

---

**Demographic and Clinical Profile of Persons with Substance Abuse Disorder Attending Happy Life Psychological Services Islamabad, Pakistan**

---

Naveed Sultan<sup>1\*</sup>, Shabana Noureen<sup>2</sup>, Anam Saher<sup>2</sup>**Abstract**

Substance Abuse Disorder is a treatable mental health disorder that influences persons' brains and behavior. It leads to an inability to control drug use, resulting in moderate to severe addiction. The research aims to study the demographic and clinical profile of persons with substance abuse disorders attending Happy Life Psychological Services (HLPS). A sample of 156 persons with substance abuse disorder was selected who were admitted to HLPS in the past two years. The study showed that 78.8% of persons with substance abuse disorder were males admitted at HLPS. In the reported cases, smoking, tobacco, opioids, cannabis, amphetamines, sedatives, hallucinogens, alcohol, and cocaine use was significantly higher in males, but inhalant use was higher in females. Middle adults were the age group where drug addiction was higher and mental health problems were most evident. Even medical comorbidities and suicidal intentions seem higher in this specific age group. In addition, married persons experienced more personality, anxiety, depression, and psychotic disorders than unmarried persons. The study outcomes can be used at the broader level to control the use of drugs in developing countries like Pakistan. Everyone is responsible for controlling the easy accessibility of drugs within the country especially, the Anti-Narcotics Agency should perform a pivotal role in this regard.

**Keywords:** Demographic and Clinical Profile, Happy Life Psychological Services, Mental Health Problems, Substance Abuse Disorder

---

Received: 14 May 2023; Revised Received: 02 December 2023; Accepted: 04 December 2023

<sup>1\*</sup>Chief Executive Officer, Happy Life Psychological Services (SMC-PVT) LTD, Islamabad, Pakistan.

<sup>2</sup>Psychologist, Happy Life Psychological Services (SMC-PVT) LTD, Islamabad, Pakistan.

**\*Corresponding Author Email:**

naveedsultanjarral@gmail.com

**Introduction**

Mental health is a significant but invisible issue in developing countries like Pakistan, which has faced political and economic instability since 1947 (Lüscher et al., 2020). Substance Abuse is a multidimensional issue, not merely of an individual, community, or drug, but is an interaction between the triad

(Seitz et al., 2019). Continuous discovery of various drugs has provided relief in treating various hitherto incurable diseases and saved the lives of thousands of patients, but most drugs negatively affect a person's life. Traditional drugs such as chars, opium, ganja, and bhang are mostly used worldwide as a leisure time activity or to get relief from mental health problems (Alhammad et al., 2022). Incidences of drug addiction which is out-of-control and compulsive behavior despite associated consequences have increased in Pakistan within the past few decades. Most of the illegal drugs came into Pakistan from Afghanistan. According to United Nations estimates, a few million people in the country are drug users, in which Cannabis is the most common drug used by people. The use of injection drugs has increased in Pakistan, sparking fear of HIV Aids (Winklbaaur et al., 2022).

---

This brief research report is distributed under the terms of the Creative Commons Attribution Non Commercial 4.0 International License (<https://www.creativecommons.org/licenses/by-nc/4.0/>) which permits non-Commercial use, reproduction and distribution of the work without further permission provided the original work is attributed as specified.

© Copyright: The Authors (2024)

According to United Nations Office on Drugs and Crime (UNODC) statistics, about 6.7 million people use drugs in Pakistan (Schindler, 2019). This report also revealed that the most common age of drug use is 15-64 years old, who uses drugs for non-medical purposes. Despite the alarming drug increase in Pakistan, the governmental response is minimal. Few programs are operational in Pakistan that help drug addicts, but the availability of drugs remains unchecked (Ur Rahman, 2021). The Anti-Narcotics Force is the governmental agency responsible for tackling the use of drugs in Pakistan, but the country did not foresee fruitful outcomes so far in terms of declining the use of drugs (Zwick et al., 2020). The statistics reflect that the first step toward the use of drugs is smoking which leads to drug abuse (Mohamed et al., 2020). Besides, drug usage in movies also influences the behavior of drug consumption in youth.

The abuse of heroin and Cannabis is highly cheap and easy to get within the country. UNODC reported that almost 80,000 Pakistanis regularly use heroin (Ruisoto & Contador, 2019). The illegal drug trade in Pakistan is expected to generate around \$2 billion in the upcoming years. Besides, the number of cannabis users is high in Khyber Pakhtunkhwa, which neighbors Afghanistan, as around 11% population of this province is hooked on drugs. The majority of drug addicts are male compared to females in Pakistan. The number of drug addicts is increasing to 40,000 per year in Pakistan, the most drug-affected country globally (Lüscher et al., 2020). The number of injection users is also increasing in Punjab, but few specialist interventions exist. The treatment is available to less than 30,000 drug users (Onaemo et al., 2021).

Happy Life Psychological Services (HLPS), a private limited company, recently started in 2020 to provide full-time Mental Health services under one roof. It is managed by a

team of professionals who guarantee the continuity and stability of the mental health care delivery system. HLPS promise to meet the needs of each client by providing different types of facilities such as psychological assessment, counseling, guidance, provision of psychotherapies, personality assessment, intelligence and aptitude tests, etc. All mental health issues, from neurotic to psychotic disorders, are addressed to improve the patient's quality of life. Since 2021 HLPS team has dealt with 6000 triage cases and 156 admissions. In 156, clients assess their mental health, social and medical issues. Findings show that Substance Use disorders have significant effects on mental health and social and medical issues such as personality disorders, Schizophrenia, criminal tendencies, divorce ratio, family crisis, suicidal ideation, suicidal attempts, co-occurrence of mental health disorders, cognitive impairment, sports activities, HIV/ AIDS & Hepatitis C.

The assessment services of HLPS involve a full range of psychological assessment services for children, adolescents, and adults, such as psychological and psychoeducational evaluations, ADHD, learning disabilities, depression, anxiety, memory problems, dementia, and relationship issues. The psychological testing of HLPS testing services may focus on more or more areas such as cognitive, emotional, personality, behavioral, and executive functioning. Cognitive functions include achievement and IQ testing for evaluating cognitive abilities such as verbal comprehension, attention, visual-spatial ability, abstract thoughts, problem-solving, impulsivity, etc. Emotional and personality testing involves emotional functioning, general personality style, depression, and anxiety. Behavioral problems include assessment of substance abuse, trauma, self-harm, impulsivity, suicidal thinking, etc. Executive functioning evaluates self-regulation, planning, problem-

solving, inhibition, and working memory. Furthermore, HLPS provides recommendations to assist with work, school, or treatment strategies that may help with performance in these settings. HLPS also provides mental health training, internships, workshops, and different programs for students. Besides, it deals with mild, moderate, and severe symptoms of mental health disorders by providing residential care and different interventions such as Cognitive Behavior Therapy (CBT), Rational Emotive Behavior Therapy (REBT), 12 steps facilitation, detoxification, and contingency management as per the need of the clients. The cases of drug addiction from different cities of Pakistan were dealt with by HLPS effectively with the help of a team of professionals. The objectives of the research are to study the demographic and clinical profile of persons with substance abuse disorders attending Happy Life Psychological Services

### **Method**

The study used a descriptive, cross-sectional research design to gain insight into the demographic and clinical profile of the patients taking treatment from HLPS.

### **Sample**

The study was undertaken on the patients with substance abuse disorder attending HLPS, an organization that deals with mental health problems. A sample of 156 persons with substance abuse disorder was selected who were admitted to HLPS in the past two years. The patients were diagnosed by following the criteria of DSM-5 TR by a team of clinical psychologists.

### **Procedure**

When the persons with substance abuse were admitted to the hospital, their detailed history of demographic characteristics and clinical profile was taken as per the pre-designed Performa. Without any doubt, the medical team was consulted for screening. All the routine investigations were taken for proper diagnosis. The research included all the persons with substance abuse disorder reported in HLPS from February 2021 to January 2023. The exclusion criteria were the patients with an organic brain disorder or medical conditions to cause psychiatric disorders such as epilepsy, hypothyroidism, Cushing's disease.

### **Results**

In the current study, 156 persons attended HLPS for the treatment of substance abuse disorder whose demographic and clinical profile was reported.

**Table 1***Gender Differences of Persons with Substance Abuse Disorder at Baseline (N=156)*

Baseline Characteristics	Gender	
	Male N (%)	Female N (%)
Addiction Type		
Smoking	101 (82.1%)	02 (6.1%)
Tobacco	76 (61.8%)	00 (0%)
Opioids	34 (27.6%)	00 (0%)
Cannabis	75 (61%)	00 (0%)
Amphetamine	47 (38.2%)	01 (03%)
Inhalant	00 (0%)	01 (0%)
Sedatives	41 (33.3%)	01 (3%)
Hallucinogens	20 (16.3%)	01 (3%)
Alcohol	37 (30%)	01 (3%)
Cocaine	02 (1.6%)	00 (0%)
Mental Health Problems		
Personality Disorders	75 (61%)	05 (15.2%)
Anxiety Disorders	73 (59.3%)	12 (36.4%)
Depressive Disorders	67 (54.5%)	12 (36.4%)
Psychotic Disorders	46 (37.4%)	07 (21.2%)
Medical Comorbidities		
HIV Aids	03 (2.4%)	00 (0%)
Hepatitis B&C	06 (4.9%)	00 (0%)
Lungs Diseases	01 (0.8%)	00 (0%)
Cardiovascular Diseases	02 (1.6%)	00 (0%)
Suicidal Intentions		
Suicidal Thoughts	26 (21.1%)	10 (31.3%)
Suicidal Attempts	14 (11.4%)	05 (15.6%)
Self-Harm	14 (11.4%)	04 (12.5%)

*Note.* N= numbers; % = percentage

Table 1 shows that 78.8% of persons with substance abuse disorder were males reported in HLPS.

**Table 2***Age Differences of Persons with Substance Abuse Disorder at Baseline (N=156)*

Baseline Characteristics	Age				
	Children N (%)	Adolescents N (%)	Young Adults N (%)	Middle Adults N (%)	Older Adults N (%)
<b>Addiction Type</b>					
Smoking	01 (14.3%)	02 (50%)	20 (66.7%)	75 (70.8%)	05 (55.8%)
Tobacco	00 (0.0%)	02 (50%)	14 (46.7%)	54 (50.9%)	06 (66.7%)
Opioids	00 (0.0%)	01 (25%)	05 (16.7%)	25 (23.6%)	34 (21.8%)
Cannabis	00 (0.0%)	02 (50%)	14 (46.7%)	58 (54.7%)	01 (11.1%)
Amphetamine	00 (0.0%)	02 (50%)	11 (36.7%)	34 (32.1%)	01 (11.1%)
Inhalant	00 (0.0%)	00 (0.0%)	01 (3.3%)	00 (0.0%)	00 (0.0%)
Sedatives	00 (0.0%)	00 (0.0%)	06 (20%)	34 (32.1%)	02 (22.2%)
Hallucinogens	00 (0.0%)	01 (25%)	04 (13.3%)	15 (14.2%)	01 (11.1%)
Alcohol	00 (0.0%)	01 (25%)	08 (26.7%)	25 (23.6%)	04 (44.4%)
Cocaine	00 (0.0%)	00 (0.0%)	00 (0.0%)	00 (0.0%)	02 (22.2%)
<b>Mental Health Problems</b>					
Personality Disorders	00 (0.0%)	02 (50%)	12 (40%)	59 (55.7%)	07 (77.8%)
Anxiety Disorders	01 (14.3%)	02 (50%)	15 (50%)	60 (56.6%)	07 (77.8%)
Depressive Disorders	00 (0.0%)	02 (50%)	14 (46.7%)	57 (53.8%)	06 (66.7%)
Psychotic Disorders	00 (0.0%)	02 (50%)	06 (20%)	41 (38.7%)	04 (44.4%)
<b>Medical Comorbidities</b>					
HIV Aids	00 (0.0%)	00 (0.0%)	00 (0.0%)	02 (1.9%)	01 (11.1%)
Hepatitis B&C	00 (0.0%)	00 (0.0%)	00 (0.0%)	05 (4.7%)	01 (11.1%)
Lungs Diseases	00 (0.0%)	00 (0.0%)	00 (0.0%)	00 (0.0%)	01 (11.1%)
Cardiovascular Diseases	00 (0.0%)	00 (0.0%)	00 (0.0%)	01 (0.9%)	01 (11.1%)
<b>Suicidal Intentions</b>					
Suicidal Thoughts	01 (14.3%)	01 (25%)	07 (23.3%)	23 (21.9%)	44.4%
Suicidal Attempts	01 (14.3%)	01 (25%)	03 (10%)	11 (10.5%)	03 (33.3%)
Self-Harm	01 (14.3%)	01 (25%)	02 (6.7%)	10 (9.5%)	04 (44.4%)

Note. N= numbers; % = percentage

Table 2 shows the age differences based on types of addiction, mental health problems, medical comorbidities, and suicidal intentions in persons with substance abuse disorder.

**Table 3***Marital Status of Persons with Substance Abuse Disorder at Baseline (N=156)*

Baseline Characteristics	Marital Status			
	Unmarried N (%)	Married N (%)	Dual Married N (%)	Divorced N (%)
<b>Addiction Type</b>				
Smoking	42 (56.8%)	55 (74.3%)	01 (100%)	05 (71.4%)
Tobacco	29 (39.2%)	40 (54.1%)	01 (100%)	06 (85.7%)
Opioids	12 (16.2%)	19 (25.7%)	00 (0.0%)	03 (42.9%)
Cannabis	32 (43.2%)	37 (50%)	01 (100%)	05 (71.4%)
Amphetamine	18 (24.3%)	26 (35.1%)	01 (100%)	03 (42.9%)
Inhalant	01 (1.4%)	00 (0.0%)	00 (0.0%)	00 (0.0%)
Sedatives	14 (18.9%)	24 (32.4%)	01 (100%)	03 (42.9%)
Hallucinogens	08 (10.8%)	11 (14.9%)	00 (0.0%)	02 (28.6%)
Alcohol	13 (17.6%)	23 (31.1%)	00 (0.0%)	02 (28.6%)
Cocaine	00 (0.0%)	02 (2.7%)	00 (0.0%)	00 (0.0%)
<b>Mental Health Problems</b>				
Personality Disorders	28 (37.8%)	45 (60.8%)	01 (100%)	06 (85.7%)
Anxiety Disorders	38 (51.4%)	43 (58.1%)	01 (100%)	03 (42.9%)
Depressive Disorders	36 (48.6%)	39 (52.7%)	01 (100%)	03 (42.9%)
Psychotic Disorders	20 (27%)	28 (37.8%)	01 (100%)	04 (57.1%)
<b>Medical Comorbidities</b>				
HIV Aids	01 (1.4%)	02 (2.7%)	00 (0.0%)	00 (0.0%)
Hepatitis B&C	01 (1.4%)	04 (5.4%)	00 (0.0%)	01 (14.3%)
Lungs Diseases	00 (0.0%)	01 (1.4%)	00 (0.0%)	00 (0.0%)
Cardiovascular Diseases	00 (0.0%)	02 (2.7%)	00 (0.0%)	00 (0.0%)
<b>Suicidal Intentions</b>				
Suicidal Thoughts	21 (28.4%)	14 (19.2%)	01 (100%)	00 (0.0%)
Suicidal Attempts	09 (12.2%)	07 (9.6%)	01 (100%)	02 (28.6%)
Self-Harm	07 (9.5%)	08 (11%)	01 (100%)	02 (28.6%)

Note. N= numbers; % = percentage

Table 3 shows the marital status of the persons with substance abuse reported at HLPS. The persons' marital status was unmarried, married, dual married, and divorced.

## Discussion

The prolonged use of substance abuse is harmful to the users and society. The use of drugs varies considerably across demographic groups, time, and region. Numerous developing countries have seen a rapid increase in the use of psychoactive drugs. Even injectable drugs are very common nowadays. In the current study, all 156 persons were drug dependent at the presentation time. Drug-related personal, social, and family problems increase persons dependency. HLPS helps to get relief from the problem of drug addiction through proper treatment plans. The study outcomes reflected that drug addiction was higher in males than females. In the reported cases, smoking, tobacco, opioids, cannabis, amphetamines, sedatives, hallucinogens, alcohol, and cocaine use was significantly higher in males, but inhalant use was higher in females. Personality disorders, anxiety disorders, depressive disorders, and psychotic disorders were higher in males than females. The medical commodities and suicidal intentions were higher in males than females. The study outcomes were similar to the existing studies conducted in different regions or developing countries (Lynch, 2018; Walker et al., 2019). Societal expectations and gender norms often place greater pressure on males, leading to coping mechanisms such as substance use. Additionally, traditional gender roles may limit the expression of emotions, pushing some males towards substance abuse as a means of self-medication. The stigma surrounding mental health issues in Pakistani culture could also deter males from seeking appropriate support, leading to an increased likelihood of turning to substances.

In addition, the current study shows that in children, smoking addiction is prevalent; they face problems of anxiety disorder and have suicidal intentions. In adolescents, the most widely prevalent addiction was

smoking, tobacco, Cannabis, and amphetamines, as well as experiencing mental health problems and suicidal intentions. In young adults, widely used addiction was smoking, tobacco, and Cannabis, as well as experiencing anxiety disorders and depressive disorders. They had no medical comorbidity but had high suicidal thoughts followed by suicidal attempts and self-harming behavior. In middle adults, the widely used drug was smoking, Cannabis, and tobacco. They experience high anxiety disorder, followed by personality disorder, depressive disorders, and psychotic disorders. The most common medical comorbidities were Hepatitis B & C and HIV Aids. They have high suicidal thoughts, attempts, and even self-harming behaviors. In older adults, the highly used drug were tobacco, smoking, sedatives sleeping pills, while the least used drugs were inhalants, hallucinogens, and amphetamines. They do experience personality, anxiety, depressive, and psychotic disorders after being addicted. The persons in this age group reported various medical comorbidities such as Hepatitis B & C, HIV Aids, lung diseases, and cardiovascular diseases. Similar findings have been reported by the previous studies that support the current study's outcome (Haberman, 2023). In Pakistani culture, middle adulthood experience more drug addiction because this age may bring stressors such as work pressures, family responsibilities, and existential concerns, which might contribute to substance use as a coping mechanism. Additionally, cultural factors, stigma surrounding mental health, and limited access to appropriate interventions could impact the prevalence.

The persons with different marital statuses reported different types of addiction. In unmarried persons, the most commonly used drugs were smoking, tobacco, and Cannabis, and the least present drugs reported were cocaine, inhalant, and hallucinogens. In

married persons, the highly used drugs were smoking, tobacco, and amphetamines, and the least present drugs were cocaine, inhalant, and hallucinogens. Only one person was dual married and reported the use of smoking, tobacco, Cannabis, amphetamines, and sedatives. In divorced persons, smoking and cannabis were highly used drugs, while the least used drugs were cocaine, alcohol, and hallucinogens.

Similarly, mental health problems prevail in persons with different marital statuses. The most common mental health problem was anxiety disorder in unmarried people and personality disorder in married and divorced people. The medical comorbidities show the prevalence of HIV Aids in unmarried and married, Hepatitis B & C in unmarried, married, and divorced, and lung and cardiovascular diseases in married patients. Suicidal intentions were observed in patients with all marital statuses. The findings were similar to the existing empirical evidence (Prajapati et al., 2019). Although, the current study reflected that married people are more involved in drug addiction societal pressures, familial expectations, and marital stressors can contribute to substance abuse due to marital strains, economic challenges, and cultural norms might influence individuals to use substances as a coping mechanism. Additionally, stigma around mental health issues in some cultures, including Pakistan, can hinder individuals from seeking help, leading them to resort to self-destructive behaviors.

In the in-depth interviews, persons reported peer pressure, curiosity, and excitement as the major reasons for starting the drug addiction. The empirical evidence also reflected that peer pressure was the reason for starting the substance abuse (Alhammad et al., 2022). The mean age of the persons was 30, in which family responsibilities and practical life issues are evident that, in turn,

influence the person to get involved in drugs to relax from life's complexities.

### **Conclusion**

In short, the study reported that most of the treatment seekers at HLPS were males in the middle adult age group who might have started drug addiction early on. Most treatment seekers in the study belong to Islamabad, Rawalpindi, Attock, Shikarpur, Shkhupura, Gilgit, Attock, Mirpur AJK, and many other cities of Pakistan. Predominant substance users were smoking and tobacco. Most patients reported various mental health problems, medical issues, and suicidal intentions. The study reflected that most patients are at risk of various mental health problems that need to be dealt before the problems become more severe and critical. There is an immense need to provide appropriate treatment plans to persons with drug addiction to improve their quality of life.

### **Implications**

The current study has multifaceted implications as the outcomes of the study can be used at the broader level to control the use of drugs in developing countries like Pakistan. Substance abuse has severe medical comorbidities that result in the patient's death. Even the study highlighted that the most widely spread diseases could be diagnosed with drug addiction, which can also impact the users' family members. Future studies should come up with effective strategies that can be used to minimize drug addiction. An awareness campaign can be initiated at a higher level to control the use of drugs. Everyone is responsible for controlling the easy accessibility of drugs within the country; especially, the Anti-Narcotics Agency should perform a pivotal role in this regard.

### **Limitations & Recommendations**

The study has focused on the data collected from only one mental health institute. Future studies should comparatively analyze the



mental health problems of different institutes to get insight into their reported cases, and effective management plans can be utilized. The current study was descriptive, but future studies should use mixed-method research approaches to broadly study the issue of substance abuse.

### Contribution of Authors

Naveed Sultan: Conceptualization, Investigation, Methodology, Data Curation, Formal Analysis, Writing - Reviewing & Editing, Supervision

Shabana Noureen: Methodology, Formal Analysis, Writing – Original Draft

Anam Saher: Data Curation, Formal Analysis, Writing – Original Draft

### Conflict of Interest

There is no conflict of interest declared by the authors.

### Source of Funding

The authors declared no source of funding.

### Data Availability Statement

The datasets of the current study are not available publicly due to ethical reasons but are available from the corresponding author [N.S.] upon the reasonable request.

### References

- Alhammad, M., Aljedani, R., Alsaleh, M., Atyia, N., Alsmakh, M., Alfaraj, A., Alkhunaizi, A., Alwabari, J., & Alzaidi, M. (2022). Family, Individual, and Other Risk Factors Contributing to Risk of Substance Abuse in Young Adults: A Narrative Review. *Cureus*, *14*(12), e32316. <https://doi.org/10.7759/cureus.32316>
- Haberman, S. (2023). Age and its Effect on Drug Addiction Treatment. The University of Akron. [https://ideaexchange.uakron.edu/honors\\_research\\_projects/1710](https://ideaexchange.uakron.edu/honors_research_projects/1710)
- Lüscher, C., Robbins, T. W., & Everitt, B. J. (2020). The transition to compulsion

in addiction. *Nature Reviews Neuroscience*, *21*(5), 247-263.

- Lynch, W. J. (2018). Modeling the development of drug addiction in male and female animals. *Pharmacology Biochemistry, Behavior*, *164*, 50-61. <https://doi.org/10.1016/j.pbb.2017.06.006>
- Mohamed, I. I., Ahmad, H. E. K., Hassaan, S. H., & Hassan, S. (2020). Assessment of anxiety and depression among substance use disorder patients: a case-control study. *Middle East Current Psychiatry*, *27*(1), 1-8. <https://doi.org/10.1186/s43045-020-00029-w>
- Onaemo, V. N., Fawehinmi, T. O., & D'Arcy, C. (2021). Comorbid cannabis use disorder with major depression and generalized anxiety disorder: a systematic review with meta-analysis of nationally representative epidemiological surveys. *Journal of Affective Disorders*, *281*, 467-475. <https://doi.org/10.1016/j.jad.2020.12.043>
- Prajapati, B. B., Dedun, M. R., Jalfava, H. S., & Shukla, A. A. (2019). A study of socio-demographic profile and pattern of drug use among substance abusers attending mind care de-addiction center in Ahmedabad. *Community Med Public Health*, *6*(1), 286-289. <https://doi.org/10.1016/j.pbb.2017.06.006>
- Ruisoto, P., & Contador, I. (2019). The role of stress in drug addiction. An integrative review. *Physiology Behavior*, *202*, 62-68. <https://doi.org/10.1016/j.physbeh.2019.01.022>
- Schindler, A. (2019). Attachment and substance use disorders—theoretical models, empirical evidence, and

- implications for treatment. *Frontiers in Psychiatry*, *10*, 727. <https://doi.org/10.3389/fpsy.2019.00727>
- Seitz, N.-N., Lochbühler, K., Atzendorf, J., Rauschert, C., Pfeiffer-Gerschel, T., & Kraus, L. (2019). Trends in substance use and related disorders: Analysis of the epidemiological survey of substance abuse 1995 to 2018. *Deutsches Arzteblatt International*, *116*(35-36), 585. <https://doi.org/10.3238/arztebl.2019.0585>
- Ur Rahman, K. (2021). Use of Narcotics in Pakistan: Situation Analysis and Way Forward. *Journal of Social Sciences*, *15*(4), 163-174. <https://doi.org/10.51709/19951272/Winter-2021/>
- Walker, D. M., Cunningham, A. M., Gregory, J. K., & Nestler, E. J. (2019). Long-term behavioral effects of post-weaning social isolation in males and females. *Frontiers in Behavioral Neuroscience*, *13*, 66. <https://doi.org/10.3389/fnbeh.2019.00066>
- Winklbaur, B., Ebner, N., Sachs, G., Thau, K., & Fischer, G. (2022). Substance abuse in patients with schizophrenia. *Dialogues in Clinical Neuroscience*, *8*(1), 37-43. <https://doi.org/10.31887/DCNS.2006.8.1/bwinklbaur>
- Zwick, J., Appleseth, H., & Arndt, S. (2020). Stigma: how it affects the substance use disorder patient. *Substance Abuse Treatment and Prevention Policy*, *15*, 1-4. <https://doi.org/10.1186/s13011-020-00288-0>