Substance Use and Perceived Hassles among Junior Medical Students with High Anxiety Levels in the Republic of Macedonia

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Dear Editor-in-Chief

Several studies suggest that medical education does not prevent or reduce substance use, moreover it could increase over time and it appears that the use of sedative drugs in medical students is comparatively widespread across the world (1-3). Higher rates of high anxiety and depression have also been reported for medical students in different countries worldwide and the contribution of different stressors has been suggested (2, 4, 5). The aim of the study was to estimate substance use habits and to identify hassles connected to medical education perceived by medical students with high anxiety at early stage of education in the Republic of Macedonia.

We performed a cross-sectional study on a cohort of 157-second year medical students (61 males and 96 females) during the second semester of 2012-2013 year at the Medical Faculty in Skopje, the Republic of Macedonia. The students anonymously fulfilled self-rating questionnaires regarding substance use (alcohol, nicotine, caffeine, sedative-hypnotics, and illicit drugs) and problem areas connected to medical education (social and personal problems) (4). The Beck Anxiety Inventory (BAI) was used to determine high anxiety symptoms (6). BAI scores >25 were categorized as high anxiety symptoms for logistic regression analysis.

Mean BAI score was 13.7±10.8. The prevalence of high anxiety was 15%. Twenty one percent of female students (n=20) and 6.5% of male students (n=4) showed high levels of anxiety (χ^2 = 5.87, df=1, P= 0.0154). The results on substance use prevalence are shown on Table 1. Out of all students, 14.7% and 41, 4% of high anxiety group have used benzodiazepines (χ^2 = 9.304, df=1, P= 0.002). The OR of BZD use was 7.16 (95% CI, 2.62-19.53, z=3.84, P=0.0001) in students with high anxiety levels. The prevalence of illicit substance use was very low in second year medical students. The students with high anxiety did not report any illicit drug use (Table 1).

Poor quality of the educational system was the most irritating problem for 66.4% of the student cohort and 79.1% of high anxiety students. Students with high anxiety identified disappointment as the second most irritating problem as opposed to those with low anxiety levels (χ^2= 9.223, df=1, P=0.002) who identified inadequate social life and shortage of the facilities. The risk factors connected to high anxiety symptoms were the existence of personal and social problems (R^2 = 0.015, beta = 0.1475 and P< 0.0001) and the use of BZD (R^2 = 0.016, beta = 0.0720 and P = 0.02). Eight students with high anxiety symptoms went through a psychiatric counseling.

Table 1: The prevalence of substance use among junior medical students

Variables	BAI= 0-7 n=59 (%)	BAI>25 n=24(%)	Total sample n=157
Alcohol			
past year	5 (8.5)	3 (12.5)	10 (6.4)
past fortnight	37 (62.7)	15 (62.5)	103 (66)
Nicotine			
smokers	12 (20.3)	9 (37.5)***	39 (24.8)
Sedative- hypnotics			
past year	2 (3.4)	5 (20.8)*	12 (7.6)
last week	3 (5.1)	4 (16.6)	10 (6.4)
this week	0	1(4)	1 (0.7)
Caffeine (coffee)			
regular consumers	40 (67.8)	21(87.5)**	120 (76.4)
Illicit drug use			
ever used	1 (1.7)	0	2 (1.3)

*$P<0.05$, **$P=0.06$, ***$P= 0.1$

Four of them were diagnosed with anxiety disorder and treated adequately with antidepressant therapy.

Our data confirm that the prevalence of high anxiety levels is a stabile feature across several generations of junior medical students in Macedonia who show high anxiety symptoms even during first as well as during the second year of training (3, 7). The drinking rates in our study (66% were "current drinkers" - who had drunk during past fortnight) are not in accordance with the prevalence of 41.2 % of alcohol consumption obtained in our earlier study (3). It seems that the drinking rates in junior medical students in Macedonia have increased during last 6 years. Twenty percent of high anxiety students reported that they had used benzodiazepines during the past fortnight and almost half of them had used BZD during last year, which suggests that they had felt symptoms of anxiety for a longer period. This is in accordance with our earlier study (3) and the report from other study (2). Medical students with high anxiety levels are at significant risk for benzodiazepine use and the presence of personal as well as social problems contribute to their condition. Disappointment, poor quality of education, lack of opportunities, lack of social relations and inadequate social life, financial problems, worries about academic achievement and future career goals are among the leading stressors for junior medical students in our country. Health-promoting and preventive programs (especially addressing alcohol and benzodiazepine use and abuse) should be developed and the quality of education should be improved with an aim to help students who suffer so that they can acquire healthier ways of coping with the psychological distress and prevent the development of more serious mental disorders that are not rare in medical professionals worldwide. A limitation of this study is its cross-sectional character. The faculty student counseling services in our country should pay more attention to junior students with high anxiety levels.

Acknowledgements

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