



Gender differences in drug abuse in the forensic toxicological approach



C. Buccelli, E. Della Casa, M. Paternoster, M. Niola, M. Pieri*

Department of Advanced Biomedical Science-Legal Medicine Section, University of Naples "Federico II", Naples, Italy

ARTICLE INFO

Article history:

Received 5 October 2015
Received in revised form 9 January 2016
Accepted 11 January 2016
Available online 22 January 2016

Keywords:

Gender differences
Drug abuse
Forensic toxicological approach

ABSTRACT

Gender differences in substance use/abuse have been the focus of research in the last 15 years. Initiation, use patterns, acceleration of disease course, and help-seeking patterns are known to be influenced by gender differences with regard to biological, psychological, cultural and socioeconomic factors. This paper presents a systematic review of published data on gender differences in the use/abuse of psychoactive and psychotic drugs, focusing on the importance of a multidisciplinary approach.

The basis for this paper was obtained by Medline searches using the search terms "human" and "gender", combined with individual drug names or "drugs of abuse". The reference lists of these papers were further checked for other relevant studies.

The gender difference in drug abuse is more evident in adults than in adolescents (13–19 years): adult men are 2–3 times more likely than women to develop drug abuse/dependence disorders and approximately 4 times as likely to have an alcohol use disorder. Such prevalence rates have not been observed in adolescents.

Differences between men and women involve: (i) the biological response to the drug, (ii) the progression to drug dependence, and (iii) the comorbid psychiatric diagnoses, which may be due to both sociocultural factors and innate biological differences. A crucial role played by ovarian hormones (oestrogens and progesterone) has been documented in both human and animal model studies.

Epidemiological data on how particular psychobiological and physiological characteristics in females influence vulnerability to both drug addiction and toxicological consequences of drugs are still in their infancy. Significant gaps remain in our knowledge, which are primarily attributable to the lack of empirical data that only a systematic and multidisciplinary approach to the topic can generate. The introduction of gender into forensic toxicological evaluations may help elucidate the relationship between the body's absorption of abused drugs (alone or in combination) and the onset of intoxications, both lethal and none.

© 2016 Elsevier Ireland Ltd. All rights reserved.

1. Introduction

The 2015 European Drug Report of the European Monitoring Centre for Drugs and Drug Addiction (EMCDD) estimated that almost a quarter of the adult population in Europe, or over 80 million adults (representing almost 10.8% of the entire European population), have used illicit drugs at some point in their lives [1]. Similar trends have been found in the US. In 2013, for example, 24.6 million Americans aged 12 or older (accounting for over 9% of the entire US population) were current (past month) illicit drug users [2], meaning they had used an illicit drug during the month

prior to the survey interview. This statistic represented a 1.1% increase from 2002 [3].

Traditionally, drug use/abuse has been thought of as a predominantly male occurrence; thus, most studies of drug effects and related behavioural changes have been based on largely male populations. This scenario has been evolving over recent decades, however, as the prevalence rate of women with drug-related problems has increased. The results of the EMCDD indicated that up to a quarter of Europeans have serious drug-related problems and that approximately one in four users entering treatment are women. In addition, one out of every five drug-related-deaths is female [1,4]. Fig. 1 compares the lifetime prevalence (LTP) between males and females for 15–16-year-old European students and adults with regard to cannabis (panel a) and ecstasy (panel b) along with 15–16-year-old students only with respect to tranquilizers/sedatives in panel c [4]. The differences between males and females are presented as prevalence ratios (males over females): ratios >1

* Corresponding author at: Department of Advanced Biomedical Science-Legal Medicine Section, University of Naples "Federico II", Via S. Pansini, 5, 80131 Naples, Italy. Tel.: +39 0817463474; fax: +39 0817464726.
E-mail address: maria.pieri@unina.it (M. Pieri).

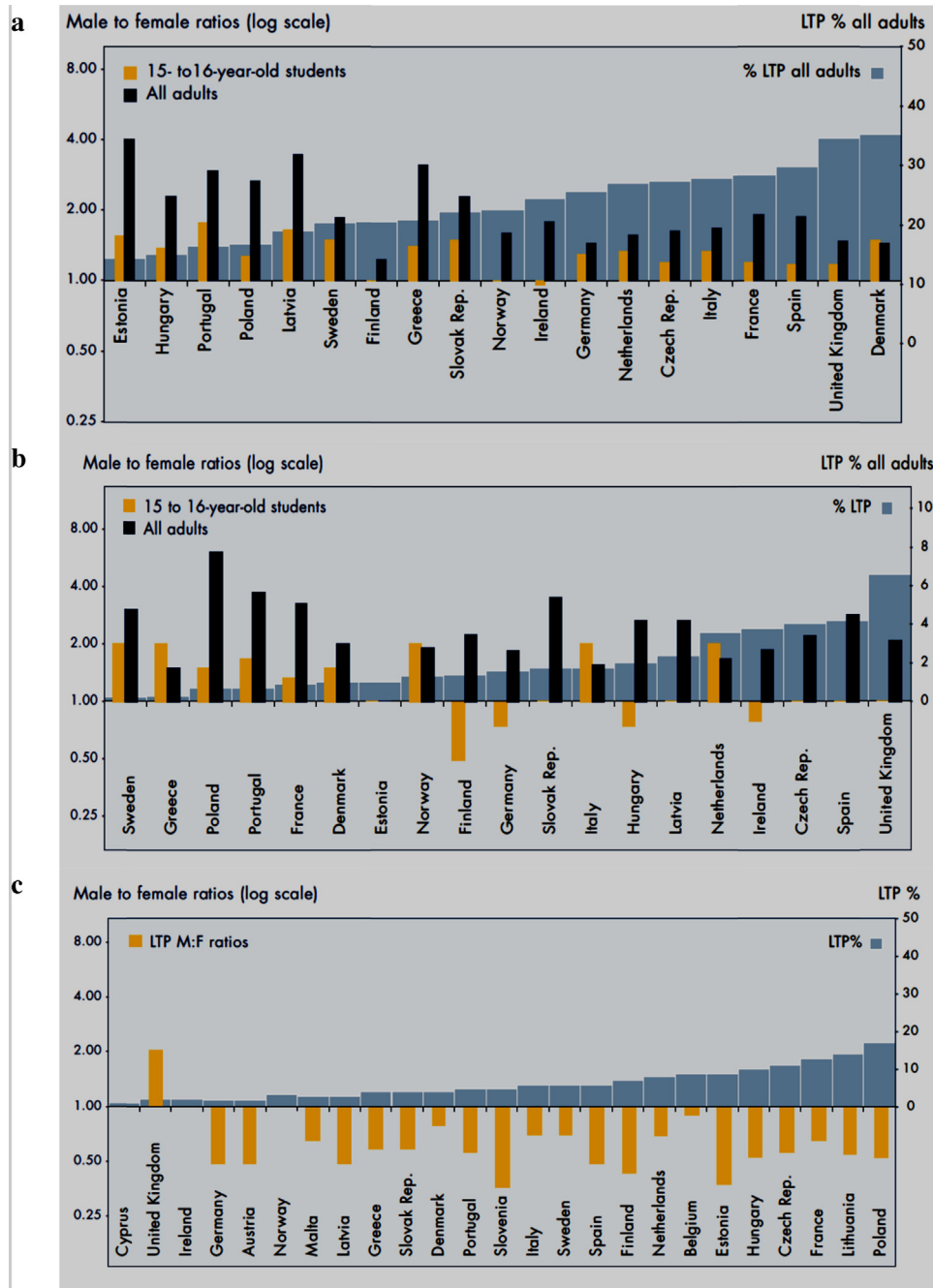


Fig. 1. Comparison of the lifetime prevalence (LTP) between males and females (m/f) ratios for 15- to 16-year-old students and all adults: cannabis (panel a) and ecstasy (panel b). Panel c reports m/f ratios for 15- to 16-year-old students using tranquilisers or sedatives without a doctor's prescription (panel c). Source: European Monitoring Centre for Drug and Drug Addiction, Differences in patterns of drug use between women and men. Office for Official Publications of the European Communities, Luxembourg (2005).

indicate more males while ratios <1 indicate a greater prevalence of women. The EMCDD survey noted that the relative prevalence rates of drug use and of first-attendance-to-treatment between men and women vary considerably by country [1]. The results of the latest National Household Survey on Drug Use and Health [2] showed that men were the more prevalent abusers within every drug category except prescription drugs (particularly narcotic analgesics and tranquilizers), which were more often abused by women [2,5]. Similar results have been published in a European population (see Fig. 1, panel c) [1]. Using data from the 2015 European Drug Report, Fig. 2 summarizes the proportion of men vs. women who entered treatment with cannabis (panel a),

cocaine/crack (panel b), amphetamines (panel c), and heroin (panel d) as the primary drug [1].

Prevalence percentages differ when considering adolescents, and no male-dominated gender disparity in drug and alcohol use has been detected [6]. Percentages of drug use/abuse within gender have been converging in world-wide cohort studies based on younger samples [2,7–11]. For instance, the gap in the percentage of male vs. female US high school students who used marijuana narrowed during the last two decades: 36.8% vs. 28.6% (male vs. female) in 1993, 42.1% vs. 39.2% in 2013 [11].

Clinical studies focusing on sex differences in drug use/abuse have steadily increased in recent decades. The results from these

Download English Version:

<https://daneshyari.com/en/article/6551753>

Download Persian Version:

<https://daneshyari.com/article/6551753>

[Daneshyari.com](https://daneshyari.com)