

ORIGINAL RESEARCH

The Impact of Illicit Use of Amphetamine on Male Sexual Functions

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ABSTRACT

Introduction. Data concerning the impact of amphetamine on male sexual functions are limited, although amphetamine has been used as an aphrodisiac.

Aims. This cross-sectional study was to assess the impact of illicit use of amphetamine on male sexual functions.

Methods. Male illicit drug users in a Drug Abstinence and Treatment Center were recruited to complete a self-administered questionnaire, and data were compared with age-matched controls.

Main Outcome Measures. The International Index of Erectile Function (IIEF) and global assessment questions were used to assess sexual functions.

Results. Of 1,159 amphetamine mono-illicit drug users, the mean age was 31.9 ± 7.5 (18–57) years, and mean duration of drug use was 30.7 ± 52.2 (median 9, range 0.1–252) months. Half of them reported that drug use had no impact on their sexual functions. The other half reported drug impacts as reduced erectile rigidity and sexual life satisfaction, enhanced orgasmic intensity, and prolonged ejaculation latency time more often than the opposite effects, while they reported enhanced or reduced effect equally on sexual desire. Dosing frequency of amphetamine was associated with its impact on sexual functions, but duration of its use had little association with that. Compared with 211 age-matched controls, the amphetamine mono-illicit drug users had lower IIEF scores in the domains of erectile function, orgasmic function, and overall satisfaction, but there are no significant differences in intercourse satisfaction and sexual desire scores. The prevalence of erectile dysfunction (ED) was significantly higher in the drug users than in the controls (29.3% vs. 11.9%). The odds ratio of ED for amphetamine use was 2.1 (95% confidence interval 1.2–3.6) after adjustment for other risk factors.

Conclusions. The impact of illicit use of amphetamine on male sexual functions varied among users, and their ED prevalence was higher than the controls. **Chou N-H, Huang Y-J, and Jiann B-P. The impact of illicit use of amphetamine on male sexual functions. J Sex Med 2015;12:1694–1702.**

Key Words. Amphetamine; Methamphetamine; Substance Abuse; Ejaculatory Latency Time; Erectile Dysfunction; Orgasmic Intensity; Sexual Desire; Sexual Satisfaction

Introduction

Amphetamines refer to a group of drug that contains amphetamine, methamphetamine, methylphenidate, 3,4-methylenedioxymethamphetamine (MDMA, “Ecstasy”), and so on. As is the

case for other psychoactive substances such as nicotine, cocaine, opiates, marijuana, and alcohol, amphetamines have been administered as plant products for thousands years [1]. Synthetic amphetamine was first invented in 1887 and was introduced commercially in 1932 as an inhaler for

the treatment of nasal congestion [1]. Although addiction potential and induction of psychosis were initially reported as early as 1937, the pharmaceutical industry promoted its clinical indications for more than 30 conditions (e.g., fatigue, depression, and narcolepsy) in the following several years [1]. Nowadays, a common legitimate clinical use of amphetamines, including amphetamine, methamphetamine, and methylphenidate, is in the treatment for attention deficit hyperactive disorder (ADHD). Due to the central nervous system (CNS) stimulant effect, amphetamine or methamphetamine has been used for recreational purposes and become one of the most popular illicit drugs [2]. The doses of methamphetamine for recreational use are substantially greater than those for the treatment of ADHD (50–500 mg totaling up to 4 g/day vs. 20–25 mg/day) [3].

On the illicit market, methamphetamine is more readily available than amphetamine because of easier synthesis, whereas there are little differences in clinical effects between the two drugs [1]. Given that it is difficult to distinguish which compound (amphetamine or methamphetamine) is adopted among illicit users, “amphetamine” will be used to refer to amphetamine and methamphetamine collectively in this article, unless otherwise indicated.

Amphetamine abuse is related to many medical complications in all major organ systems [4], and associated with risk-taking sexual behaviors leading to human immunodeficiency virus infection and other sexually transmitted diseases [4,5]. Besides, it has been used as an aphrodisiac, which may contribute to the reason for its initial use [6]. Rare studies have focused on its impact on male sexual functions. In animal models, diminished copulatory behaviors, impaired sexual motivation, performance and erectile function, and increased rates of spontaneous erections have been observed after administration of amphetamine in male rats [7–9]. Diverse effects have been observed in men. The effects include spontaneous erection upon injection, enhanced sexual desire, delayed orgasm or multiple orgasms, and delayed ejaculation, whereas opposing effects as reduced libido and arousal, impaired erection, and difficulty in achieving orgasm have also been observed [10]. However, most of the clinical reports were based on a small case number, multiple-drug users, and case interviews without a control group, and lacked a systematical evaluation of sexual functions [10]. Herein, global assessment questions (GAQs) were used to evaluate the impact of illicit use of

amphetamine on male sexual functions and the International Index of Erectile Function (IIEF) [11] to compare their erectile function with that of age-matched controls.

Aims

The aim of this study is to evaluate the impact of illicit use of amphetamine on male sexual functions, including sexual desire, erectile function, orgasmic function, ejaculatory latency time, and sexual life satisfaction.

Materials and Methods

This study had a cross-sectional case-control design. The Independent Review Board of our institution reviewed and approved this study. No compensation was paid to the participants.

Participants

In Taiwan, those who are caught for the first time by law executors to have used illicit drugs including heroin, morphine, opiate, cocaine, amphetamine, MDMA, and marijuana should be detained in a Drug Abstinence and Treatment Center for detoxication for at most 2 months. Our subjects were recruited from one of 13 such centers in Taiwan. This study was conducted from July 2006 to August 2011.

A written informed consent to join this study was given to 6,250 consecutive detainees without coercion upon the day of their entry into the center (Figure 1). Those ($N = 3,091$) who consented and were eligible to participate the study assembled to answer a self-administered questionnaire within 2 weeks after entry. Two psychological consultants monitored the whole course. Before answering the questionnaire, the consultants would introduce the purpose of the study and assured confidentiality and privacy being protected because of anonymity. The questionnaire contained three parts: (i) demographic data, smoking history, mean sexual frequency in the past 3 months, and comorbidities; (ii) the IIEF (Chinese version) and GAQs for assessing sexual functions; and (iii) detailed history of illicit drug use. History of illicit drug use included dosing frequency and duration of drug use, routes of drug administration, and the kinds of illicit drugs being used by responding to the question, “Please choose the kind(s) of drug you often used,” with a checklist of illicit drugs available in Taiwan.

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