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RESEARCH ARTICLE

Stress and Difficulties Among International Medical Undergraduates of a Medical College In Karachi, Pakistan

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Abstract

Objective: To determine stress and difficulties among international medical undergraduate students in Karachi. **Study Design:** A cross-sectional study. **Place and Duration Of Study:** Dow International Medical College, Ojha Campus, Karachi from January 2014-2015.

Methodology: 204 International students were interviewed using modified Kessler scale of mental distress. Data was entered and analyzed by SPSS version 21. Frequencies and Percentages were calculated for gender, age, GPA scoring, residence and proficiency in English/Urdu. Chi square tests were used for the significance of association. Univariate analysis Odds ratios with 95% confidence intervals were calculated, multiple logistic regressions were used to determine adjusted Odds ratio independent variables, and those with $P < 0.05$ were retained. **Results:** Mean age was 21.46 ± 1.96 SD with majority (56.9 %) being hostel residents. More than half (64.2 %) had low GPA. More than two – third were proficient in English and only 34.2% used Urdu. Significantly more students (53.9%) had difficulties in hostel. 35.3% had adjustment problem within new country. Most students (61.3%) had problem with teaching methods and 85.3% reported administration problems. 57.4% students feel stressed due to factors which included being female, living in hostel, not proficient in English and teaching methodology. Students who had difficulty adjusting with new culture had protective affect from stress. **Conclusion:** This study identified various socio-cultural and academic stressors. Apart from quality medical education, a pivotal role of the institute enrolling overseas students is to render a cordial environment in multiple facets. The authors would like to advise future studies to establish a relationship between factors and outcomes.

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INTRODUCTION

International students have become a big global commodity. Institutions of higher education of the world are making policies and programs to have both undergraduates and postgraduates international students in their countries

The experiences of being away from their home country and adjusting to a host culture can be stressful. These students have to adjust to social environment which can lead to cultural conflict and feelings of alienationⁱ. A study conducted in medical student of Saudi Arabia showed that three fourths of students with more females had Stressⁱⁱ. The common difficulties faced by International Students could be both academic and non-academic. Non academics includes feeling homesick, problems integrating, language, family worries, finance and Culture shock^{iii-iv}

An Iranian study based identified six areas of difficulties of international medical undergraduates which included educational, psychological, Supporting–communication, familial, economical and sociocultural areas. The most important problems identified were sociocultural and supporting-communication coping with their difficulties exert a lot of psychological stress on the student. Stress and may lead to anxiety and depression. The long term effects may lead to substance abuse which will affect quality of life as well as their academics.^v

To our knowledge no study has been conducted in Pakistan on difficulties of international medical undergraduates. This study will be a help to identify the issues faced by the students of Dow International Medical College (DIMC) and further they may be addressed to improve their mental and academic performances. Objective of the study was to determine the difficulties and stress among international medical undergraduates of DIMC.

Methodology:

This cross sectional study was conducted in Dow International Medical College, Karachi, Ojha campus of Dow University of Health Sciences. The college has its own tertiary care hospital. This medical Institute caters more than 1000 international students in undergraduate programs from all over the world. The International students of all the semester were included in the study, Pakistan's nationals were excluded. About 204 international students were interviewed. Overall response rate was 100%. Difficulties of international students were categorized as academics stress, communication or language, away from family, financial and cultural difference.

After taking informed consent from all the participants information regarding their socio-demographics (age, gender, semester, academic record, financial status, decision regarding medical profession, present residence, different academic, residential and socio-cultural difficulties) was obtained through face to face interview by semi structured questionnaire. The students were diagnosed to be stressed on the basis of modified Kessler scale of mental distress, which is a 10 item scales. The scoring of Kessler scale ranges between 10 -50, we set cut off value at 24, hence mental well-being and mild mental distress were considered to be “not stressed” and those who scored more than 24 were labeled as “stressed”. The data was entered and analyzed by using Statistical Package of Social Sciences version 21.

Frequencies and Percentages were calculated for gender, age, GPA scoring, present residence, decision making of medical profession, proficiency in English and Urdu. Mean, range and standard deviation were calculated for age. Chi square tests were used to test the significance of association. In univariate analysis odds ratios with 95% confidence intervals were calculated in order to assess the unadjusted risk for stress due to studied variables. Multiple logistic regressions were used to determine the adjusted odds ratio independent variables, and those with $P < 0.05$ were retained for final model.

Results:

Socio-demographic characteristics of international medical students of Dow International Medical College showed that the mean age of the participants was 21.46 ± 1.96 SD. About 71.6% of the medical students belong to age < 22 years. Out of total 204 students 32.8% were males and 67.2% were females. Majority (56.9 %) of the students were residing in the hostel of the institute. More than half of the participants (64.2 %) had GPA between 2-2.9. More than two – third of the students were proficient user of English language while only 34.2% of the international students were proficient users of Urdu language. Majority also did not have financial issues.

Figure 1 represents the frequency of students who faced different difficulties being an international student. More than half of the students (53.9%) faced difficulties in hostel. About 35.3% of the students had adjustment problem within new country and 24.5% reported difficulty in adjusting with the new culture. Only 30 students had financial problems while more than two – third of the students did not have any financial issues. Majority (61.3 %) of the students had problem with teaching methodology and 85.3% reported problems with college administration. Figure 2 shows about 57.4 % of the participants feel stressed due to different difficulties faced by them.

The stress level of the students was assessed by the Modified Kessler Scale of mental well-being. Out 204 participants, $n=126$ (61.8%) did not suffer from significant stress being an international students compared to $n= 78$ (38.2 %) who were found to be stressed (scored more than 24 on the Kessler scale).

Table 1 shows the regression analysis of factors which were found to be significant with p value < 0.05 . In univariate analysis, binary logistic was run in which (stressed or not stressed was assessed) following factors were found to be positively associated with the stress among international students females (COR = 2.951, 95% CI 1.517-5.742), those students who faced difficulties due to living in hostel (COR = 1.80, 95% CI 1.011-3.206), Those students who felt that others have biases towards them (COR = 2.174, 95% CI 1.220 -3.874), Those students who had difficulty in adjusting with the community (COR = 2.346, 95% CI 1.299-4.238), students who were not proficient user of English (COR = 2.943, 95% CI 1.238 -6.996), Students who were proficient user of Urdu (COR =

2.365, 95 % CI 1.161 -4.817) , those who had difficulty with teaching methodology (COR=1.913, 95% CI 1.050 - 3.487) , those who had difficulties in daily routine of life (COR = 2.498, 95% CI 1.399 -4.460) and those students who had academic difficulties (COR=2.637, 95% CI 1.475- 4.756) while those students who had difficulty in adjusting with new culture had protective affect from mental stress (COR= 0.426, 95% CI 0.236 -0.770). In multivariate analysis after adjusting all the co – variates the adjusted odds ratio of all the above mentioned factors remained significant with no obvious variation.

Figure 1 Responses of International Medical Students to adjustment problems in Various Areas

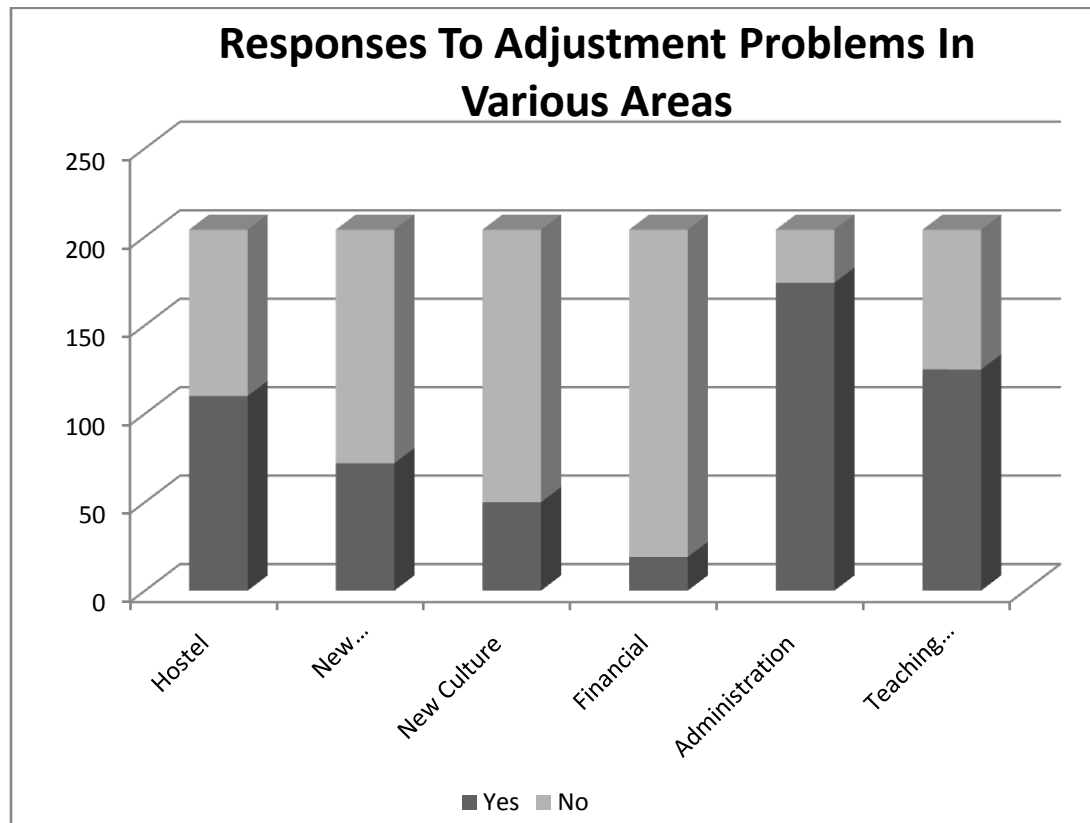


Figure 2 Percentage of Students showing Stress with All the Problems

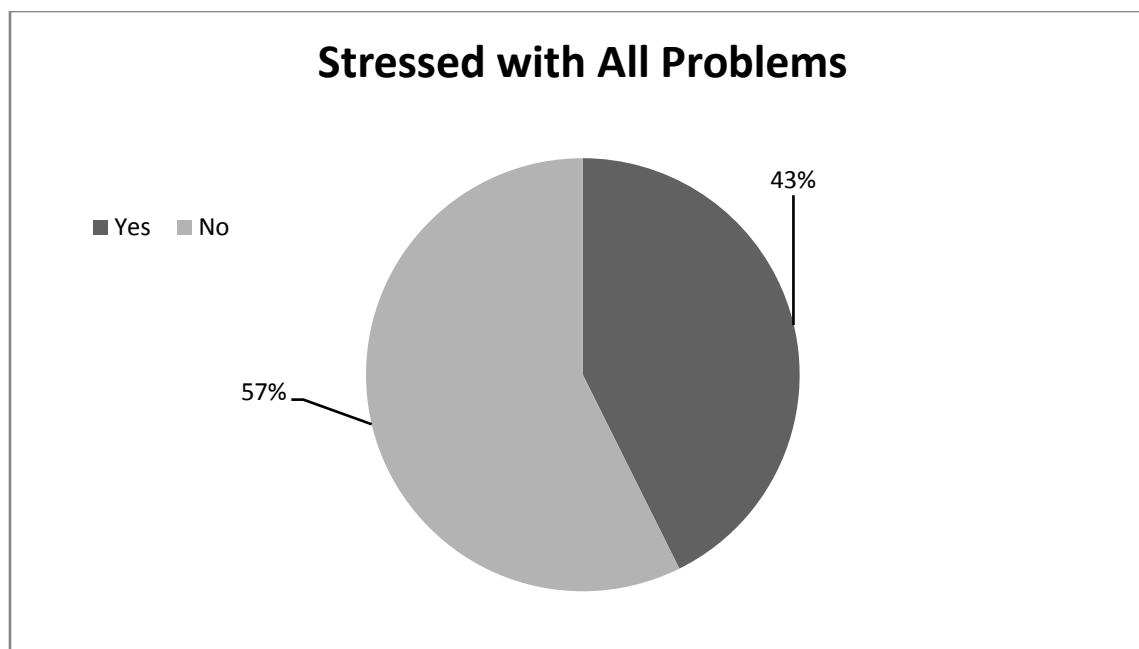


Table 1 Univariate and Multivariate Analysis of different variables determining Stress

Characteristics	C.O.R	C.I (95%)	P-VALUE	A.O.R	C.I (95%)	P-VALUE
Gender	2.951	1.517-5.742	0.001	2.801	1.313-5.976	0.008
Difficulties in hostel	1.8	1.011-3.206	0.046	1.035	0.510-2.099	0.925
Others biased towards you	2.174	1.220 - 3.874	0.008	1.89	0.966-3.698	0.063
Difficulty in adjustment with community	2.346	1.299-4.238	0.005			
Proficiency in English	2.943	1.238 - 6.996	0.015	3.916	1.327-11.557	0.013
Proficiency in Urdu	2.365	1.161 - 4.817	0.018	2.29	0.987-5.316	0.054
Adjustment With different culture	0.426	0.236 - 0.770	0.005	0.964	0.463-2.008	0.922
Difficulty with teaching methodology	1.913	1.050 - 3.487	0.034	1.163	0.556-2.430	0.689
Face difficulty in daily routine	2.498	1.399 - 4.460	0.002	0.964	0.463-2.008	0.922
Academic Difficulties	2.637	1.475-4.756	0.001	1.277	0.633-2.573	0.494

Discussion:

In our study, we determined the different socio- demographic, cultural and academic stressors among international medical students. To our knowledge this was one of the first detailed studies conducted in Pakistan's International medical Institute. In this study stress was significantly higher among female students. The major stressors for the international medical students were the residence in hostel of the campus, difficulty with academics due to teaching methodology, administration issues and Language barrier.

In the present study we found that females were more stressed comparative to males, similar findings reported by the studies of Hong Kong⁸, Turkey⁹ and Saudi Arabia¹⁰. In contrast to this a study of India reported higher prevalence of stress among male dental students¹¹. This gender difference in our study probably due to higher number of females entering in medical universities and most likely explanation of our findings is combination of socio-cultural and biological factors.

Majority of the international students who were found to be stressed were residing in hostel and reported difficulties due to different problems faced by them in the Hostel. Findings of our study are consistent with the previous study conducted in Pakistan¹². Another International study which was conducted in Alexandra among hostel students reported highest frequency of stress among students who were residing in Hostels¹³. The findings of our study suggest that hostel life is difficult probably due to lack of all the provisions of accommodation which students were offered in their homes as majority of the students were financially well stable.

It is perceptible in a sense that language proficiency is a basic necessity for excellence in every aspect of life from daily living to higher academic achievements. As highlighted in previous studies of Turkey¹⁴ and Thailand¹⁵ of International students, the present study reported similar findings that language inadequacy is a heart of all the difficulties faced by the international students. We found that those students who were proficient in English as well as Urdu were more confident and had better adjustment with the class fellows and staff. Similar findings were reported by the study of United Kingdom¹⁶ in which they found that language ability was related to stress among international students. So it is highly suggested that language proficiency can have strong impact on mental well-being of International students.

We found that academic difficulties were consistent predictor for stress among participants. In contrast to this study several other studies reported comparable findings, studies from Australia¹⁷ and USA¹⁸ reported highest level of stress among overseas students due to several academic difficulties. Similar findings reported by the study of Nepal¹⁹ and Pakistan²⁰. Hence it can be predicted that international students face multiple hitches to surpass themselves in academics, as medical education being the most demanding task.

Cultural difference is predicted to hinder the academics and mental well- being of overseas students as suggested by several American²¹ and Asian²² researches but on contrary to these studies we found that cultural difference per se was no handicap for overseas students, our findings were reinforced by the study which was conducted in Edinburgh University of England²³. The possible explanation of our findings is that majority of the students are residing in the hostel and they are not much exposed to external cultural accomplishments outside the institute and within the premises of institute there is no prominent cultural difference .limitations

Lack of generalization of our results to other medical schools in Pakistan is an important limitation of this study. Since the information was collected on self-administered questionnaire we cannot rule out information bias. Cross-sectional design of our study is yet another limitation since associations presented lack temporality and sampling technique (convenient sampling) was another limitation of this study. Prospective studies are necessary to study the associations between occurrence stressors and incidence of stress.

Conclusion:

This cross sectional study found several socio-cultural and academics stressors among the international medical students. Further Prospective studies are advised to establish a temporal association between exposures and outcome. It is important to provide good friendly atmosphere in institute by the faculty and hostel staff to enhance the capabilities of the students and promote other overseas students to enroll in this institute.

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