

Evaluation of Applications to an Alcohol and Substance Dependence Research, Treatment and Training Centre (AMATEM): Data from Adiyaman Province in 2017

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ABSTRACT

Objective: Substance use disorder (SUD) continues to be a problem for the whole world in the first quarter of the twenty-first century. The leading centres in the treatment of SUD in our country are the Alcohol-Drug Dependence Research, Treatment and Training Centres (AMATEM). In this study, we aimed to examine 2017 data of the AMATEM outpatients in our province.

Materials and Methods: The study was conducted as a retrospective study of AMATEM applications between January 1, 2017 and December 31, 2017. Information such as gender, age and substance use characteristics of the applications were obtained from the patient recording system.

Results: A total of 211 applications were reached. The rate of men was 95.7%, the female rate was 4.3%, and the mean age was 26.09±7.87 years. The mean age was significantly higher in patients with alcohol use disorder than in the other diagnoses. 86.4% of the patients were in the 20-29 age range. 80.1% of the patients were diagnosed with opiate use disorder (OUD). The repeated applications were significantly higher in OUD than in other applicants. The rate of prescribing of buprenorphine+naloxone in OUD was 73.4%. Buprenorphine, buprenorphine+opiate and opiate positivity was higher than other parameters in urine toxicology screen. In OUD, substance positivity in urine was significantly higher in opiate than in non-opiate patients.

Conclusion: This study is important in terms of revealing that opiate use is a serious problem in our province. At the same time, as far as we know, it is the first study of AMATEM outpatient data in our province. Further studies are needed in this field.

Keywords: Substance use disorder, opiates, heroin, AMATEM, epidemiology

Bir Alkol ve Madde Bağımlılığı Tedavi ve Eğitim Merkezi (AMATEM)'ne Yapılan Başvuruların Değerlendirilmesi: 2017 Yılı Adiyaman İli Verileri

ÖZET

Giriş: Madde kullanım bozuklukları (MKB) yirmi birinci yüzyılın ilk çeyreğinin sonlarına gelirken tüm dünyayı ilgilendiren bir sorun olmaya devam etmektedir. Ülkemizde MKB tedavisinde en önde gelen merkezler Alkol-Madde Bağımlılığı Araştırma Tedavi ve Eğitim Merkezleri (AMATEM)'dir. Biz bu çalışmada ilimizdeki tek AMATEM polikliniğine ait 2017 yılı verilerini incelemeyi amaçladık.

Gereç ve Yöntem: Çalışma, 1 Ocak 2017-31 Aralık 2017 tarihleri arasındaki AMATEM başvurularının retrospektif olarak incelenmesi şeklinde gerçekleştirildi. Başvurulara ait cinsiyet, yaş ve madde kullanım özellikleri gibi bilgilere hasta kayıt sisteminden ulaşıldı.

Bulgular: Toplamda 211 başvuruya ulaşıldı. Başvuruların erkek oranı %95.7, kadın oranı %4.3, ortalama yaş 26.09±7.87 yıldı. Alkol kullanım bozukluğu başvurularında ortalama yaş diğer tanılara göre anlamlı olarak yüksekti. Hastaların %86.4'ü 20-29 yaş aralığındaydı. Başvuruların %80.1'inin tanısı opiyat kullanım bozukluğu (OPKB)'ydi. Mükerrer başvurular OPKB'de diğer başvurulara göre anlamlı olarak yüksekti. OPKB'de buprenorfin+naloksan reçetelenme oranı %73.4'ydi. İdrarda toksik taramada en fazla buprenorfin, buprenorfin+opiyat ve opiyat pozitifliği saptandı. OPKB'de idrarda toksik taramada madde pozitifliği opiyat dışı madde kullanımına göre anlamlı olarak yüksekti.

Sonuçlar: Bu çalışma, ilimizde opiyat kullanımının ciddi bir sorun olduğunu göstermesi bakımından önemlidir. Aynı zamanda, bildiğimiz kadarıyla ilimizde AMATEM polikliniği verilerini inceleyen ilk çalışmadır. Bu alanda daha fazla çalışmaya ihtiyaç duyulmaktadır.

Anahtar sözcükler: Madde kullanım bozukluğu, opiyat, eroin, AMATEM, epidemiyoloji

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Substance dependence is a chronic mental disorder characterized by compulsive substance seeking and relapses despite its negative effects. In general, there is a sequence of addiction: intermediate use, recreational use, regular use, dependence. Recent studies in this area mostly focus on relapses occurring in the case of compulsive use and withdrawal (1-5). Addiction causes people to have social, economic and personal problems. Persons are using an increasing amount of substance due to developing tolerance. This causes them to live more physically and mentally than others. Dependency affects the brain and therefore the behaviour (6-8). The person who starts to experience more problems with his/her environment is in a vicious circle. In addition to the genetic characteristics in the emergence of addiction, environmental characteristics play an important role in the maintenance of drug addiction (9-11). On the other hand, biological processes contribute to continuity. The characteristics that lead patients to addiction are the features that remove them from treatment (12-15).

Given that many different substances are addictive, treatment methods for substances may also differ (16). Treatment varies depending on the person's characteristics and the problems associated with drug use. In many patients, the simultaneous presence of mental, occupational, general medical and social problems makes addiction treatment difficult. Substance use treatment is a combination of behavioural therapy and drug treatment (17, 18). For the rapidly growing substance use disorder (SUD) in the world, states are undergoing various policy changes and have to make new plans (19). There are various applications in our country within the scope of combating substance addiction. The most prominent centres in the treatment of SUD in our country are Alcohol and Substance Dependence Research, Treatment and Training Centres (AMATEM). AMATEMs have been in service since the 1980s and the number of centres they serve has been increasing. It is possible to say that these centres, where outpatient or inpatient services can be provided, have made some significant progress in our country, although it is early to say that they are in a certain standard. These clinics serve in the areas of termination of substance dependence and re-functioning of individuals. Treatment strategies are determined according to the individual because of the change in the risk factors of SUD. Periodic follow-ups are applied in order to maintain the ongoing sobriety. The examination services in these centres are voluntary. As a result of the examination, the treatment plan is explained to the person and his/her relatives and the treatment process is started. If necessary,

hospitalization is made. Various psychotropic drugs are used in the treatment of substance use. The combination of buprenorphine+naloxone (BN) is one of these treatments which can be started with a specific protocol and the treatment process is continued to be followed frequently (20, 21).

When the data of AMATEM in our country is examined, it is seen that the results vary according to the region and year. Asan et al. (22) conducted an AMATEM study with 302 patients in 2013 and found a male ratio of 93.7%. In this study substance percentages were as follows: 14.6% alcohol, 53.3% opiate, 5.6% cannabis, 3.6% other substances (volatile, cocaine, etc.), and mixed 22.8%. Gokcearslan et al. (23) performed a study with 2008-year data and found a male ratio of 93.1% and a female ratio of 6.9%. Savasan et al. (24), based on the data of 2011-2012, found the mean age of the patients to be 45.42 (years) and the male percentage was 96.9%. In this study, it was reported that 78% of the patients had alcohol use disorder (AUD), 6% of them had SUD and 16% had both AUD and SUD. Savaşan et al. (24) emphasized that individual or group psychotherapy programs to be organized within the first six months or one year may be beneficial for the prevention of relapse. Karaagac et al. (25) retrospectively examined the patients followed-up in an AMATEM unit in Kayseri province between 2007 and 2015 and found the male percentage to be 94.8% and the mean age was 33.6 years. According to this study, the mean age of alcohol users was higher than the mean age of the drug users and the most common reason for admission was AUD (37.2%), and the second most common cause of admission was cannabis use disorder (CUD) (34.1%). Bulut et al. (26) reported that the male ratio was 69.8%, the mean age was 36.02 years, the AUD diagnosis rate was 46.8%, opiate use disorder (OUD) diagnosis rate was 42.1%, and CUD diagnosis rate was 7.1%. When the statistical data were analysed, it is seen that there has been an increase in opiate use in recent years. According to the report of the General Directorate of Security in Turkey in 2017, 12.932 heroin incidents occurred (an increase of 58.1% compared to 2016) and in these events, 19.359 suspects were caught (an increase of 60.1% compared to 2016) and 17.752 kg of heroin were captured (compared to 2016, an increase of 214% was seized (27). Considering that the substance use characteristics change over time, new studies are thought to be needed. In this study, we aimed to retrospectively examine the patients who have applied to our hospital for a period of one year.

Material and Method

Study Design

Our study was planned retrospectively. In our hospital, the patients who met the criteria for the diagnosis of SUD according to the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5) (28) and who were identified at least once in urine toxicology screening were investigated and included in the study. The diagnosis category was determined according to the verbal statement of which type of substance they frequently prefer, and according to the fact that their statements are compatible with the result of the toxicology screening of urine: OUD, CUD, AUD, stimulant use disorder (SUD), hallucinogen use disorder (HUD), inhalant use disorder (IUD). Two hundred forty-three patient records for 2017 were obtained. Thirty-two applications were excluded from the study due to a lack of diagnosis. Two thousand and eleven applications were included in the study. In this study, the number of cases in the study was based on the number of applications in the AMATEM outpatient clinic. For this study, Ethics Committee Approval was obtained from the Ethics Committee of our university (Decision: 2019/3-5).

Biochemical Analysis

Biochemical analysis is carried out in the laboratory of our hospital through an "instant-view multi-drug of excessive urine test kit". In our laboratory biochemical analysis of amphetamine, barbiturate, benzodiazepine, cocaine, phencyclidine, methamphetamine, morphine, tetrahydrocannabinol and tricyclic antidepressants is performed by immune-chromatographic methods. In these analysis findings, the minimum limit for urine; it was accepted as 500 ng/mL for "Methamphetamine" (MAMP), 50 ng/mL for cannabis agent Tetrahydrocannabinol (THC), 200 ng/mL for "Benzodiazepines" (BZD), 200 ng/mL for "Barbiturates" (BAR), 300 ng/mL for "Methadone" (EDDP), 1000 ng/mL for "Amphetamine" (AMPH), 25 ng/mL for "Phencyclidine" (PCP), 300 ng/mL for "Morphine" (OPIAT), 500 ng/mL for "Ecstasy" (MDMA), 10 ng/mL for "Acetylmorphine" (6AM), 20 ng/mL for "Bonsai" (K2-1), 10 ng/mL for "Bonsai" (K2-2), 5 ng/mL for "Buprenorphine" (BUP), 1000 ng/mL for "Ethyl Glucuronide" (EtG), and 300 ng/mL for "Cocaine" (COC).

Statistical Analysis

Statistical analysis of Windows SPSS 22.0 program (Statistical Package for the Social Sciences Inc.) was used. Descriptive statistics and continuous variables were expressed as mean±standard deviation and categorical variables as frequencies and percentages. Chi-square test was

used for categorical data analysis. $p < 0.05$ was accepted as statistical significance.

Results

The number of applications evaluated was 211. Of these, 202 (95.7%) were male and 9 (4.3%) were female. The mean age of all patients was 26.09 ± 7.87 years. The mean age was 26.10 ± 7.94 years in males and 25.66 ± 6.44 years in females and there was no significant difference between genders ($p = 0.870$).

There were 169 (80.1%) patients who met the diagnosis of OUD, 27 (12.8%) patients who met the diagnosis of CUB, 12 (5.7%) patients who met the diagnosis of AUD, and 3 (1.4%) patients who met the diagnosis of SUD. The mean age of the OUD group was 24.46 ± 4.14 years, the mean age of the CUD group was 25.33 ± 5.51 years, the mean age of the AUD group was 51.25 ± 10.21 years and the mean age of the SUD group was 24.00 ± 7.81 years. There was a significant difference in age between the alcohol group and all other diagnoses ($p = 0.000$).

184 (87.2%) of the applications were admitted to our polyclinic in the past. When we evaluated the OUD as an only group and the remaining applications as another group, it was found that the percentage of previous applicants was higher in the OUD group. While the number of previous applications was 92.3% ($n = 156$) in the OUD group, this rate was 66.7% ($n = 28$) in the other groups, and the difference between them was significant ($p = 0.000$). In addition, 73.4% ($n = 124$) of the OUD applications were prescribed BN combination.

Toxicology screening data in urine were evaluated. All patients had a toxicology screening of urine (Table 1). In 80 (37.9%) of the applications, no substance was found. There were 54 (25.6%) opiate positivity, 38 (18.0%) BUP positivity and 3 (1.4%) ethyl glucuronide positivity in the urine analysis. In the nine (4.3%) applications, multiple substances were reported as positive.

When the toxicology screening data of the OUD group were evaluated separately; it is determined that there were 38 (22.5%) BUP positivity, 16 (9.5%) BUP+opiate positivity, 54 (32.0%) opiate positivity. The forty-six (27.2%) applications did not show any positivity.

Parameters	n (%)
Not Detected	80 (37.9)
MAMP	2 (0.9)
THC	5 (2.4)
BZD	3 (1.4)
AMPH	1 (0.5)
OPIAT	54 (25.6)
BUP	38 (18.0)
EtG	3 (1.4)
BUP+OPIAT	16 (7.6)
Multiple	9 (4.3)
Total	211 (100.0)

Abbreviations: MAMP: Methamphetamine; THC: Tetrahydrocannabinol; BZD: Benzodiazepines; AMPH: Amphetamine; OPIAT: Opiate, morphine, acetyl morphine; BUP: Buprenorphine; EtG: Ethyl Glucuronide

When we evaluated the OUD as an only group and the remaining applications as another group, it was found that there was a significant difference between the OUD group (%27.2) and the others (%37.9) in terms of substance negativity ($p=0.000$).

When we look at the age ranges, 13.8% of the applications were in the 15-19 age range; 55.2% of the applications were in the 20-24 age range, and 31.2% of the applications were in the 25-29 age range.

Discussion

In this study, AMATEM applications for 2017 were evaluated. The percentage of men obtained was consistent with the information in the literature. Male dominance was between 93.1-96.9% in the AMATEM studies (22-26). The majority of these data belong to 10 years ago but the number of men is still high. When the international data are analysed, although rates may change, it is seen that the prevalence of substance use is higher in men in many parts of the world (29). In our study, the mean age of all applications was 26.01 years, the mean age of male applicants was 26.10 years, and female applicants was 25.66 years. The mean patient age was reported between 33.6-45.42 years in studies (24-26). These differences are thought to be related to the ratio of people diagnosed with AUD. In our study, the mean age of the AUD group was significantly higher than the other groups. Savasan et al. (24) reported the AUD diagnosis ratio as 78%; Karaagac et al. (25) reported as 37.2%; Bulut et al. (26) reported the AUD ratio as 46.8%. In our study, this ratio was only 4%. When the literature is examined, it is seen that there are similar data in many developed and developing countries

(30). On the other hand, there may be several reasons for the high rate of OUD.

According to one study, the ratio of patients who applied for the treatment of heroin use in Ankara AMATEM to all patients was 8.7% in 2004 and it was reported that this ratio increased to 38% in 2009. In this study, 2% of the young people under the age of 18 who were hospitalized were using heroin in 2004 and this figure was found to be 47% in 2009 (31). These results show that the substance use characteristics of individuals change over time and are determined by external factors. Over the years, the difficulties or conveniences experienced in achieving the substance, the state policy, the changes in the drug production areas, the market shares of the substances, the powers dominating the substance market are some conditions affecting the substance orientation (32-34). As a result of these data, the high number of OUD applications significantly affects the mean age of the groups.

Other data related to opiate use is the use of BN. As it is seen, the highest rate of positivity in urine toxicology screening is BUP. As this result is an AMATEM polyclinic data, the situation can be met normally. Patients who apply to the outpatient clinic for treatment are treated according to the results of toxicology screening in the urine in a certain way. The reason why the percentage of past applicants was significantly higher in the OUD group compared to the other groups is probably BN. This drug, which is an important stage for the continuation of treatment, also facilitates the patient's compliance with the treatment. On the other hand, both opiates and BUP were positive in a significant number of applications. It should be noted that this may be directly or indirectly related to BN abuse. Some of the people who can provide this medicine by illegal means think that they benefit from the drug and then apply to AMATEM polyclinics for treatment. This probable abuse, paradoxically, also allows the dissemination of experience of treatment efficacy among dependent individuals. In any case, the use of BN has several disadvantages other than the positive aspects. Previous reports had stated that both the state and clinicians should be careful in this respect and develop new strategies (35-37).

In our study, the age of substance use was almost immediately after puberty. The results of our study show that the mean age of the SUD is at a very risky point. Situations that increase the risk of substance use should be revealed at the regional level and even at the individual level if necessary. It is especially important for a few years after

high school and during high school. It is important to pay attention to overcome this risky period in the lightest way by means of various policies that are unique to these periods (38-40).

Despite the significant findings in our study, there are various limitations. The major limitation of this study is its retrospective design. Another limitation is the possible use of substances that cannot be determined in the urine toxicology screen. By increasing the diversity of scales, expanding sociodemographic data and elaborating the history of substance use it might be possible to better assess the results.

As a result, this study shows that SUD is felt intensively at the age when the lack of impulse control due to puberty, applications to AMATEM policlinics are largely related to opiates, and BN combination is frequently prescribed in patients with opiates, and patients with BN associated with repetitive applications to the polyclinics are intensified. Studies are needed to clarify the aetiology of SUD and related situations and to determine their prevalence.

Conflict of Interest

The authors have not declared any conflicts of interest.

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