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Original article

Prevalence, Patterns, and Correlates of Tranquilizer and Sedative Use Among European Adolescents

Anna Kokkevi, Ph.D.[a,*], Anastasios Fotiou, M.A.[b], Angeliki Arapaki, M.Sc.[b], and Clive Richardson, Ph.D.[c]

[a]*Department of Psychiatry, Athens University Medical School, Athens, Greece*
[b]*University Mental Health Research Institute, Athens, Greece*
[c]*Panteion University of Athens, Athens, Greece*

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Abstract

Purpose: To examine the prevalence, patterns, and correlates of nonmedical use of tranquilizers or sedatives in 85,000 adolescent students from 31 European countries participating in the European School Survey on Alcohol and Other Drugs (ESPAD) in 2003.

Methods: Surveys in each country followed a standardized protocol. Logistic regression analysis was performed to identify sociodemographic and risk behavior correlates of medical and nonmedical tranquilizer or sedative use.

Results: Lifetime nonmedical tranquilizer or sedative use was reported by 5.6% overall. Medical tranquilizer or sedative use multiplies the odds of nonmedical use by 10.7 (95% confidence interval 9.1–12.5) for boys and 7.2 (6.3–8.3) for girls. Nonmedical tranquilizer or sedative use is also associated with the use of tobacco (odds ratio 1.3, 1.1–1.5), alcohol (1.3, 1.2–1.5), and illicit drugs (3.5, 3.1–3.9). Further correlates are truancy (1.4, 1.2–1.6), tranquilizer or sedative use by friends (6.0, 5.5–6.7) and siblings (2.7, 2.2–3.4), and dissatisfaction with relationships with parents. Medical tranquilizer or sedative use shares to a large extent the same correlates.

Conclusions: Findings indicate similarities in adolescent tranquilizer or sedative use between Europe and United States. The implications of the results for prevention policies are discussed.

Keywords: Adolescents; Tranquilizers; Sedatives; Medical use; Nonmedical use; ESPAD; Europe

The International Narcotics Control Board of the United Nations has drawn attention to the scale and severity of the problem of nonmedical use of prescription type drugs by young people [1].

Prescription type drugs particularly susceptible to misuse, abuse, dependence, and subsequent harm, include tranquilizers and sedatives (T/S), commonly used to treat anxiety and sleep disorders. T/S are among the most commonly abused psychotherapeutic medicines [2]. They rank as the second medicinal drug of abuse behind prescription pain relievers [3,4]. Because of their high potential for abuse and their association with suicide attempts and committed suicide, T/S use raises concerns in the public health field [2,5,6].

Adolescents are more likely than adults to become dependent on prescription medication [7]. The increased abuse of medicinal drugs among adolescents in recent years has reoriented the attention of researchers and policy makers toward understanding and preventing this behavior [1,2].

There are indications that adolescent nonmedical use of tranquilizers and sedatives and other prescription type medicines increasingly reaches levels comparable to those of other illicit substances, excluding cannabis [3]. Prevalence studies in the United States show that nonmedical use of tranquilizers and sedatives among adolescents attending school increased steadily in the 1990s before leveling and

*Address correspondence to: Anna Kokkevi, Ph.D., University Mental Health Research Institute, Soranou tou Efesiou 2, P.O. Box 66517, 15601, Papagou, Athens, Greece.

E-mail address: akokkevi@med.uoa.gr

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modestly declining in the 2000; approximately 1 in 10 17–18-year-old students questioned in 2006 reported lifetime nonmedical use of either sedatives or tranquilizers and 6.6% past year use [3]. In Australia, in 2002, about 19% of 17-year-old students reported lifetime use of T/S for nonmedical purposes [8]. In several European countries, lifetime nonmedical T/S use in 16-year-old students increased significantly between 1995 and 2003 [9]. Among 17–18-year-old students the prevalence of lifetime nonmedical T/S use in seven European countries ranged from 4% to 20% in 2003 [10].

Studies in adult and adolescent populations in the United States and Europe indicate that both medical and nonmedical use of controlled prescription drugs tend to be commoner among females than males [2,4,9,11–15].

Correlates of medical and nonmedical use of prescription drugs among adolescents have been studied mainly in the United States and Canada. We know of no such work in Europe. Most European studies refer to the general population [11,12,16] and chiefly to medical use [17]. Recent work on the prevalence and correlates of adolescents' use of medicines [13,18] concerns their use for common ailments and does not distinguish between medical and nonmedical use. Studies assessing exclusively the correlates of nonmedical use of T/S are also rare in North America, where the focus is rather on opioids and stimulants.

A general finding emerging from these studies is that nonmedical use of any prescription-type medication appears in the context of problem behaviors among school-aged population, and is highly associated with the use and abuse of other licit and illicit drugs [19–22]. With regard to T/S, a U.S. college study examining the correlates of nonmedical use of prescription benzodiazepine anxiolytics [23] found that nonmedical users were more likely than never-users to report past month cigarette use, frequent binge drinking, past month and past year use of cocaine, ecstasy, and prescription stimulants, and past year nonmedical use of prescription opioid analgesics. They were also more likely to report driving a car after binge drinking or being a passenger with a drunk driver. Another U.S. study found that not only were nonmedical users of sleeping and sedative/anxiety medication significantly more likely than nonusers to report illicit drug use, but they also had a higher risk for abuse of sleeping pills and sedatives [14].

Nonmedical use of prescription drugs has also been associated with various psychosocial factors such as low family income and lack of parental support and encouragement [20], high family conflict [24], peer use, and increased access to prescription drugs [19,25,26].

The present study draws from the existing literature in the field, and uses data from 85,000 16-year-old high school students in 31 European countries to examine patterns of T/S use and to identify sociodemographic correlates of medical and nonmedical T/S use among European adolescents.

Methods

Study population and procedures

The ESPAD research program has collected comparable data on the use of alcohol, tobacco, and other drugs among 16-year-old students in the majority of European countries every 4 years since 1995, following a strictly standardized research protocol. The data that are analyzed here were collected in the 2002/2003 school year, conducted in 35 European countries. Country samples consisted of randomly selected classes. With few exceptions, 2800 students was the minimum sample size required for each country. The mean age of the participating students was 15.8. In most countries, the proportion of the age cohort enrolled in school was 85% or more.

The main part of the questionnaire consisted of mandatory core questions. Optional questions and modules could be used depending on countries' special interests. The English version of the questionnaire can be found in the ESPAD report [9]. It was translated into national languages and backtranslated to English, allowing for the functional and conceptual equivalence of its content. The study questionnaire and the research design received approval by the respective ethical boards in each country.

Field procedures were standardized. Most countries collected data in Spring 2003 as recommended. The self-completed anonymous questionnaires were group administered under the supervision of a teacher, health professional, or research assistant. In nearly all countries school cooperation was reported as very good. The student response rates varied from 68% to 98% among countries. Further details of national survey designs are given in the ESPAD report [9].

Measures

The questionnaire included variables pertaining to licit and illicit substance use, psychosocial and lifestyle characteristics, and demographics. The following were used in the analysis.

Demographic variables. Demographic variables were gender, year, and month of birth.

Family-related variables. Family composition was assessed by "Which of the following people live in the same household with you?" Satisfaction with relationship with parents was recorded by "How satisfied are you usually with (a) your relationship to your mother? (b) your relationship to your father?" Response categories were: "Very satisfied," "satisfied," "neither satisfied or not satisfied," "not so satisfied," "not at all satisfied." Parental educational was assessed by "What is the highest level of schooling your (a) father (b) mother completed?" Response categories included: "primary school or less," "some secondary school," "completed secondary school," "some college or univer-