

Does marijuana use play a role in the recreational use of sildenafil?

It may, according to this study, which suggests that marijuana smokers use it to counteract cannabis' effect on their libido

Practice recommendation

- There is a strong association between men who use cannabis and men who obtain sildenafil from sources other than a prescribing physician.

Abstract

Purpose This study examined the ways by which patients obtain nonprescription sildenafil and the patient predictors associated with nonprescribed use.

Methods We conducted this descriptive study via questionnaire-guided interviews with 231 male sildenafil users (ages 18 to 80) between December 1, 2002 and April 30, 2003 at outpatient Family Medicine and Urology Clinics at The Brooklyn Hospital Center, Brooklyn, NY. Patients were divided into 2 groups: those with erectile dysfunction (reported by the patients as defined by their physician) and those without.

Results The prevalence of erectile dysfunction in our total study population of sildenafil users (n=231) was 40.3% (n=93); 59.7% (n=138) did not have erectile dysfunction. Of those without erectile dysfunction, 76.1% (n=105) admitted to cannabis use, compared

with 7.5% (n=7) of the subjects with erectile dysfunction. Patients without erectile dysfunction and history of cannabis abuse reported obtaining sildenafil from friends and street vendors significantly more often than non-cannabis users with erectile dysfunction (54.3%, n=57 vs 9.3%, n=8; $P < .0001$).

Conclusion Illicit use of cannabis is a strong predictor of recreational sildenafil use among patients without erectile dysfunction.

Published reports of improved sexual performance have prompted men without erectile dysfunction to use sildenafil inappropriately.¹⁻⁴ Sildenafil has also been used to counteract the impotence-inducing effects of "club drugs" such as ecstasy.⁵

Cannabis, another widely abused street drug, is a known inhibitor of the cytochrome P450 3A4 isoenzyme pathway, the same pathway in which sildenafil is metabolized.⁶ Cannabis can thus potentiate the effect of sildenafil. A case report from 2002 has indicated that a young man using sildenafil and cannabis concomitantly suffered a myocardial infarction.⁷

In this study, we sought to answer

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■ **Who were the subjects, and what were their sexual problems?**

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■ **Where did they obtain sildenafil without a prescription?**

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the following questions:

- What methods did the men use to obtain sildenafil without a prescription?
- Why were the men taking sildenafil?
- Did these men increase the dose without physician supervision?

■ **Methods: Setting, participants, and design**

Two senior resident physicians from the Department of Family Practice at The Brooklyn Hospital Center asked male patients between the ages of 18 and 80 if they would be interested in participating in this descriptive study. Two hundred and thirty-one patients agreed to be interviewed during their outpatient clinic appointments in the Departments of Family Practice and Urology. We conducted these interviews between December 1, 2002 and April 30, 2003.

Patients with and without physician-diagnosed erectile dysfunction who were using sildenafil were included in this study. Patients were excluded if they were taking nitrates, had cognitive disabilities, were female, or if they could not read English.

The 1-page, 35-item questionnaire was read to the subjects by a resident, who provided additional explanations if needed. The researchers noted their responses to questions on demographics, medical history, social history, treatment duration of erectile dysfunction, method of procurement of sildenafil, and knowledge about the indications of sildenafil. The questionnaire was pre-tested on a small sample for comprehension prior to distribution.

We developed descriptive statistics and performed cross-tabulations using SPSS version 11.0 (SPSS, Inc, Chicago, Ill). We used a chi-square test to determine statistical significance between cannabis abuse and illicit sildenafil use. We established statistical significance at $P < .05$. The Institutional Review Board

at the Brooklyn Hospital Center approved our research protocol, and we obtained consent from all the study participants.

■ **Results**

Strong link between cannabis use and recreational sildenafil

TABLE 1 shows the demographic information of the entire study population ($n=231$). Our study found that patient predictors for recreational sildenafil use are a younger unmarried male who smokes cannabis. Of the men in the study, 138 (59.7%) reported erectile function prior to the use of sildenafil.

We decided to examine data from this subgroup of our study population. As shown in **TABLE 2**, patients with erectile function but with a history of cannabis abuse reported obtaining sildenafil from friends, street vendors, and the Internet significantly more often than those with erectile dysfunction who did not use cannabis.

■ **Discussion: Is there a danger?**

Our study showed a strong association between individuals who obtained sildenafil from sources other than a prescribing physician and those who used cannabis. These men purchased this prescription medication from street vendors, friends, family, or via the Internet. Illicit sildenafil users took the medication mainly to improve performance and increase desire—and they often increased the dose of the medication at will. The differences between patients with erectile dysfunction compared with those without were so great that much of our data proved to be statistically significant (**TABLE 1**).

Data from our subgroup of patients who smoked cannabis supported our suspicion that patients who were able to maintain an erection prior to their

FAST TRACK

Illicit use of cannabis is a strong predictor of recreational sildenafil use among patients without ED

TABLE 1

Our study group: Who they were, why they were taking sildenafil

	ALL SUBJECTS (N=231)	WITH ED (N=93)	WITHOUT ED (N=138)	P-VALUE
DEMOGRAPHICS				
Age (years)				
18–30	17 (7.4%)	2 (2.2%)	15 (10.9%)	.03
31–40	56 (24.2%)	1 (1.1%)	55 (39.9%)	<.0001
41–50	68 (29.4%)	19 (20.4%)	49 (35.5%)	.02
51–60	38 (16.5%)	25 (26.9%)	13 (9.4%)	.001
61–70	35 (15.2%)	29 (31.2%)	6 (4.3%)	<.0001
71–80	17 (7.4%)	17 (18.3%)	0 (0.0%)	<.0001
Health insurance				
Self-pay	23 (10%)	4 (4.3%)	19 (13.8%)	.03
Medicaid	73 (31.6%)	30 (32.3%)	43 (31.2%)	.97
Medicare	17 (7.4%)	15 (16.1%)	2 (1.4%)	<.0001
Private carriers	118 (51.1%)	44 (47.3%)	74 (53.6%)	<.42
Marital status				
Married	107 (46.3%)	56 (60.2%)	51 (37.0%)	.001
Unmarried	92 (39.8%)	14 (15.1%)	78 (56.5%)	<.0001
Divorced	32 (13.9%)	23 (24.7%)	9 (6.5%)	<.0001
Drug use				
Yes	121 (52.4%)	9 (9.7%)	112 (81.2%)	<.0001
No	110 (47.6%)	84 (90.3%)	26 (18.8%)	
Marijuana use				
Yes	112 (48.5%)	7 (7.5%)	105 (76.1%)	<.0001
No	119 (51.5%)	86 (92.5%)	33 (23.9%)	<.0001
USE OF SILDENAFIL				
Purchased from friend/street vendor				
Yes	149 (64.5%)	26 (28.0%)	123 (89.1%)	<.0001
No	82 (35.5%)	67 (72.0%)	15 (10.9%)	
Sold to a friend				
Yes	72 (31.2%)	7 (7.5%)	65 (47.1%)	<.0001
No	159 (68.8%)	86 (92.5%)	73 (52.9%)	
Increased dose without physician authorization?				
Yes	150 (64.9%)	40 (43.0%)	110 (79.7%)	<.0001
No	81 (35.1%)	53 (57.0%)	28 (20.3%)	
SEXUAL PROBLEM				
Lack of desire/interest	14 (6.1%)	2 (2.2%)	12 (8.7%)	.08
Lack of erection/ difficulty in achieving erection	82 (35.5%)	69 (74.2%)	13 (9.4%)	<.0001
Difficulty in performance/ endurance	59 (25.5%)	4 (4.3%)	55 (39.9%)	<.0001
Difficulty in orgasm/ ejaculation	14 (6.1%)	3 (3.2%)	11 (8.0%)	.22
Lack of desire/ lack of erection	29 (12.6%)	13 (14.0%)	16 (11.6%)	.74
Lack of desire + difficulty with performance	33 (14.3%)	2 (2.2%)	31 (22.5%)	<.0001
ED, erectile dysfunction				

FAST TRACK

Patients with cardiovascular disease may be at risk of MI due to recreational sildenafil use

TABLE 2

Where did 2 subsets of subjects obtain sildenafil?

SOURCE	NO ED/CANNABIS USERS (N=105)	ED/NON-CANNABIS USERS (N=86)	P-VALUE
PCP/specialist	12 (11.4%)	75 (87.2%)	<.0001
Over-the-counter*	8 (7.6%)	2 (2.3%)	.19
Friends/street vendors	57 (54.3%)	8 (9.3%)	<.0001
Internet	28 (26.7%)	1 (1.2%)	<.0001

* Purchased without a prescription from a privately owned business (such as a convenience store).

use of sildenafil used the medication to improve sexual performance and counteract alterations in libido caused by cannabis.⁸

Limitations of this study

The main limitation of this study was that the data obtained were self-reported. A chart review could have provided objective data on the patients' ED diagnosis and medications.

Conclusion

The illicit use of sildenafil raises many issues. Patients with cardiovascular disease, even without the use of nitrates, may be at risk of myocardial infarction. Be aware that younger, male patient with an admitted history of drug abuse may be taking sildenafil without your knowledge, even without a diagnosis of erectile dysfunction. ■

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