

Gender Differences in Risks and Pattern of Drug Abuse in Egypt

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ABSTRACT

Background: Causes and consequences of drug abuse and dependence are different between males and females. **Objective:** To identify possible gender differences in the ways of first exposure to drugs, in their risks of abuse, and the pattern of drug dependence. **Methods:** Four hundred and fifty seven patients of drug abuse who attended outpatient clinic in Neuropsychiatry Department in Tanta University Hospital along the period from June 2006 to June 2009 were classified into two groups according to gender. The 2 groups were assessed using DSM IV semi-structured interview and compared together regarding; Age, age of beginning of drug use, duration of abuse, educational level in years, occupation, marital state, first drug used, number of abused drugs, route of use, possible risk factors, cause of asking help and comorbid psychiatric conditions. **Results:** Males started drug abuse earlier in age than females with longer duration of addiction. Single males are more vulnerable to abuse than females. Drug abuse is more common in female students and in male workers. Cannabis followed by opiates then alcohol and analgesics are common in males, while in females analgesics ranked first followed by anticholinergics then cannabis. Peer pressure was the most common motivating factor for drug abuse in males in contrary to family troubles and sexual abuse in females. Anxiety disorders are more common in males while depressive disorders in females. **Conclusion:** There are many gender differences in drug dependence should be considered while planning treatment and prevention strategies for achieving optimal outcome. [Egypt J Neurol Psychiat Neurosurg. 2010; 47(3): 413-418]

Key Words: addiction, substance abuse, gender difference.

INTRODUCTION

In Egypt, drug dependence is considered one of the serious problems that worry both the people and government; however, epidemiological data on drug dependence are still few¹.

A preliminary community report of the Egyptian national research on addiction was released in 1996. This report was conducted in five governments out of the twenty-six constituting the republic of Egypt at that time. The project involved a stratified sample of both sexes, over the age of 16 (N=16,645). The report addressed the characteristics of those who used substances, at least once versus those who did not use psychoactive substance at all. But, the report didn't address the gender differences in drug abuse in Egypt².

Gender-based differences in drug abuse may emanate from a biomedical (genetic, hormonal, anatomical and physiological), psychosocial (population-based risk factors) or even a more global perspective³.

Traditionally, research on the development and consequences of drug abuse and dependency has focused on men, however more recent research in women elucidated significant differences between both males and females in the causes and consequences of drug abuse and dependence. For example, childhood sexual abuse has been associated with drug abuse in women in several studies. Up to 70% of women in treatment report histories of physical and sexual abuse with victimization beginning before 11 years of age and occurring repeatedly⁴.

The aim of the study was to identify possible gender differences in the demographic characteristics of drug dependent women and men, their motives of dependence, and the pattern of drug dependence. Understanding of these differences, and incorporating that understanding into drug dependence prevention and treatment, can improve outcomes.

SUBJECTS AND METHODS

Four hundreds and fifty seven patients of drug dependence who attended outpatient clinic in Neuropsychiatry department in Tanta University hospital along the period from June 2006 to June 2009 were classified into two groups according to

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their gender. The 2 groups (319 males and 138 female) were assessed by one of the research team using the MINI International Neuropsychiatric Interview (5); which was translated into Arabic by Ghanem et al. (1999). Both groups were compared together regarding; age, age of beginning of drug use, duration of abuse, educational level in years, occupation, marital state, first drug used, number of abused drugs, route of use, possible risk factors, cause of asking help, number of previous treatment trials and comorbid psychiatric conditions.

Consent of members of the study sample was taken through witnessed verbal consent after clarifying objectives of the study and confidentiality of obtained data.

Statistical Analysis

The collected data was organized and statistically analyzed using Minitab 15 software statistical computer package. The mean and standard deviation was used for presentation of quantitative data. The student (t) test was used for comparison between two means. For qualitative data the number and percent distribution was calculated and Chi square test was used for comparison between studied groups. The 5% level of significance was adopted for interpretation of tests of significance.

RESULTS

The present study included 457 addicts. The majority of studied addicts aged 20-40 years (81.4%). Males represented the majority of sample size (319, 70%). Females were 138 (30%). Males were found to start drug abuse at a significantly younger age compared to females (18.76 ± 4.10 years, compared to 20.81 ± 5.12 years, respectively).

Duration of addiction was found significantly higher among males (8.67 ± 3.15 years) compared to females (5.60 ± 1.74 years) (Table 1). The duration of addiction was found to decrease with increased educational level. There was no significant difference between males and females in that respect.

Addicts who ever married were found to have significantly higher duration of drug use of 13.05 ± 6.63 compared to 7.37 ± 4.53 among single addicts. Single marital status was reported by 60.6%. Single male addicts were significantly higher than females (60.50% versus 28.98% respectively) (Table 1).

In males, the prevalence of drug dependence was the highest among skilled workers (36.05%), unemployed (22.25%) and professionals (18.18%), while the lowest percentage was among manual workers (5.95 %), employees (8.46%), and students (9.09%). In females the highest percentage was

among the students (50.75%) followed by unemployed (36.23%) and manual workers (10.77%), while the lowest percentage was among skilled workers (1.44%), employees (5.07%), and professionals (5.79%), (Table 1).

The majority of studied addicts were current smokers (96.86% in males and 92.75% in females). Most of the females are cigarette smokers, 5.18 % were Goza smokers, but only 14.82% smoked cigarettes and Goza (Table 2).

Among males, bhang and hashish ranked first (64.89%) then opiates (cough syrups 35.10% and opiates, 25.39%), followed by analgesics (24.76%) and then alcohol (24.45%) (Table 2). In females, analgesics ranked first (52.89%) followed by anticholinergics (21.73%), cannabis (16.66), and cough syrups (10.86%).

Gender differences showed that females use more analgesics (mostly Tramadol 52.89%) followed by anticholinergics (21.73%) then Volatile substances (2.89 %). Other drugs were less used than males (Table 2).

In males, the most common motive for initiation of drug abuse was found to be peer pressures which was reported by 36.67% followed by seeking pleasure (20.06%), improve mood (19.12%) and improve sex and show masculinity (18.18%) (Table 2).

In Females, the most common motives for initiation of drug abuse was found to be family troubles and sexual abuse (31%), followed by mood improvement (29%) followed by seeking pleasure (13%) and curiosity (13%) (Table 2).

The majority of studied addicts were abusing more than one drug (84.6%) and more than one half were abusing three or more drugs (53.2%). In females, abuse of more than one drug was found in 53% which is significantly less than males. The most common place for drug intake was found to be home (87%) followed by gathering of friends (61%). Injecting drugs was practiced by 62% of female addicts which is statistically more significant than males ($P < 0.05$).

Males showed significantly more trials for treatment than females. The main motives for seeking treatment trial in males were found to be family troubles (17.24%), dissatisfaction with being addict (16.3 %), financial troubles (15.98%), work troubles (12.53%) and health troubles (11.28%).

In females, the main motives for seeking treatment trial were found to be, Family troubles (23.1%), Health troubles (18.11%), behavioral and psychological disturbances (15.94%), Financial troubles (15.21%), followed by other factors (Table 3).

Depressive symptoms are common in both males (31.03 %) and females (39.85%). Personality disorders were the most common comorbid

psychiatric disorder in females, (26.81%) followed by major depression (26.08%) followed by anxiety disorders (13.76%) and lastly by psychotic disorders (4%) and bipolar disorder (2.17%). In males; personality disorders were the most common comorbid disorder (35.10%) followed by anxiety

disorders (31.03%), major depression (15.04%) and psychotic disorders (6.58%). Major depression was or prevalent in females than males, while anxiety disorders were more common in males than females (P<0.05), (Table 3).

Table 1. Characteristics of the studied addicts (n=457).

| Character | | Males N=319 | | Females N=138 | | t/ x ² | p |
|------------------------------|-----------------------|----------------|--------|------------------|--------|-------------------|--------|
| 1-Age in years | - Range | 14-45 | | 17-45 | | -4.52 | 0.000* |
| | - Mean | 28.70 | | 32.33 | | | |
| | - ±SD | 7.55 | | 8.04 | | | |
| 2-Residence** | - Urban | 223 | 69.90% | 123 | 89.13% | 9.179 | 0.002* |
| | - Rural | 96 | 30.10% | 25 | 10.87% | | |
| 3-Duration of addiction | - Range | 2-18 | | 2-9 | | 13.31 | 0.000* |
| | - Mean | 8.67 | | 5.60 | | | |
| | - ±SD | 3.15 | | 1.74 | | | |
| 4-Marital status** | - Single | 193 | 60.50% | 40 | 28.98% | 81.195 | 0.000* |
| | - Married | 99 | 31.03% | 38 | 27.53% | | |
| | - Divorced or widowed | 27 | 8.47% | 60 | 43.47% | | |
| 5-Educational level in years | - Range | 0-20 | | 2-20 | | 0.23 | 0.89 |
| | - Mean | 12.8 | | 11.8 | | | |
| | - ±SD | 7.33 | | 5.16 | | | |
| 6-Occupation | - Unemployed | 71 | 22.25% | 50 | 36.23% | 146.972 | 0.000* |
| | - Manual workers | 19 | 5.95% | 1 | 10.72% | | |
| | - Skilled workers | 115 | 36.05% | 2 | 1.44% | | |
| | - Employees | 27 | 8.46% | 7 | 5.07% | | |
| | - Professionals | 58 | 18.18% | 8 | 5.79% | | |
| | - Students | 29 | 9.09% | 70 | 50.75% | | |

SD standard deviation, x² Chi square

* Significant at p<0.05

** Data are expressed as number and percentage

Table 2. Pattern of drug dependence among studied subjects.

| Character | | Males N=319 | | Females N=138 | | x ² | P |
|---|---|----------------|--------|------------------|--------|----------------|--------|
| | | n | % | n | % | | |
| 1-Smoking | - Current smoker | 309 | 96.86 | 128 | 92.75% | 4.88 | 0.087 |
| | - Ex smoker | 5 | 1.56 | 7 | 5.07% | | |
| | - Non-smoker | 5 | 1.56 | 3 | 1.44% | | |
| 2- type of smoking | - Cigarettes | 179 | 57% | 108 | 80% | 38.569 | 0.000* |
| | - Goza | 2 | 0.63% | 7 | 5.18% | | |
| | - Mixed | 133 | 42.37% | 20 | 14.82% | | |
| 3-Abused drugs | - Benzodiazepines | 64 | 20.06% | 11 | 7.97% | 155.713 | 0.000* |
| | - Cannabis (bhang-hashish) | 207 | 64.89% | 23 | 16.66% | | |
| | - Alcohol | 78 | 24.45% | 4 | 2.89% | | |
| | - Volatile substances | 4 | 1.25% | 4 | 2.89% | | |
| | - stimulants | 4 | 1.25% | 3 | 2.17% | | |
| | - Opiates (morphine-heroin) | 81 | 25.39% | 9 | 6.52% | | |
| | - Anticholinergics | 25 | 7.83% | 30 | 21.73% | | |
| | - Cough syrups | 112 | 35.10% | 15 | 10.86% | | |
| 5-Motives for drug abuse | - Analgesics (Tramandine-Stadol-Nupain) | 79 | 24.76% | 73 | 52.89% | 133.267 | 0.000* |
| | - Peer pressure | 117 | 36.67% | 15 | 11% | | |
| | - Seeking pleasure | 64 | 20.06% | 18 | 13% | | |
| | - Improve mood | 61 | 19.1 | 40 | 29% | | |
| | - Improve sex and show masculinity | 58 | 18.12% | 8 | 6% | | |
| | - Curiosity | 20 | 6.26% | 18 | 13% | | |
| | - Self medication | 14 | 4.38% | 10 | 7% | | |
| | - To be social | 5 | 1.56% | 8 | 6% | | |
| - Others (family troubles- sexual abuse at childhood) | 10 | 3% | 54 | 39% | | | |

x² Chi square

* Significant at p<0.05

Table 3. Motives for treatment and comorbid psychiatric disorders in drug addicts.

| Character | | Males N=319 | | Females N=138 | | x ² | p |
|-----------------------------------|---|----------------|--------|------------------|--------|----------------|--------|
| | | N | % | N | % | | |
| 1-Motives for treatment | Family troubles | 55 | 17.24% | 32 | 23.1% | 26.369 | 0.003* |
| | Financial troubles | 51 | 15.98% | 21 | 15.21% | | |
| | Work troubles | 40 | 12.53% | 3 | 2.17% | | |
| | Health troubles | 36 | 11.28% | 25 | 18.11% | | |
| | Behavioral and psychological disturbances | 33 | 10.34% | 22 | 15.94% | | |
| | Dissatisfied with being drug addict | 52 | 16.3% | 10 | 7.24% | | |
| | Withdrawal symptoms and drug overdose | 24 | 7.52% | 15 | 10.86% | | |
| | Failure at study | 11 | 3.44% | 4 | 2.89% | | |
| | To get married | 9 | 2.82 | 4 | 2.89% | | |
| | Impotence | 4 | 1.25 | 1 | 0.72% | | |
| 2-Attempts at treatment | Court orders | 4 | 1.25 | 1 | 0.72% | 13.596 | 0.004* |
| | Voluntary | 118 | 36.99% | 42 | 30.43% | | |
| | Referred by family | 164 | 51.41% | 62 | 44.42% | | |
| | Referred by police | 3 | 0.94% | 1 | 0.72% | | |
| | Multiple referral | 34 | 10.56% | 33 | 23.91% | | |
| 3-Co morbid psychiatric disorders | Depressive symptoms | 99 | 31.03% | 55 | 39.85% | 23.866 | 0.000* |
| | Major depressive disorder | 48 | 15.04% | 36 | 26.08% | | |
| | Bipolar disorders | 14 | 4.38% | 3 | 2.17% | | |
| | Anxiety disorders | 99 | 31.03% | 19 | 13.76% | | |
| | Psychotic disorders | 21 | 6.58% | 6 | 4.3% | | |
| | Personality disorders | 112 | 35.10% | 37 | 26.81% | | |

* Significant at p<0.05

DISCUSSION

Drug addiction is one of the serious problems that worry the Egyptian government, as it deals with young people within the age of work and productivity. It may lead to many problems such as bad social adaptation, decreasing productivity at work or dismissing from job⁶.

This study revealed that males started drug use earlier than females and had longer duration of dependence compared to females. Also, results of this study suggest that males abuse drugs more commonly than females. The National Survey on Drug Use and Health (2004) reported that; 9% of both females and males aged 12 to 17 were dependent on or abusing alcohol or an illicit drug. Among older age groups, males were more likely than females to be dependent on or abusing alcohol or an illicit drug. Males aged 18 to 25 had a higher rate of dependence or abuse than females in the same age group, and males aged 26 or older were more than twice as likely to be dependent on or abusing alcohol or an illicit drug compared with females aged 26 or older⁷. In Egyptian culture, males have more opportunity to abuse drugs than females at earlier age due earlier work career and more freedom. In USA, National Institute on Drug Abuse, 2000, reported that men are more likely than women to have opportunities to use drugs, but men and women given an opportunity to use drugs for the first time are equally likely to do so and to progress

from initial use to addiction. However, women and men appear to differ in their vulnerability to some drugs⁸.

Concerning the educational level, the highest percentage of addicts in this study was that of secondary school education while illiteracy was observed among 10.6% which is lower than that of general population which is estimated at 38%.

Prevalence of addiction varied with Occupations with the highest percentage for manual workers while unemployment was reported by 22.3% which is higher than general population of Egypt (8%).

The majority of studied addicts were smokers. Similar studies in Egypt reported the same observations related to addicts' profile as observed in this study⁹⁻¹².

In the present study, motives for drug use in males were found to be peer pressures, seeking pleasure, to improve mood and to improve sex and to show masculinity in descending order. Peer pressures were significantly higher among younger addicts (<20 years) compared to older ones while improving mood and sex and showing masculinity was significantly higher among addicts starting abuse after the age of 20 years. In a study of illicit drugs in Greater Cairo, peer pressure and curiosity were cited as the main motive for drug use.¹⁵ Curiosity followed by the desire to make fun was reported by another study.¹⁶ However many studies reported peer pressure and pleasure seeking as the

main or one of the main motives for starting drug use¹⁷. In females, the motives for drug use were family troubles and sexual abuse followed by tendency to improve mood which is going with most studies before. Women who have forgotten or repressed memories of traumatic events experience significant increases in drug or alcohol use when such memories re-emerge^{18,19}.

Results of the present study indicated that most of the studied subjects were poly-drug users. The majority of drug users consumed drugs in safe places such as homes, cars and private places. In the present study, most addicts reported taking the drug at their homes. A study among a sample of problematic drug users in Greater Cairo showed that studied sample of addicts in Cairo were habitual poly-drug users²⁰. The previous study and other similar studies in Egypt reported indoor intake of drug as the most common place for drug intake^{13,14,21}. This is understood in the context of the conservative nature of Egyptian society which reject open drug intake.

Comorbid psychiatric conditions showed that anxiety disorders were more common in males while depressive disorders more common in females and there is no significant differences as regards psychotic disorders and personality disorders. Depression is more common in females and drug dependence may accentuate the chance of depression in females²². On the other hand, cannabis is highly associated with anxiety disorders and this may explain the increased prevalence of anxiety disorders in males which abuse more cannabis²³.

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الملخص العربي

الفروق الجنسية في طرق ومخاطر إدمان المخدرات في مصر

هدف الدراسة :

التعرف على الفروق المحتملة بين الجنسين في تعاطي المخدرات وأسباب التعاطي وطرق تعاطي المخدرات.

طريقة الدراسة :

457 مريضا من متعاطي المخدرات (319 ذكرا و 138 أنثى) من المترددين علي العيادة الخارجية لقسم الأمراض النفسية والعصبية بكلية طب طنطا في الفترة من يونيو 2006 الي يونيو 2009 تم مقابلتهم وتشخيصهم حسب دليل الاحصاء الأمريكي الرابع للأمراض النفسية. وبعد ذلك تمت المقارنة بين الجنسين من ناحية السن وبداية الادمان ومدة الادمان والمواد المستخدمة وعددها والسبب في التعاطي والأمراض النفسية المصاحبة.

النتائج :

الذكور يتعاطون المخدرات في سن مبكرة عن الإناث ومدة الإدمان أطول. الرجل الأعزب أكثر تعرضا للإدمان من الإناث وخصوصا في الأميين. المواد التي يتعاطها الرجال هي القنب وبعده الأفيونات ثم يأتي الكحوليات ولكن في الإناث المسكنات وبعدها مضادات الاسيتيل الكولين ثم القنب. ضغط الأصدقاء هو أهم أسباب التعاطي في الرجال بينما المشاكل الأسرية والتحرش الجنسي للإناث هو الأكثر. القلق النفسي أكثر عند الرجال بينما الاكتئاب النفسي عند الإناث المدمنين.

الخلاصة :

هناك العديد من الفروق بين الجنسين في تعاطي المخدرات التي يجب مراعاتها عند رسم خطة علاجية ووقائية للإدمان.