**ORIGINAL ARTICLE:**

**PATTERN OF SUBSTANCE USE DURING COVID-19**

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**Abstract**

**Objective**

To determine the frequency and pattern of substance use during COVID-19

**Study Design**

A descriptive cross-sectional study.

**Place and Duration**

Department of Psychiatry, Dow Medical College, Dr. Ruth KM Pfau Civil Hospital, Karachi and Model Addiction Treatment and Rehabilitation Centre (MATRC) Anti Narcotic Force, Karachi from December 16th 2020 to 15th April 2021.

**Methods**

Male patients of substance use disorders visiting on an out-patient basis were enrolled, and their status of COVID-19 was assessed and effect of COVID-19 disease on their substance use behaviour was recorded. Sample size was of 250 patients and non-probability consecutive type sampling was done. Ethical approval was sought before commencement of the study.

**Results**

The mean age of 250 participants was 28.2 +- 8.25 years. Out of total, 24 (9.6%) came out PCR positive as Covid-19, while 226 (90.4%) were negative for covid-19. When they were asked regarding the effect of COVID-19 on their substance taking behaviour, 138 (55.2%) were in the favour that the pandemic had increased their substance using habit while 112 (44.8%) replied that their substance using behaviour remained as usual and COVID-19 had not affected it.Statistically, COVID-19 status whether positive or negative was significantly related with type of substance use, as well as mode of substance use having a p-value of less than 0.05. While the effect of COVID-19 over the substance using behaviour was also significantly associated with having a p-value of less than 0.05.

**Conclusion**

The Substance Use behavior was increased during COVID-19 in terms of usage, amount and mode of taking substance.

**Keywords**

COVID-19, Habits, Narcotics, Outpatients, Pandemics, Substance-Related Disorders

**INTRODUCTION**

People with substance use disorders (SUD) are in danger populace for pollution because of different variables owing to their clinical, mental and psychosocial conditions1.The Covid-19 pandemic has carried significant difficulties to medical care frameworks and general well-being arrangements around the globe, requiring novel therapies and avoidance methodologies to adjust for the effect of the pandemic2. In light of direct difficulties to respiratory well-being, those with SUD might be particularly defenseless to disease by the infection that causes Covid-19 and related issues. Information from the Chinese Community for Infectious prevention and anticipation have proposed that Corona virus has a case-casualty pace of 6.3% for people with persistent respiratory illness, contrasted and 2.3% overall3. In this sense, subjects with moderate to extreme SUD who are now a significant danger bunch, could experience significant effects, since they have been recently connected with every one of these conditions4. The way that substance use disorder patients much of the time misuse these substances in mixture with different other substances can cause further harm. Co-morbid constant obstructive pneumonic infection, cardiovascular illness, and other respiratory diseases, which are more continuous among persistent smokers and people with other substance use disorders, have been displayed to demolish forecast with other Covids-19, including those causing extreme intense respiratory condition5. A high level of people with SUD experience vagrancy, and the other way around. Among incalculable different hardships and dangers looked by the individuals who have lodging shakiness, expanded danger for illness transmission in destitute sanctuaries is especially significant at this point. Social distancing will facilitate the probability of narcotic excesses happening when there are no spectators who can regulate naloxone to turn around them and accordingly when they are bound to bring about fatalities. Older patients are likewise in the fundamental danger gathering, and note that the pervasiveness of SUD in this populace is higher than any time in recent, including both licit and illegal drugs6. While drug use can build the dangers related with a Covid-19 disease, the social and psychological dangers of the pandemic can support and increase illicit drug use, in a conceivably vicious cycle. Social distance, quarantine or isolate are fundamental measures to help forestall Covid-19 transmission - be that as it may, these techniques, and the pandemic episode itself, have been related with negative feelings, like touchiness, tension, dread, pity, outrage or boredom7. Withdrawal side effects evoked during lockdown could likewise endanger these preventive procedures, as it could drive people to go outside for drugs. Moreover, clinical help for these side effects will be restricted, since the significant clinical endeavors are outfitted towards the Coronavirus pandemic. Indeed, even on account of hospitalization, it could be hard to keep up with willful stay, creating more pressure to medical services laborers, as of now overburdened due to the pandemic. Vagrancy can likewise compromise preventive strategies, as people will in general meander during the day and snooze swarmed places during the evening, making them possible vectors of transmission. Individuals with substance use disorders are considered at expanded danger of Coronavirus and its more genuine complications8. However data on the impact of COVID-19 on substance taking behavior are lacking so this study is designed to determine the pattern of Substance Use during COVID-19. Individuals with SUD are at more serious risk of more regrettable Coronavirus result. Withdrawal crises and demise are likewise being progressively deteriorating. Drug dependent individuals are particularly confronting troubles in getting to the medical care administrations which are making them inclined to get drugs by illicit means9.

**Methodology:**

A cross-sectional hospital-based study conducted at the out-patient Department of Psychiatry, Dr. Ruth KM Pfau Civil Hospital, Dow Medical College, Karachi and Model Addiction Treatment and Rehabilitation Centre (MATRC) Anti Narcotic Force, Karachi. The present study was conducted for the period of three months from December 16th 2020 to April 15th 2021. The sample size of this study was 250 patients, calculated through standard method. Patients of substance use disorders visiting on out-patient bases were enrolled and their status of covid-19 was assessed and effects of covid-19 on their substance use behavior was recorded. The patients of different types of substances such as Opioids, Stimulants, Cannabis and Alcohol use were taken and the pattern of substance use behavior was assessed in terms of usage whether increased or decreased, reason of using substance and type of substance used. Statistically substance use behavior as described was analyzed on SPSS 22.

Sampling technique was non-probability consecutive type. Ethical approval was sought before commencement of study and written and informed consent was taken from patients after ensuring them confidentiality.

Inclusion Criteria:

1. Patients of substance use disorders who are using substance for more than 2 years.
2. 18-60 years aged

Exclusion Criteria:

1. Those not willing to participate in study.
2. Those having co-morbid severe medical illness such as Diabetes Mellitus, Ischemic Heart Diseases, those in psychotic state.

**Results:**

A total of 250 patients were enrolled for this study. The mean age of participants was 28.2 +- 8.25 years. All participants were exclusively males. In marital status 53.6% were single, 42.8% were married and 2% were divorced 1.6% were separated. Out of 250 cases 112 (44.8%) were using stimulants while 88 (35.2%) were cases of Opioids use and 24(9.6%) were cannabis users, 24(9.6%) were those using multiple types of drugs and 2(0.8%) were cases of alcohol use disorder. Among all the drugs users, the commonest mode of taking substance was snuffing 141(56.4%) followed by smoking 73(29.2%), injections 22 (8.8%) and 14 (5.6%) were using oral route for drug use. Majority 125 (50%) started using drugs for fun or pleasure purpose followed by peer pressure 106(42.4%), 9 (3.6) started using drugs in frustration and 7(2.8%) used for aphrodisiac purpose while 3 (1.2%) used for getting relief from pain as shown in **Table 1.**

Out of the total 250 cases, 24 (9.6%) came out PCR positive as COVID-19 while 226 (90.4%) were negative for covid-19. When they were asked regarding the effect of COVID-19 on their substance taking behavior, 138 (55.2%) were in the favor that this pandemic has increased their substance using habit while 112 (44.8%) replied that their substance using behavior has been remained as usual and covid-19 has not affected it as shown in **Table 2.**

Statistically COVID-19 status, whether positive or negative was significantly related with type of substance use as well as mode of substance use having a p-value of less than 0.05. While the effect of COVID-19 over the substance using behaviour was also significantly associated with having a p- value of less than 0.05 as shown in **Table 3.**

**Table 1**

**Type, Mode and Reason for drug used**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Type of Drug Used** | Opioids | Stimulants | Cannabis | Alcohol | Multiple | Total |
| Frequency (%) | 88 (35.2%) | 112(44.8%) | 24(9.6%) | 2(0.8%) | 24(9.6%) | 250(100%) |
| **Mode of Drugs used** | Oral | Injectable | Snuffing | Smoke | Other Mode | Total |
| Frequency (%) | 14 (5.6%) | 22 (8.8%) | 141(56.4%) | 73(29.2%) | 0 | 250(100%) |
| **Reason for Drug use** | Frustration | Fun | Peer Pressure | Pain Relief | Aphrodisiac | Total |
| Frequency (%) | 9 (3.6) | 125 (50%) | 106(42.4%) | 3(1.2%) | 7(2.8%) | 250(100%) |

**Table 2**

**Covid-19 status and Effect on substance use behaviour**

|  |  |  |  |
| --- | --- | --- | --- |
| **Covid-19 status** | PCR Positive | PCR Negative | Total |
| Frequency | 24 (9.6%) | 226 (90.4%) | 250 (100%) |
| **Effect of Covid-19 on substance use behaviour** | Increased | No effect | Total |
| Frequency (%) | 138 (55.2%) | 112 (44.8%) | 250 (100%) |

**Table 3**

**Stratification of Substance use with covid-19 status and effect on substance use behaviour**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Covid-19 Status | Drug Used | | | | | | | | | | | | | | | | | P Value |
| Opioids | Stimulants | | | Cannabis | | | | | Alcohol | | | | Multiple | | | Total |
| Yes | 16 (66.7%) | 8 (33.3%) | | | 0 (0%) | | | | | 0 (0%) | | | | 0 (0%) | | | 24 (100%) | 0.009 |
| No | 72 (31.9%) | 104 (46.0%) | | | 24 (10.6%) | | | | | 2 (0.9%) | | | | 24 (10.6%) | | | 226 (100%) |
| Total | 88 (35.2%) | 112 (44.8%) | | | 24 (9.6%) | | | | | 2 (0.8%) | | | | 24 (9.6%) | | | 250 (100%) |
| Covid-19 Status | Mode of Drugs used | | | | | | | | | | | | | | | | |  |
| Oral | Injectable | | | | Snuffing | | | | | | | Smoke | | | | Total | 0.001 |
| Yes | 3 (12.5%) | 7 (37.6%) | | | | 9 (37.5%) | | | | | | | 5 (20.8%) | | | | 24 (100%) |
| No | 11 (4.9%) | 15 (6.6%) | | | | 132 (58.4%) | | | | | | | 68 (30.1%) | | | | 226 (100%) |
| Total | 14 (5.6%) | 22 (8.8%) | | | | 141 (56.4%) | | | | | | | 73 (29.2%) | | | | 250 (100%) |
| Effect of covid-19 on substance use behaviour | Drug Used | | | | | | | | | | | | | | | | |  |
| Opioids | | | Stimulants | | | | | Cannabis | | | Alcohol | | | Multiple | | Total | 0.010 |
| Increased | 51 (37.0%) | | | 70 (50.7%) | | | | | 10 (7.2%) | | | 1 (0.7%) | | | 6 (4.3%) | | 138 (100%) |
| No effect | 37 (33.0%) | | | 42 (37.5%) | | | | | 14 (12.5%) | | | 1 (0.9%) | | | 18 (16.1%) | | 112 (100%) |
| Total | 88 (35.2%) | | | 112 (44.8%) | | | | | 24 (9.6%) | | | 2 (0.8%) | | | 24 (9.6%) | | 250 (100%) |
| Effect of covid-19 on  substance use behaviour | Mode of Drugs used | | | | | | | | | | | | | | | | |  |
| Oral | | Injectable | | | | Snuffing | | | | Smoke | | | | | Total | | 0.002 |
| Increased | 3 (2.2%) | | 18 (13%) | | | | | 80 (58%) | | | 37 (26.8%) | | | | | 138 (100%) | |
| No effect | 11 (9.8%) | | 4 (3.6%) | | | | | 61 (54.5%) | | | 36 (32.1%) | | | | | 112 (100%) | |
| Total | 14 (5.6%) | | 22 (8.8%) | | | | | 141 (56.4%) | | | 73 (29.2%) | | | | | 250 (100%) | |

**DISCUSSION**

The present study investigated the effects of COVID-19 in a clinical sample of persons with different psychoactive substance use disorders who sought help at our out-patient facilities. Furthermore, although the impact of the COVID-19 crisis might differ between individuals, we aimed to identify the impacts in terms of increased substance taking behaviour. As of the results of this study the positive rate of covid-19 was more than compared to general population during the study period10. An overall increment in regards to habit-forming conduct because of Covid-19 was expected and as of now affirmed for a Chinese population11. Most noticeably, psychosocial factors like depression, tension and isolation are examined to affect not just the emotional wellness of the general population12, however are relied upon to be particularly serious for people with SUDs13. Financial viewpoints during the Coronavirus pandemic are expected to be especially trying for people with substance use disorders14.

A research concluded that people using substance are at high risk for COVID-19 infection, along other illnesses and increase amount of substance due to bio psycho social factors15 which is consistent with our study showing an increase in substance use as a result of the COVID-19 pandemic.

Another study focused on psychological aspects like thoughts, feelings, and behaviours being affected by COVID-1916. The fear due to pandemic stirred negative feelings and behaviours in the form of stress, anger, avoidance, and isolation. As in our study, this study showed an effect on substance use due to psychological influences of COVID-19.

A study from Austria established a relationship between the COVID-19 pandemic and risk of relapse in alcohol use disorders. They determined psychosocial aspects of COVID-19 reported by the majority of study sample (53.5%) like isolation, anxiety and depression and living alone as major risk factors for relapse17.

Furthermore, the lockdown may greatly reduce availability of substance. This can result in increased in withdrawals and life-threatening conditions. One might even engage in risk-taking behaviour like consuming toxic products in order to control their withdrawals. People using injectable may face hurdles in finding sterile products thus further increasing possibility of them contracting infection. All this may account to increase in substance use as a consequence of COVID-19 pandemic.

An article focused on the excessive effect of COVID-19 on the population with SUD18. This could be due to higher risk of transmission in this group, homelessness, and even lesser availability of services. They specifically addressed the worsened outcomes of COVID-19 in opioid users. Given the fact that COVID-19 has major effects on respiratory system, it may pose danger effects on opioid induced respiratory toxicity. Both culprits are known to cause hypoxaemia. Thus, simultaneous concurrence of COVID-19 and opioid use may add up to each other’s harmful respiratory outcomes. Additionally, immunosuppressant effect of opioid makes it user further more vulnerable to COVID-19 infection18. A study in the USA showed that patients with SUD were at notably higher chance of contracting COVID-19 as compared to ones not using substance19. The results showed the highest rates for opioid users followed by cocaine, alcohol respectively. This might be contributed to the fact that patients with substance use have multiple comorbidities which makes them more prone to being infected by COVID-19. The findings were further analysed, and it was recognised that newly diagnosed SUD had significantly more prevalence of many other diseases. A study published in Journal of public Health of England on 2078 COVID-19 patients, among which 27 that is 1.3% had SUD. It was concluded that ones with alcohol use had more COVID-19 risk factors and more severe symptomatology as compared to ones without alcohol use disorder20.

**CONCLUSION**

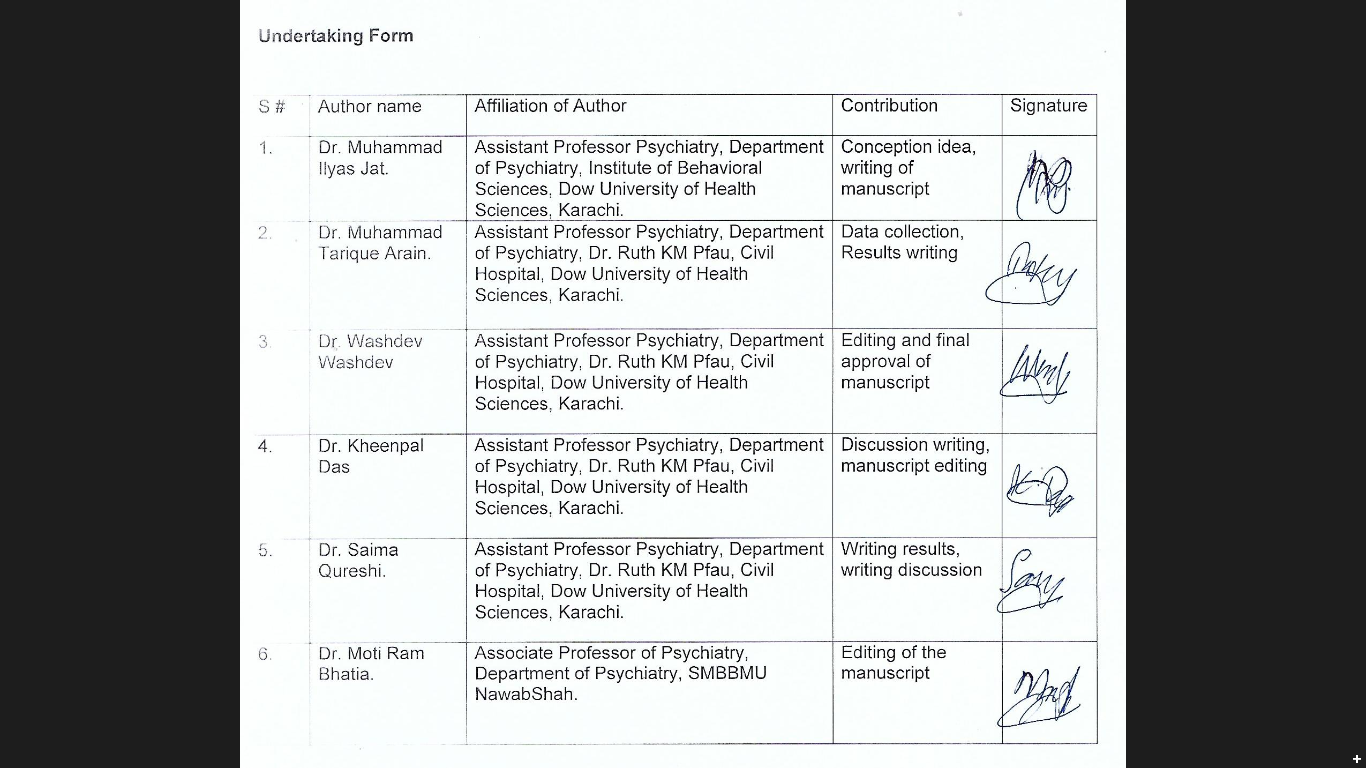
The Substance Use behavior was increased during COVID-19 in terms of usage, amount and mode of taking substance.

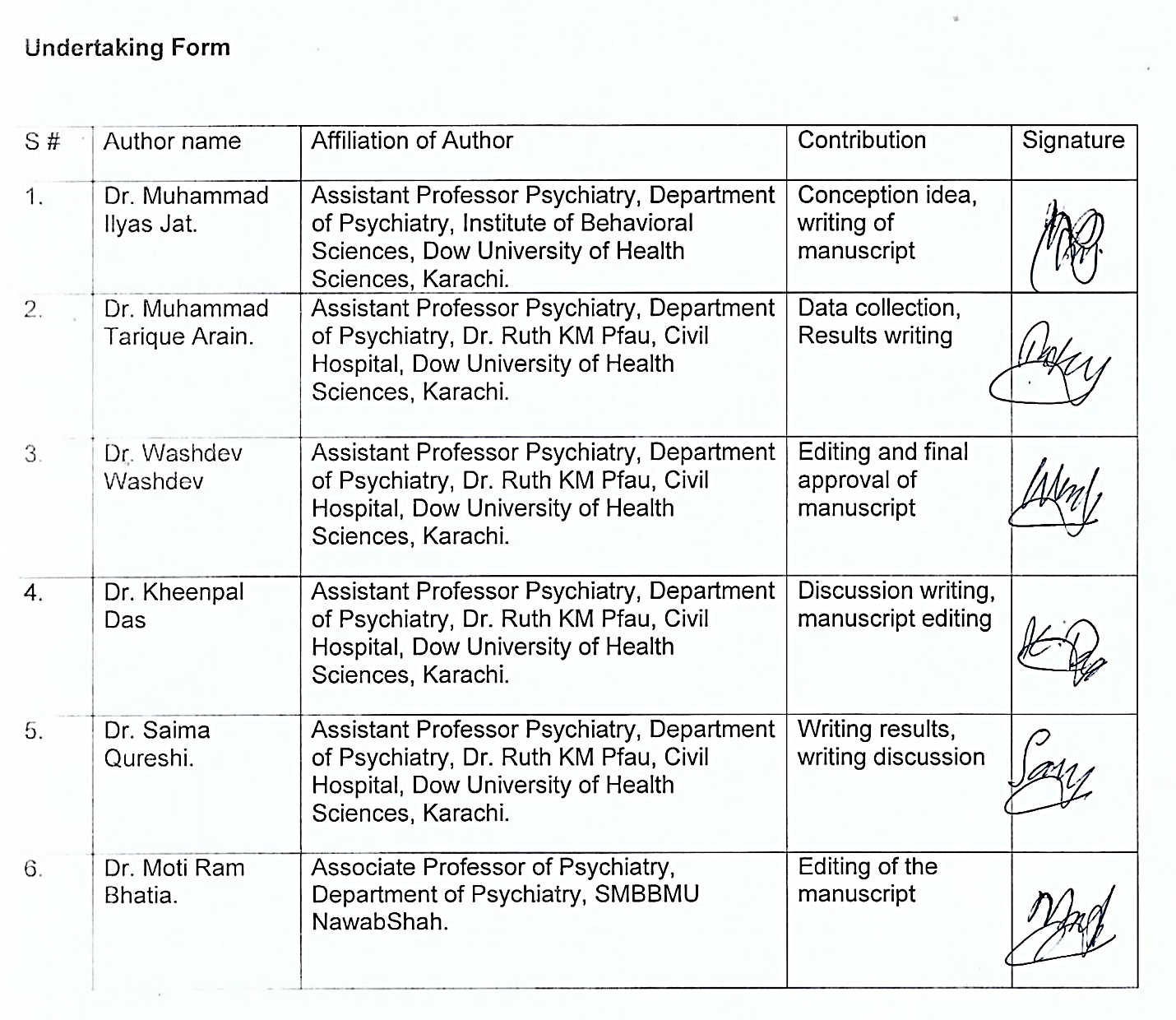
Conflict of Interest: None

Limitations: This is a hospital based study and can’t be generalized to general population.

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