

THE EMERGING OF XYLAZINE AS A NEW DRUG OF ABUSE AND ITS HEALTH CONSEQUENCES AMONG DRUG USERS IN PUERTO RICO.

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INTRODUCTION

Sentinel drug forecasting systems often fail to adequately identify and assess emerging trends in the use of illegal drugs, resulting in the fact that public health systems are rarely able to adequately mobilize local, regional and national prevention and treatment systems in a timely manner (Clatts et al., 2002). The spread of animal tranquilizers as drug adulterants or recreational drugs in Puerto Rico is a prime example of this epidemiological problem (Rodríguez et al., 2008). One of these animal tranquilizers, Xylazine, has been recently reported in the mass media and among health practitioners to be dominating the drug scene in Puerto Rico (Rivera-Vargas, 2005). Xylazine is an animal tranquilizer, a partial alpha-2 adrenergic agonist with characteristics and toxic actions similar to the phenothiazines and clonidine (Capraro, Wiley, & Tucker, 2001). If used in humans, it is known to produce marked hypotension and bradycardia secondary to vagal stimulation (Hoffmann, Meister, Golle & Zschesche, 2001). Severe intentional intoxication from Xylazine has been reported from inhalation (Capraro, Wiley, & Tucker, 2001) and accidental injection, and as three years ago, an adulterant in heroin in several cases of death at the Philadelphia Medical Examiner's Office was reported (Wong, Curtis & Wingert, 2008). Xylazine became known to the general public in Puerto Rico by a series of reports in the popular media that associated the use of this drug to various deaths in a criminal justice hospital in Aguadilla (Rivera-Vargas, 2005). The aim of this study was to document the use of Xylazine and health-related problems among a sample of drug users in Puerto Rico.

METHODS

The target population from which the sample was drawn included drug users out of drug abuse treatment, residing in communities of the San Juan metropolitan area in Puerto Rico. A total of 89 drug users were recruited from 12 communities using a variety of outreach strategies. Ethnographic mapping strategies were used to identify drug markets and other venues where drug users were known to congregate. At predetermined sites and times, outreach workers approached a drug user, determined eligibility, and invited the individual to participate. Individuals were considered eligible if they were at least 18 years of age, had used drugs in the last 30 days, and had not been enrolled in drug abuse treatment within the last 30 days. A short questionnaire developed for the study collected information on sociodemographic characteristics, Xylazine use and health-related problems. Two focus groups were conducted to discuss the details related to Xylazine acquisition, use, health-related problems and utilization awareness.

RESULTS

The sample was predominantly male (70.8%) with a mean age of 37.2±9.6 years (Table 1). The mean number of years of drug use was 14.3±9.7, with a mean frequency of drug use of 5.9±4.1 times daily. The prevalence of Xylazine use was 80.7% (Figure 1). Xylazine users were more likely to be males, less than 30 years old and living in the rural area (Figure 2). The main route of administration of Xylazine was injection (84.5%), but 14% reported the use of Xylazine by inhalation (Table 2). More than 40% of the sample used Xylazine in a mixture with speedball. Overall, the mean number of years of Xylazine use was 3.4±2.9. In terms of health-related problems, 21.1% reported at least an overdose episode, and 35.2% reported skin lesions (Figure 3). On the other hand, 28.2% of the sample reported an increase in the frequency of injection. Results of the focus groups revealed that drug users tend to recognize that Xylazine is present in a mixture of speedball based on its effects, taste, color of the drug (dark brown) and odor. Some of the participants reported that occasionally the drug solution crystallized during the drug preparation process.

TABLE 1
Sample Characteristics and Patterns of Drug Use

	n	(%)
Overall	89	—
Gender		
Female	26	29.2
Male	63	70.8
Age in years	mean=37.2	sd= 9.6
<30	20	23.5
30-39	34	40.0
40-49	20	23.5
≥50	11	12.9
Years of drug use	mean=14.3	sd= 9.7
≤5	11	12.8
6-9	16	18.6
10-15	35	40.7
≥16	24	27.9
Frequency of drug use	mean=5.9	sd= 4.1
≤3 times	11	31.4
4-6 times	11	31.4
≥7 times	13	37.1

FIGURE 1
Prevalence of Xylazine Use During the Last Year

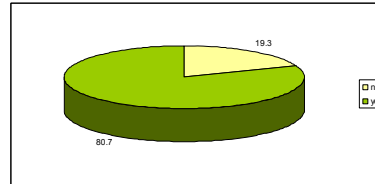


FIGURE 2
Xylazine Use According to Sociodemographic Characteristics

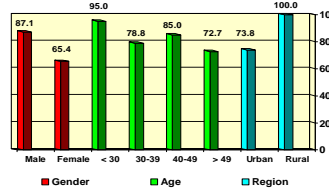


TABLE 2
Patterns of Xylazine Use and Health-Related Problems

	n	%
Patterns of Use		
Xylazine use		
No	17	19.3
Yes	71	80.7
Route of administration		
Sniffing	10	14.3
Injecting	60	84.5
Smoking	1	1.4
Mixed with		
Alone	5	7.0
Cocaine	27	38.0
Heroin	9	12.7
Speedball	30	42.3
Years of xylazine use	mean=3.4	sd= 2.9
Health-related problems		
Overdose episodes		
No	56	78.9
Yes	15	21.1
Skin lesions		
No	46	64.8
Yes	25	35.2
Increase frequency of injection		
No	51	71.8
Yes	20	28.2

FIGURE 3
Skin Lesions Among Xylazine Users



CONCLUSION

The use of Xylazine among injection drug users in Puerto Rico seems to be an emerging public health problem. More research is needed to identify the risk factors associated with Xylazine use and its health consequences.

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