



Abstract

Demographic Associations of Stress-Induced Hair Loss Assessed in Medical Students [†]

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Abstract: Background/Purpose: Over half of medical students meet the criteria for medical student in distress, and nearly one-quarter report considering or taking a leave of absence during their training. Little is known about the relationship between psychological stress and hair loss. This study sets out to identify demographic factors associated with stress-induced hair loss in a cohort of medical students.

Keywords: hair loss; stress; demographics

Methods: A cross-sectional study of medical students at a diverse, metropolitan university was performed. A questionnaire was developed to assess potential sociodemographic indicators of hair loss, quantify perceived stress using the Perceived Stress Scale, and record experiences of telogen effluvium, trichotillomania, alopecia areata. A total of 303 responses were recorded. Data were coded and analyzed using IBM-SPSS and include Pearson correlation (*r*), ANOVA, Student *t*-test, and chi square test. Statistical significance was assigned at $p < 0.05$.

Results: Of the 303 responses, 118 identified as male, 183 identified as female, and 2 did not identify their gender. The average ages for these groups were 25.4 ± 2.9 , 25.4 ± 2.5 , and 25.4 ± 3.2 , which were not significantly different ($p = 0.963$). Lower classmen, defined as second- and third-year students, comprised 167 of the respondents, whereas upperclassmen, fourth-year students, were the remaining 136. Of the 303 responses, 20 students reported diagnosed hair loss by a medical professional (group 1), 167 students were not diagnosed but have reported having features of hair loss (group 2), and the remaining 116 reported no features of hair loss (group 3). Average stress scores for groups 1, 2, and 3 were 22 ± 7 , 21 ± 5.7 , and 18 ± 5.8 , respectively, which were significantly different ($p < 0.001$). Of the 20 students who were diagnosed with hair loss by a medical professional, 5 were diagnosed with telogen effluvium, 2 were diagnosed with trichotillomania, 3 were diagnosed with alopecia areata, 9 were diagnosed with androgenic alopecia, and 1 was diagnosed with a nonspecific hair loss condition. A total of 60% of male participants and 62% of female participants reported some hair loss features or a clinical diagnosis of hair loss. Lower classmen comprised 60% of group 1, 54.5% of group 2, and 55.2% of group 3. There was no significant association with hair loss and medical school class level ($p = 0.219$).

Conclusions: Based on our results, there is an association between stress and hair loss. Stress scores for individuals with diagnosed hair loss were significantly different to those who reported having features of hair loss with no diagnosis, although the average stress level of both groups is categorized as “moderate stress” by the Perceived Stress Scale. There was no significant difference in hair loss symptoms between the medical school class levels. Further analysis needs to be performed to assess whether a relationship exists between



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the most common causes of stress-induced hair loss and these demographic characteristics (age, gender, class level, etc.).

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/ECCM-10872/s1>.

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