

# Prevalence and Screening of Tobacco and Substance Abuse among patients visiting Emergency Department

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## ABSTRACT

**Aim:** To prevalence and screening of tobacco and substance abuse among patients visiting emergency.

**Methods:** This is a cross-sectional study conducted in the emergency department of Usman Memorial Hospital, Karachi during the period of Jan, 2020 to June, 2021. In the 18 months of study, we included patients visiting to our emergency department due to any acute complaint who is older than 18 years of age. All the participants were to be asked National Institute of Drug Abuse (NIDA) quick screen and tobacco addiction screening was done by CAGE questionnaire. Data was collected and analyzed using SPSS version 2.

**Results:** During the 18 months' time, we received 642 patients matching our inclusion criteria for this study. Out of these 371(59.4%) participants agreed to participate in the study whereas the 40.6% refused to enter the study. Out of these there were 242(65.2%) males and 129(34.7%) females in the study sample. All these participants were asked the single screen question for drug use and 178(47.9%) of the participants have used an illegal drug or prescription drugs for non-medical reason. Among the total 194 participants who smoke currently there were 146(75.2%) participants with positive CAGE modified results suggests nicotine dependence.

**Conclusion:** The above study suggests that substance abuse/misuse of prescription drugs and nicotine dependence is common in our population and awareness regarding smoking cessation and drugs use is needed. Screening of individuals at emergency department is an efficient method for identifying severe cases and provide them proper medical help.

**Keywords:** Tobacco, Nicotine, Smoking.

## INTRODUCTION

Substance use has always been a major cause of morbidity and mortality globally and most prevalent public health issue costing more than \$414 billion annually in the United States. Substance abuse leads to death which could have been prevented reducing the financial and social burden caused by incidents<sup>1</sup>.

The emergency department of any hospital serves as the entry point having access to medical and surgical care. In the previous decade the emergency room has been increasingly used for screening of substance abuse disorders. The emergency department encounters a lot of patients on daily basis, hence active screening and advice for pharmacologic and psychosocial interventions can also be made<sup>2</sup>. Emergency department can be helpful to filter out patients with drug dependencies and counsel them for referral to specialty units. In United States, more than 50% of the individuals visiting emergency have been involved in some sort of substance use<sup>3</sup>.

Globally there are 31 million people affected with substance use disorder which adds up to healthcare costs and crime rate. In Pakistan an estimated count of 6.7 million people regularly uses cannabis, heroin, opium, and misuse other prescribed drugs. Pakistan had been labelled as High Heroin Addicted Country in 2014 and substance abuse has been increasing in Pakistan drastically<sup>4</sup>. The government of Pakistan had been providing free of cost treatment and rehabilitation services to drug abusers to improve their quality of life. Since the onset of COVID-19 these services have been stopped due to lockdown restrictions. Hence, the burden of substance abuse has fallen onto private organizations which can't be afforded by majority of our population<sup>5</sup>. The prevalence of tobacco use in Pakistan is 13.4% and is increasing rapidly especially among adolescents. It is the most common modifiable factor in diseases like hypertension, myocardial infarction, and cancers. There are many effective strategies and initiatives taken by the WHO to decrease tobacco use. Around 80% of the world smokers are found in low to middle income countries which includes Pakistan<sup>6</sup>.

The concept of motivational interviewing has been applied in some emergency setups which includes 4 step processes of engaging, focusing, evolving and planning<sup>7</sup>. Brief interviews and a non-judgmental approach can often result in diagnosing substance abuse in an emergency department. There are a lot of data on effectiveness of brief interventions with varying reactions across different populations<sup>8</sup>. There are various tools being used for assessing alcohol and substance abuse in minimum time and navigating them to right rehabilitation services. Factors that favor smoking include easy access to cigarettes with no purchase limit and peer pressure to start smoking. To stop smoking we need strict implementation of policies with awareness programs for the population.

The tools for tobacco addiction screening include CAGE whereas DAST and CRAFFT are used for substance abuse<sup>10</sup>. The NIDA quick screen single question was found to be 100% sensitive and 73.5% specific for assessing drug abuse<sup>11</sup>.

In our study we aim to evaluate prevalence of drug use using single drug screening question and DAST-10 scale in patients visiting emergency room.

## MATERIAL AND METHODS

This is a cross-sectional study conducted in the emergency department of Usman Memorial Hospital, Karachi during the period of Jan, 2020 to June, 2021 after approval from Ethical Committee. In the 18 months of study we included patients visiting to our emergency department due to any acute complaint who is older than 18 years of age. Participants were asked about their socioeconomic condition and education. All the participants were to be asked National Institute of Drug Abuse (NIDA) quick screen and tobacco addiction screening was done by CAGE questionnaire. Any 2 positive responses in CAGE modified is considered to be positive for nicotine dependence<sup>11,13</sup>. An informed consent was taken before administering the NIDA quick screen and CAGE modified questionnaire for nicotine dependence. The single screen question asked was "How many times in the past year have you used an illegal drug or used a prescription medication for nonmedical reasons?" A response of at least 1 time was considered positive for drug use. The CAGE modified was considered positive when any two yes responses from total four

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questions. Patients visiting the emergency while being unconscious or those admitted in the ICU and surgery ward were excluded from the study. Patients were informed that their data would be kept anonymous. Data was collected and analyzed using SPSS version 21. Descriptive statistics and frequencies were calculated.

## RESULTS

During the 18 months' time, we received 642 patients matching our inclusion criteria for this study. Out of these 371(59.4%) participants agreed to participate in the study whereas the 40.6% refused to enter the study. Out of these there were 242(65.2%) males and 129(34.7%) females in the study sample. The mean age of our participants was found to be 43±7.3 yrs. Table-1 shows the gender distribution of study participants. We noted that 48% (n=178) patients had completed college whereas 89(24%) had completed post-graduation. The remaining 28% of the participants had received no formal education. All these participants were asked the single screen question for drug use and 178(47.9%) of the participants have used an illegal drug or prescription drugs for non-medical reason. The response has been shown in table 2. In the next part of the study CAGE questionnaire was applied for all the participants who are currently using tobacco in any form. We found that 194(52.2%) smoke tobacco currently, so CAGE modified was applied to these and the results (Table-3).

Among the total 194 participants who smoke currently there were 75.2% (n=146) participants with positive CAGE modified results suggests nicotine dependence. It also shows that 66% of participants wanted to quit smoking but they couldn't due to lack of motivation and help.

Table 1: Gender distribution of study participants

Gender	Frequency	%age
Male	242	65.2
Female	129	34.7

Table 2: response to the single drug screen question

Response of participants	Frequency	%age
Positive	178	47.9
Negative	193	52.0

Table 3: Frequency of positive response with cage modified

Question	Frequency	%age
Have you ever felt the need to <b>CUT</b> down on your smoking?	245	66.03
Do you get <b>ANNOYED</b> when people ask you to quit smoking?	311	83.8
Do you ever feel <b>GUILTY</b> about your smoking?	134	36.1
Do you smoke within half hour of waking up? <b>EYE OPENER</b>	225	60.6

## DISCUSSION

In Pakistan, substance use screening is rarely done, and only severe drug abuse cases are identified for referral. Emergency medicine physicians are overworked and mentally tortured in Pakistan with every one in 5 doctor facing verbal abuse in the hospital. Due to burnout, our physicians also face PTSD hence they are less likely to address any other issue than the patient's acute complaint<sup>12</sup>. Substance abuse and misuse of prescription drugs is very common in Pakistan and majority of the cases remain neglected. Basic screening in primary care units is very crucial to allow physicians to help individuals<sup>14</sup>. The substance abuse in Pakistan is rising specifically among adolescents, so there should be an effective screening system to detect early cases. Drug abuse is also linked to comorbid depression in 46% of the cases as found in a study done in Lahore, Pakistan<sup>15</sup>. A visit to emergency department is time limited, hence short, and effective drug screening tools should be utilized by physicians. Guidelines in most setups include single drug screening questions for detecting

any alarming patterns of drug abuse. The NIDA quick screen is a very effective tool to assess any kind of substance abuse within limited time interval<sup>16</sup>. In Pakistan there are very few studies conducted on substance abuse screening on patients visiting emergency department for any health concern. People are usually hesitant to share the issues associated with drug abuse and any psychological problem with their own self due to stigma associated with psychiatric treatment<sup>17</sup>. In our study we have a very high prevalence of nicotine dependence as suggested by other studies done in Pakistan. The most common cause for smoking is due to peer pressure and a smoker in the house. In 2018 a cross sectional study showed that 61% of people want to quit smoking but due to lack of any awareness they can't quit<sup>18</sup>. In 2015, smoking alone increased the death ratio to 480,000 per year and it is estimated to further increase up to 800,000 deaths per year till 2030. Males have higher prevalence of smoking due to outdoor activities and social pressure than females<sup>19</sup>. In Pakistan no study is conducted using CAGE screening for general population, one study has used it for nicotine dependence in psychiatric patients. This study also suggests high ratio of nicotine dependence in psychiatric patients adding to the morbidity<sup>20</sup>.

## CONCLUSION

The above study suggests that substance abuse/misuse of prescription drugs and nicotine dependence is common in our population and awareness regarding smoking cessation and drugs use is needed. Screening of individuals at emergency department is an efficient method for identifying severe cases and provide them proper medical help.

**Conflict of Interest:** The authors have no conflict of interest to declare.

**Ethics, consent and permissions:** This study has been ethically approved by Usman Memorial Hospital, Karachi, Pakistan, Ethical Committee.

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