



The prevalence and the risk factors associated with tranquilizer abuse in the population with the age of over 18 years in Iran

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Original Article

Abstract

BACKGROUND: Non-medical use of prescription drugs is a growing global health concern. The real scale of the problem is unknown. Statistics indicate that taking painkillers and sedatives leads to dependency and addiction to the drugs administered. Therefore, this study aimed to determine the prevalence and risk factors of drug abuse for causing lethargy and sedation in the population with the age of over 18 years in Sanandaj City, Iran.

METHODS: This descriptive-analytic study was conducted in year 2015. The sample size was 1750 people, and cluster sampling method was performed from all health care centers in Sanandaj City. Data were collected using a researcher-made questionnaire to assess intractable consumption and tranquilizer drug abuse, and addiction to these medications. Data were analyzed using chi-square test and logistic regression analysis to identify socio-demographic and risk behavior correlated with abuse tranquilizer or sedative drugs.

RESULTS: 80% of the participants had intractable consumption, and 18% of those with intractable consumption had dependency to these drugs (having two symptoms of withdrawal and denial of medications according to DSM-IV). The factors affecting consumption and drug abuse can be arbitrary, job, availability of pharmaceuticals, insurance, family history of addiction, marital status, physical or mental illness, and conflict in the family.

CONCLUSION: Dependency to lethargy-inducing drugs and tranquilizers was high in the study population. So, planning to make people aware of the consequences of taking drugs, especially tranquilizers and lethargy-inducing drugs, is very important.

KEYWORDS: Substance Abuse, Pain, Chronic Pain, Drugs

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Introduction

The growing non-medical use of prescription drugs is a global health concern. Non-medical use of prescription drugs such as sedatives, tranquilizers, stimulants, and pain relievers, is defined as taking medications without a

doctor's prescription, for periods longer than prescribed, or for reasons other than the medication's intended purpose for example 'to get high'.¹ Drugs include tranquilizers, and in the second rank, pain killers, which are among sensitive substances which may create dependence and consequent damage.² If these drugs be used under medical supervision with an appropriate dose, there are no special consequences; but, if taken without

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prescription and medical supervision, and with inappropriate continuous doses, they could endanger physical and mental health. They could also create dependence, addiction, and even death.^{3,4} Evidence also shows that dependence on these drugs can underlie addiction and consumption of other illicit drugs.⁵

The magnitude of this problem is unknown, it is mostly due to the lack of information about non-medical use of prescription drugs, which are related to gaps in the monitoring of the legal use of drugs for medical purposes that is prescribed by the healthcare professionals.⁶ Lethargy and sleep-inducing drugs which are widely used in Iran, should not be underestimated. Their withdrawal symptoms may be associated with seizures; they are hazardous and more challenging to quit compared with other addictive substances.⁷ After cannabis, non-medical use of opioid analgesics in the United States has the second rank concerning drug abuse.^{8,9} In Switzerland, after alcohol, cigarettes, and cannabis consumption in men, taking drugs without prescription is worrying.⁹ In 2005, 6.6% of the American teens reported the abuse of tranquilizers and pain killers.¹⁰

A study by Guo et al. in 2012, to determine the prevalence of non-medical use (without prescription) of pain killers among 11,906 high school students in south China showed that, 11.3% of the students used tranquilizers without prescription.¹¹ Another study in Rafsanjan, Iran, showed that 7.4% of the students reported abuse of benzodiazepines.¹² The variables associated with intractable consumption include age, sex, race, celibacy, unemployment, low education levels, poor health, insurance coverage, history of smoking, alcohol, and other drugs,^{13,14} low income families, lack of family support,¹⁵ conflict in the family,¹⁰ addiction of relatives or peers, and increase in drugs availability.^{1,16} Most of the studies and monitoring tools are related to

drug abuse and illegal use of drugs or consumption of alcohol and tobacco;¹⁷⁻²⁰ however, non-medical use of prescription drugs is a unique category of substance abuse, and need to be addressed at different levels.⁶

Considering the prevalence of intractable consumption and its consequences, in order to design interventions, understanding the underlying factors associated with this behavior is important. Due to the lack of information regarding intractable consumption, and dependence on tranquilizers and lethargy-inducing drugs in Sanandaj, Iran, this study aimed to determine the prevalence and factors associated with the abuse of tranquilizer and lethargy-inducing drugs in the population over 18 years of age. In understanding the current situation, findings of this study may develop appropriate intervention programs to increase public awareness, and make a change in the behavior of the future population.

Materials and Methods

This descriptive-analytic study was conducted in 2015. As the amount of the prevalence of drug abuse was considered 10 percent, with 95% of confidence interval, the required sample size was calculated as 864; in compliance with Scheme 2, the total volume of sample was calculated as 1728 participants. For this purpose, 70 clusters of 25 patients were selected and cluster sampling was performed from different areas of the city of Sanandaj. The number of clusters in each region were determined according to the number of households and population covered by health centers in the region (70 clusters of 25 people). After determining household cluster heads by referring to the beneficiary houses, the questionnaire was completed for all persons over 18 years old. Questionnaires completing method was interview, especially for the illiterates.

Data were collected using a researcher-made questionnaire to assess intractable

consumption and tranquilizer drug abuse, and addiction to these medications. The questionnaire was consisted of three sections. The first section included demographic variables (age, sex, occupation, education, marital status, income, and insurance coverage), variables associated with the family (family history of addiction and satisfaction rate), and a question on the history of medical or psychiatric conditions; the second section was consisted of data related to intractable consumption (how to obtain the drug, type of drug, and duration of usage); and the third section was consisted of data related to addiction and drug dependency (signs and symptoms of withdrawal and suspension of drugs). Finally, an optional question was asked to determine the dependency to cigarette, hookah, and other narcotics. Content and face validity method was used to determine the validity of the questionnaire.

First, using literature review, searching the data bases and experts' opinion, three sections of the questionnaire were adjusted. Then, the questionnaire was presented to three faculty members at Kurdistan University of Medical Sciences, Sanandaj, Iran, and some physicians working in the clinic for addiction treatment and counseling centers for behavioral disorders. Their opinions were applied, and final version of questionnaire was prepared. To determine the reliability of questionnaire, a pilot study on a pilot sample was conducted, and the necessary changes were made. Eventually, questionnaire reliability was confirmed (Cronbach's alpha = 0.92). Informed consent was obtained and the purpose of the study was explained to study population.

Data were analyzed using chi-square test

and Multivariate logistic regression via SPSS software (version 16, SPSS Inc., Chicago, IL, USA).

Results

The age range of study participants was 18 years (Table 1).

Table 1. Demographic variables of participants

Variable		n (%)
Age (year)	Under 30	918 (35.5)
	30 to 39	506 (28.9)
	40 to 49	327 (18.7)
	50 to 59	178 (10.2)
	60 and above	124 (7.1)
Occupational status	Full time	604 (34.5)
	Part-time (with irregular income)	147 (8.4)
	Unemployed	213 (12.2)
	Housekeeper	323 (18.4)
Educational status	Student	466 (26.6)
	Illiterate	200 (11.4)
	Elementary	231 (13.2)
	Secondary	320 (18.5)
	High school	554 (31.6)
	Higher education	449 (25.6)

A total of 883 participants (50.4%) were women and 870 (49.6%) were men. In terms of marital status, 469 (26.8%) were single, 1151 (65.7%) were married, 71 (4.1%) were divorced, and 62 (3.5%) were widowed. Total of 208 (11.9%) participants have reported a history of physical or mental illness and 16% had addiction family history. Regarding health insurance services, 585 (33.4%) participants were not covered by any health insurance services.

Considering family relationships satisfaction, participants were divided into two groups, singles in their relationship with their parents, and married people in their relationship with their spouses (Table 2).

Table 2. The status of satisfaction level in the family

Marital status	Satisfaction level				
	Highly satisfied	Satisfied	Moderate	Unsatisfied	Highly Unsatisfied
Single	15.5	9.4	2.2	1.4	1.4
Married	39.2	20.1	3.2	3.2	1.4

Table 3. The relationship between socio-demographic factors and drug dependency

Variable		Dependence [n (%)]		P*
		Yes	No	
Age	Under 30 years	116 (23.0)	388 (77.0)	0.013
	30 to 39 years	114 (26.6)	315 (73.4)	
	40 to 49 years	45 (17.5)	212 (82.5)	
	50 to 59 years	23 (15.8)	123 (84.2)	
	60 and above	20 (27.4)	53 (72.6)	
Occupational status	Full-time	81 (16.5)	410 (83.5)	< 0.001
	Part-time (with irregular income)	51 (41.5)	72 (58.5)	
	Unemployed	35 (22.2)	123 (77.8)	
	Housekeeper	69 (26.4)	192 (73.6)	
	Student	82 (21.8)	294 (78.2)	
Owner and tenant	Owner	143 (17.6)	669 (83.0)	< 0.001
	Tenant	175 (29.3)	422 (70.6)	
Marital status	Married	78 (20.7)	298 (79.3)	< 0.001
	Single	196 (21.1)	731 (78.9)	
	Separated from their spouse	39 (59.1)	27 (40.9)	
	Widow	5 (12.8)	34 (87.2)	
Physical or mental illness	Sick	61 (36.7)	105 (63.3)	< 0.001
	Healthy	257 (20.7)	986 (79.3)	
Insurance coverage	Insured	178 (19.4)	740 (80.6)	< 0.001
	Uninsured	140 (28.5)	351 (71.5)	
Family history of addiction	Positive	86 (34.8)	161 (65.2)	< 0.001
	Negative	232 (20.0)	930 (80.0)	
Substance abuse	People who smoke and used hookah	162 (31.1)	358 (68.8)	< 0.001
	Not smoke	156 (17.6)	733 (82.1)	
	People who used narcotics reported tranquilizers abuse	116(40.5)	171 (59.5)	
	Not abuse	199 (17.8)	917 (82.1)	

*Chi-square test

80% of the participants had intractable consumption; and 18% of the participants with intractable consumption had dependency to these drugs. The results showed a significant relationship between age and dependency on drugs. Greatest amount of substance abuse (27.4%) were found in the participants over 60 years (Table 3).

There was also a significant relation between occupation and tranquilizer dependency ($P < 0.001$); so that 41.5% of the part-time people (with irregular income) were dependent to tranquilizers. There was a significant association between the owner and tenant dependency on drugs ($P < 0.001$). 29.3% of the people who reported drug dependency were tenants. People separated from their spouse with 59.1%, had the highest drug abuse. There was a significant relationship

between marital status and dependency on tranquilizers ($P < 0.001$). There was positive correlation between the availability of drugs and drug dependency ($P < 0.001$). 43.4% of participants mentioned drug availability as the reason for intractable consumption, and 27.7% have reported drug abuse. There was a significant correlation between physical or mental illness, insurance coverage, and family history of addiction with drugs dependency ($P < 0.001$). 36.7% of people who had history of disease, reported drug abuse. 28.5% of people who were not covered by any health insurance had drug abuse, and 34.8% of those who had family history of addiction had drug dependency (Table 3).

Conflict in the family were among the factors that played a role in drug dependency to tranquilizers ($P = 0.014$).

Table 4. Logistic regressions for tranquilizers/sedatives abuse and self-medication, odds ratios and 95% confidence intervals for explanatory variables

Explanatory variables*	P	Explanatory variables (b)	
		Odds ratio	95%CI
Age (under 30 years/other)	0.357	1.018	0.981-1.056
Sex (female/male)	0.321	1.305	0.771-2.209
Occupational status (full time/other)	0.011	0.968	0.758-1.235
Owner (owner/tenant)	0.372	1.310	0.725-2.367
The number of family members (4 member/other)	0.894	1.013	0.842-1.219
Marital status (married/other)	0.289	1.649	0.655-4.692
Positive income	0.031	1.000	1.000-1.000
physical or mental illness (Sick/Healthy)	< 0.001	1.626	0.607-4.357
Family history of addiction (not history/ family history)	< 0.001	1.645	0.762-3.550
Insurance coverage (uninsured/ insurance coverage)	< 0.001	1.040	0.569-1.899
Educational status (illiterate/other)	0.633	1.079	0.790-1.474
Positive substance abuse	0.019	1.023	0.563-1.592

* Variable(s) entered on step 1: age, sex, job, owner, number of family members, marital status, income, physical or mental illness, substance abuse, family history of addiction, education, insurance coverage.

CI: Confidence interval

Most of the substance abuse in singles (31.5%), was in those who were unsatisfied in their family relations with their parents. 37.5% of married people, who were very dissatisfied in their relations with their spouse, had the greatest dependency on drugs ($P = 0.020$). Substance abuse was one of the factors affecting drug dependency ($P < 0.001$). 31.1% of people who smoke and used hookah, and 34.7% of people who used narcotics, reported tranquilizers abuse (Table 3).

It should be noted that in univariate analysis between sex, education, number of family members, and income, with drug abuse, no significant correlation was seen. The multivariate analyses of tranquilizers/sedatives abuse showed a strong association with job, income, other illicit substance use, family history of addiction, insurance coverage, physical or mental illness; these were strongly associated with tranquilizers/sedatives abuse (Table 4).

Discussion

The present study showed that 80% of the study population had intractable consumption. Of this number, 18% reported tranquilizers abuse. The results showed a high percentage of addiction and tranquilizer abuse. Although the results of our study included general

population, and showed a greater percentage of dependency on tranquilizers, it was similar to most of the studies on this subject.

In a study by Bali et al., the prevalence of intractable consumption was 10%, and 13% of those who used tranquilizers without physician prescription, were dependent to drugs.²¹ Moreover, in a study by Becker et al., 2.3% of participants used tranquilizers for non-medical purpose, and 8.9% of the people had dependency to these drugs.¹³

On the one hand, available data indicates increased substance abuse, and prescribing medicines are rapidly becoming the drug of choice by various sectors of society; on the other hand, the states simply cannot declare these substances illegal, as these medications are essential for many people around the world to achieve and maintain good quality of everyday life. So, a part of addiction in the community will be ignored; which has serious consequences, including accidents caused by drug overdose, poisoning, and death due to substance abuse.²²

The results of this study showed the individual and social factors influencing drug abuse, including age, occupation, being renter, the history of disease, tobacco and other illegal substances use, family history of addiction, lack of insurance coverage, drug availability, and the

family's conflict. In this regard, our study was similar to the study by Becker *et al.*,¹³ which have evaluated the same factors. In a study by Kokkevi and Stefanis,²³ non-medical use of drugs was related to using other substance, and family satisfaction. In Guo *et al.* study,¹¹ the non-medical use of drugs in students was associated with the satisfaction from relationships with parents, teachers, and friends.

Family tensions and discontent of people from their relationship with other family members are among the problems facing our community. It can be said that a family history of addiction somehow, caused the dissatisfaction of people from their family relationship. Informing families and also teaching life skills to them, and establishing a warm, friendly, and free of tension environment could be effective to reduce family harms, including addiction.²⁴

In the present study, no significant difference was found between sex and non-medical use of drugs which was consistent with the study by Guo *et al.*,¹¹ but was not consistent with Kokkevi and Stefanis study²³ which showed that women were tranquilizer consumers more.

In our study, the motivation of 73.6% of participants to intractable consumption was pain relief; which was similar to the findings of Boyd²⁵ who showed that 75% of students used tranquilizers for insomnia, and 79% used analgesics for pain relief. In our study, 1.5% of participants reported euphoria as their motivation to intractable consumption. It had a significant association with drug dependency. In the study by Boyd,²⁵ 11% have reported drug abuse for the sake of euphoric experience.

In Iran, the drug use culture is incorrect; unfortunately, access to tranquilizers is very easy anytime and anywhere; and a large number of participants mentioned high costs of health services and health insurance as the reason for intractable consumption. In this regard, interventional planning to reform drug

distribution system, and reducing health care costs is necessary. Moreover, training programs for all age and sex groups regarding the ration for prescribing drugs use, and the consequences of intractable consumption can be effective to disseminate correct culture of drug use.

This was the first study to examine addiction to tranquilizers in Iran. The strength of this study was high volume of samples that were included in the general population in Sanandaj City, from different regions and sectors.

The study also has several limitations:

1. In this study, young people under 18 years were not included.
 2. Awareness on the effects of self-medication was not assessed.
 3. Since it was a self-reported study, so data accuracy deliberate depended on the individuals.
 4. As this study was conducted in Sanandaj City, the results could not be generalized to other cities.
 5. Rural community has not been evaluated.
- Prevention programs of substance abuse toward general people should be expanded and take care to educate people on the risks of abuse of the drugs.

Conclusion

The findings show a high level of self-medication in the studied community. Moreover, self-medication is directly related to the consumption of tranquilizers and painkillers. Thus, controlling the sale of medicines in pharmacies as well as the appropriate prescription by the physicians is necessary; besides, extensive and continuous information to the public about the evils of self-medication is necessary.

Conflict of Interests

Authors have no conflict of interests.

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