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Brief report

Early trauma and lifetime suicidal behavior in a nationwide sample of Korean medical students

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ABSTRACT

Background: No previous study has investigated the association between early trauma and suicidal behavior in medical students. We evaluated the types of early trauma which are the most strongly associated with a lifetime history of suicidal behavior in medical students.
Method: A total of 6986 medical students completed a self-administered questionnaire (response rates: 49.6% of the entire medical student body in Korea) which included lifetime suicidal behavior, stressors, and the Early Trauma Inventory Self Report-Short Form (ETISR-SF). This was used to evaluate the most serious forms of trauma experienced before the age of 18, including general trauma, physical, emotional and sexual abuse.
Results: Among medical students, lifetime prevalence of suicidal behavior was 34.0% for those who experienced early trauma and 18.1% in those without a history of trauma ($\chi^2 = 215.7$, $p < 0.0001$). Emotional abuse exhibited a higher odds ratio for lifetime suicidal behavior (OR = 3.6, 95%CI = 2.9–4.4) than other traumas including general trauma (OR = 2.1, 95%CI = 1.8–2.4), sexual (OR = 2.0, 95%CI = 1.5–2.8) or physical (OR = 1.8, 95%CI = 1.5–2.1) abuse, and current stressors including heavy stress (OR = 1.5, 95%CI = 1.4–1.8), poor physical health (OR = 1.3, 95%CI = 1.2–1.5), and poor economic status (OR = 1.2, 95%CI = 1.0–1.3). Emotional abuse also showed a higher odds ratio for lifetime suicidal ideation (OR = 3.5, 95%CI = 2.8–4.4), plan (OR = 3.9, 95%CI = 2.4–6.2), and attempt (OR = 4.1, 95%CI = 2.4–6.8) than other early traumas or stressors. In emotional abuse, a continuously cold or uncaring parental attitude exhibited a stronger association with lifetime suicidal behavior (OR = 4.5, 95%CI = 2.7–7.7) than other emotional abuse.
Conclusion: Emotional abuse, especially continuous parental emotional abuse in childhood, is significantly associated with lifetime suicidal behavior in Korean medical students.

1. Introduction

The lifetime prevalence of suicidal ideation is higher in medical students than in an age matched general population (Dyrbye et al., 2008), and physicians, in particular, are known to be at an increased risk of suicide (Tyssen et al., 2001). A large, multi-institutional study among U.S. medical students showed that suicidal ideation had a strong relationship with both personal and professional distress (Dyrbye et al., 2008), but few previous studies have been focused on medical students' early experience and its effect on suicidal behavior.

This is the first study to investigate the prevalence of suicidal behavior among medical students who had experienced trauma, including physical, emotional, sexual abuse, and general traumatic experiences early in life. The study also

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evaluated the types of early trauma that are most strongly associated with lifetime suicidal behavior in medical students, and compared early trauma with current stressors including poor physical health, poor economic status, and heavy stress related to medical school.

2. Methods

2.1. Subjects

A cross-sectional nationwide survey was conducted on the entire population of medical students in South Korea, a total of 14,095 students, attending 41 medical schools, between December 2006 and January 2007. Participation was elective, and responses were anonymized. A total of 6986 medical students participated in this survey (response rate of 49.6%). The study was planned and supervised by the Korean Council of Deans of Medical Colleges to evaluate the mental health of its medical students.

2.2. Procedure

The study was reviewed and approved by the Institutional Review Board of Seoul National University Hospital, which included ethical approval. Questionnaires, information sheets, consent forms, and PowerPoint slides (for student instruction) were delivered to each medical school. The questionnaires were distributed to the students at each medical school and collected one week later. Students who agreed to participate signed a consent form, completed the survey, and submitted the completed survey in a sealed envelope. Students who refused to participate simply submitted incomplete surveys in the same manner.

2.3. Instruments

The questionnaires included three sections: a personal profile of the respondent, the questionnaire for suicidal behavior, and the Early Trauma Inventory Self Report-Short Form (ETISR-SF). The questionnaires were printed in self-administered forms, based on the evidence that the self-report responses of potentially embarrassing behaviors, in this case suicidal behaviors and sensitive areas of trauma, were higher in self-administered questionnaires than in an interviewer-administered format (Lee et al., 2007).

2.3.1. The questionnaire for suicidal behavior

The assessment of suicidal behavior was conducted through dichotomous questions (Yes/No) (Lee et al., 2007). Suicidal behaviors were defined as suicide ideation (Have you ever seriously thought about committing suicide?), suicide plan (Have you ever made a plan for committing suicide?), and suicide attempt (Have you ever attempted suicide?). Students with two or three suicidal behaviors were included in the group related to the more severe suicidal behavior, in order to avoid an overlapped analysis. For example, if he or she had experienced both suicidal ideation and plan, he or she was included in only the suicidal plan group, and if he or she had experienced all kinds of suicidal behaviors, he or she was included in only the suicidal attempt group.

2.3.2. The questionnaire for physical health, economic status, and stress

The assessments were conducted through trichotomous questions for physical health (Which is your level of physical health in medical school? — good, average, and poor), economic status (Which is your level of economic status in medical

Table 1
Demographic data of a group of 6986 medical students with or without lifetime suicidal behavior (i.e. suicidal ideation, plan, and attempt).

Characteristics	Lifetime suicidal behaviors			Analysis		
	Total	Yes	No			
	N (%)	*N* (%)	*N* (%)	χ^2	*df*	*p*
Total	6986 (100.0)	1616 (23.1)	5370 (76.9)			
Gender				41.2	1	<0.001
Male	4364 (62.5)	900 (20.6)	3464 (79.4)			
Female	2622 (37.5)	716 (27.3)	1906 (72.7)			
Age				4.1	2	0.13
<25	4860 (69.5)	1099 (22.6)	3761 (77.4)			
25–29	1835 (26.3)	455 (24.8)	1380 (75.2)			
≥30	291 (4.2)	62 (21.3)	229 (78.7)			
Marital status				2.8	3	0.43
Single	6769 (97.2)	1569 (23.2)	5199 (76.8)			
Married	181 (2.6)	37 (20.4)	144 (79.6)			
Cohabitation	16 (0.2)	6 (37.5)	10 (62.5)			
Divorced	3 (0.0)	1 (33.3)	2 (66.7)			
Year in medical school				3.5	3	0.32
1st	2146 (30.9)	486 (22.6)	1660 (77.4)			
2nd	1947 (28.1)	476 (24.4)	1471 (75.6)			
3rd	1855 (26.8)	409 (22.0)	1446 (78.0)			
4th	986 (14.2)	232 (23.5)	754 (76.5)			
Poor physical health [a]	1307 (18.7)	401 (30.7)	906 (69.3)	51.5	1	<0.001
Poor economic status [a]	2068 (29.7)	542 (26.2)	1526 (73.8)	15.7	1	<0.001
Heavy stress [a]	4333 (62.2)	1171 (27.0)	3162 (73.0)	96.8	1	<0.001

[a] Time spent in medical school.