well documented in organizational environments and in the higher education sector (Tino, 1993).

In 1991, Jacobi reviewed the literature examining the relationship between mentoring and undergraduate academic success. He concluded that contact with academic staff was linked to students’ academic successes, suggesting that staff-student relationships positively influence retention of students by the institution as well as students’ achievements. Student retention and attrition are a concern for all higher education institutions. A previous study by Tinto (1993) of undergraduate students in America found that more than half of those entering university for the first time will leave their first institution before graduating.

Mentoring had a significant impact on students’ high-risk behaviors, and emotional and psychological adjustment (Johnson, 1989), and had the potential to reduce students’ feelings of marginality and increase their sense of personal significance (Hall, 2003). On the other hand, bad or negative mentoring may be more damaging to a student’s self-esteem and create concerns regarding how bad experiences with a mentor will influence day-to-day

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work experiences or even hinder future development that may lead to psychological strain on students in the form of depressed mood or psychological withdrawal (Schlossberg et al., 1989).

The Management and Science University (MSU) is a private university located in Shah Alam, Malaysia. A mentoring program was incorporated as an informal curricular activity to Bachelor in Medical Sciences (BMS) students at MSU. It was scheduled on weekly basis and included two contact hours per week. The mentoring program aimed to strengthen the personal relationships between mentors and mentees, improve the soft skills of mentees – such as communication skills – and provide counselling for students on academic and non-academic issues. The academic staff acting as mentors were trained in mentoring during the staff induction. Mentees were matched with mentors randomly. Meetings with mentees were usually in groups but could also be arranged individually. Mentoring activities also included arrangements for community services and visits to industries, hospitals, universities and other scientific activities and entertainment. This study aimed to assess the association between mentoring activity and perception of stress among students.

2. Methods

This cross-sectional study was conducted with students on the BMS program at the Management and Science University (MSU), Malaysia. A universal sampling technique was used in which all the 260 students in the program were asked to participate in this study. A total of 242 students agreed to participate in this study, giving a response rate of 93.1%.

2.1 Instruments

A self-administered questionnaire was used in this study. It included questions on socio-demographic factors, mentoring activity and stress. Questions on socio-demographics included gender, age, race, semester, smoking, alcohol, weight, height and exercise. Mentoring activity was assessed by three questions. The first question was: ‘Do you attend mentoring activities?’ This was answered by ‘regularly’ or ‘irregularly’, in which regularly was defined as attending more than 80% of mentoring activities. The second question was: ‘Do you consult your mentor about your problems?’ The answers available were ‘regularly’ or ‘irregularly’. The third question was ‘Do you think mentoring helps managing your problems?’ The response options for the third question were either ‘yes’ or ‘no’. Stress was measured by the PSS-10 (Perceived Stress Scale) questionnaire. The validated and reliable PSS assesses perceived stressful experiences or stress responses over the previous month with a 5-point Likert scale (0 = never and 4 = very often) (Oman et al., 2008). PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 and 4 = 0) to the four positively stated items (items 4, 5, 7 and 8) and then summing across all scale items. Scores range from 0 to 40, with higher scores indicating greater stress. There is no cut-off point for the PSS, according to Eby et al. 2010. There are only comparisons between people in the same sample The PSS was designed for use in community samples of participants with at least a junior high school education. A study about the factor structure and reliability of the original version of the PSS (in English) was carried out by Cohen and Williamson (1988) among a probability sample of 2387 from the United States. Exploratory factor analysis revealed two factors that conjointly accounted for 41.6% of the variance. Cronbach’s alpha for the total scale reached the value of 0.75 and 0.85 (Cohen & Williamson, 1988). Additionally, test-retest studies were conducted two days and six weeks apart. The results yielded test-retest correlations of 0.85 and 0.55 respectively (Cohen et al., 1983).

In the current study, the PSS questionnaire was distributed in its original language (English). It was pilot tested on ten students who were not participating in the study. The items were easily understood by the students and no problem was faced regarding this issue.
2.2 Ethical issues

Confidentiality was ensured and written consents were obtained from the participants. Students were informed that participation in the study was voluntary and would not affect their academic progress in the course. Approval was obtained from the ethics committee of the International Medical School in the Management and Science University (MSU), Shah Alam, Malaysia.

2.3 Statistical analysis

Data analyses were performed using SPSS version 16. A student t-test and one-way ANOVA test were used to assess the association between variables in the study and stress. Multiple linear regression was used to determine the significant factors associated with stress. Preliminary analysis of the data was performed to check the assumptions of linear regression. Only variables associated significantly with stress in bivariate analysis were entered into the multiple linear regression analysis using the backward technique. Multicollinearity and all other assumptions were checked for. In this study, a $p$-value of less than 0.05 was considered statistically significant.

3. Results

3.1 Socio-demographics and mentoring activities

The mean age of the respondents was 21±1.6 years and the age ranged from 19 to 30 years. The majority were female (74.9%), Malay (75.3%) and Muslim (80.2%). A total of 42 students were pre-obese (17.3%) and 14 were obese (5.8%). The prevalence of smoking was 7.8%. A total of 168 students (69.4%) reported that they attended mentoring sessions regularly, 74 students reported that they consulted their mentors regularly (30.6%) and 211 reported that mentoring helps them to manage problems (87.2%).

3.2 Association between stress, socio-demographic factors and mentoring

The mean level of stress measured by the PSS was 18.9±4.8. Younger students (≤21 years) had higher levels of stress (19.7±4.9) than older students (>21 years; 18.2±4.5; $p=0.011$). There was no significant association between stress and other socio-demographic variables in the study.

Students who regularly attended mentoring activities had less stress (16.6±3.4) than those who attended irregularly (20.9±4.9; $p<0.001$). Students who sought consultations from their mentors had lower levels of stress (17.3±3.1) than those who did not (22.6±5.7; $p<0.001$). The perception of mentoring activities was significantly associated with levels of stress: students who believed that mentoring helped them to manage their problems had lower levels of stress (18.1±3.8) than those who did not (24.6±6.7; $p<0.001$).

For the multiple linear regression, factors significantly associated with stress were attendance at mentoring activities, consultation of mentors and perception of mentoring activities. Students who did not attend mentoring activities regularly on average scored 2.5 higher in stress level compared to those who did ($p<0.001$; 95%CI 1.5–3.6). Students who did not consult their mentors regularly on average scored 2.8 higher in stress level compared to those who did ($p<0.001$; 95%CI 1.5–4.1). Students who thought that mentoring did not help them to manage problems on average scored 3.2 higher in stress level compared to those who did not ($p<0.001$; 95%CI 1.5–4.9) (Table 1). The total model was significant ($p<0.001$) and accounted for 37% of the variance.
Table 1. Factors associated with stress using multiple linear regression (n=242)

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>(p) value</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending mentoring activity regularly (ref: regularly)</td>
<td>2.5</td>
<td>0.54</td>
<td>0.3</td>
<td>&lt;0.001</td>
<td>1.46–3.59</td>
</tr>
<tr>
<td>Consultation of mentors (ref: regularly)</td>
<td>2.8</td>
<td>0.67</td>
<td>0.3</td>
<td>&lt;0.001</td>
<td>1.47–4.11</td>
</tr>
<tr>
<td>Mentoring helping to manage problems (ref: yes)</td>
<td>3.2</td>
<td>0.88</td>
<td>0.2</td>
<td>&lt;0.001</td>
<td>1.47–4.92</td>
</tr>
<tr>
<td>Age</td>
<td>0.8</td>
<td>0.49</td>
<td>0.1</td>
<td>0.097</td>
<td>-0.15–1.79</td>
</tr>
</tbody>
</table>

4. Discussion

This study attempted to investigate the association between mentoring and perceived stress among medical science students. Stress is an important issue faced by medical students during their years of study. An important finding in this study was the significant association between mentoring and perceived stress by medical students. This finding could be explained by the fact that mentoring provides psychosocial support and improves career development. When students perceive their teachers as partners in the educational process, they are more likely to take on new and difficult tasks. Previous studies found that positive teacher-student relationships have been linked to students’ satisfaction with college, their educational aspirations and their academic achievement (Oman et al., 2008; Smith & Gray, 2001). Although this study cannot prove a causal relationship between stress and mentoring, we still can argue that mentoring is a kind of social support the university provides to its students. The supportive nature of mentoring activities might make students feel less stress, cope more effectively with stressful situations and feel they belong to the academic community. According to the findings of a previous study of college students, social support was found to be effective in preventing stress, buffering students from the negative effects of stress and increasing their ability to cope effectively with stress (Oestereichen, 1987).

In this study, younger students had higher levels of stress compared to older students. Similarly, Marjani et al. (2008) found a significant association between the year of study and stress levels, as the prevalence of stress was highest among first year students followed by the second and third year. The reasons behind that might be that older students have adapted to the college environment better, and that they have had a longer period of contact with mentors than younger students have (Al-Dubai et al., 2011).

Teachers can encourage class participation, get to know students by name, mobilize student tutors and study groups, use appropriate humour and personal stories, develop advising skills, and be open to the role of mentor. Students feel less stressed and cope more effectively with stress if they feel they belong to the academic community. The faculty can play a key role in introducing and welcoming students to that community.

One of the important limitations of this study is its cross-sectional design, in which a causal relationship between the variables cannot be established. Other limitations include the absence of a control to potential confounders such as academic environment and sources of stress. The results of this study are based almost entirely on self-reported data rather than observation; students were asked about their perception of and attendance at mentoring activities. Although, attendance at mentoring activities could be a measurable variable, we depended entirely on students’ self-reporting about their attendance rather than the actual attendance lists. In addition, the characteristics and components of mentoring activities were not evaluated in this study. Instead, the findings of this study are beneficial in creating a hypothesis regarding the association between stress and mentoring, and longitudinal research is needed to support such findings.
5. Conclusion and recommendations

The results of this study indicate the importance of mentoring activity in medical college as an associated factor of stress among students. However, prospective longitudinal research is recommended to identify a causative temporal relationship between stress and mentoring. It could be a tool to manage stress. There is a need to investigate specific sources of stress and what assistance may be provided through mentoring. Stress among medical students should be taken into consideration by authorities and medical educators. However, the mentoring strategy needs to be more constructive in structure and well prepared.

Acknowledgements

We would like to thank staff from the Management and Science University (MSU), Malaysia.

References


