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Psychiatry

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CHANGE IN PATTERN OF SUBSTANCE USE AMONG PATIENTS ATTENDING A TERTIARY CARE HOSPITAL IN NORTH-EAST INDIA

Dr. Bondona Timungpi Assistant Professor, LGBRIMH, Tezpur

Dr. Satya Kumar Dutta* Senior Resident, LGBRIMH, Tezpur *Corresponding Author

Dr. Ankur Jyoti Borah Senior Resident, LGBRIMH, Tezpur

ABSTRACT

Addiction is a complex interplay between conscious and unconscious mental processes. It starts with a conscious decision to obtain drugs, but the drugs stimulates neurons to produce dopamine and sometimes other chemicals in the brain , an unconscious activity takes over the brain function Addiction creates havocs in peoples lives, their jobs, health or their spouse, may end up in poverty or in prison or leads to death. Repeated abuse has erodes brains ability to control desires and emotions, robs us our will, our ability to select freely among the several possible course of actions.

In our study 69.3% substance users were below 40 years with a average age of 36.01 years. Most common users were Hindus. Majority of drug users were using alcohol (80%) followed by tobacco and cannabis. It is seen that there is a changing pattern of substance use from the period of 2007-11 to period 2012-16. cannabis were increased from 17.39% (2007-2011) to 31.4%(2012-16); same way opioid was increased from 2.3% to 5.4%; benzodiazepine 1.8% to 2.8%; inhalant 2.1% to 6.15%; polysubsatnce 13.7% to 16%. Most common reason for reporting to hospital were substance dependence and psychosis.

INTRODUCTION:

Psychoactive substance has been a part of human existence for thousands of years. Opium was used for medicinal purposes, cannabis was used in ancient cultures as herbal products and wine has been mentioned in many cultures. With time new and more concentrated forms of drugs were discovered and new routes of administering them were developed. Thus with more frequent use the problems related to substance use began to emerge.

Indian scenery is not any exception to world. Alcohol, opium, cannabis use has been famous from ages. With rapid growth and development there has been an advent of newer substances of abuse into the country. With the passage of time substance use has become a substantive problem for the individual and therefore the country.

Numerous surveys had been conducted within the country in various populations to document the extent and pattern of substance use. **National Household Survey of Drug Use** found that **Alcohol (21.4%)** was the primary substance used (apart from tobacco) followed by cannabis (3%) and opioids (0.7%). Prevalence of alcohol abuse was widely varied across India (**7%** in **Gujarat** to **75%** in **Arunachal Pradesh**).[1] The substance abuse estimates are however likely to change over the period of time depending upon diverse factors such as availability, cost existing legislation and their implementation, social perception and attitude, peer pressure and socio-cultural factors.

The northeastern region of India has shown a great deal of cultural and geographical diversity. Its home to several tribes with their indigenous cultural beliefs and practices. Geographical location being on the point of the golden triangle, the illicit route of drug importing has conjointly put an impact on the pattern of substance abuse in this part of the country.

While epidemiological research has now provided us with figures for national level prevalence, it might be prudent to acknowledge that there are regional variations in substance use prevalence and patterns. It is also prudent to recognize the dynamic nature of substance use. Thus there is a need for periodic national surveys to determine changing prevalence and incidence of substance use.

The dearth of studies during this part of the country has led us to explore the pattern of substance abuse in northeastern region of India.

METHODS:

it was a retrospective observational study carried by the Department of Psychiatry, Lokopriya Gopinath Bordoloi Regional Institute Of Mental Health (**LGBRIMH), Tezpur** after ethical approval by the Institutional Ethics Committee. The aim was to study the socio-demographic correlates of patients of various substances of use recorded and to study the pattern of substance use among patients attending LGBRIMH, Tezpur throughout the study period. Data collected for the study was from the old hospital records of patients from **1st January 2007 to 31st December 2016.** Hospital records of patients from **1st January 2007 to 31st December 2011 shaped the group A** and hospital record of patients from **1st January 2012 to 31 December 2016 formed the group B** for the study. The two groups were compared to search out if there was any change in pattern of substance use. A semi structured pro-forma was developed and validated for the study. Those patients registered in LGBRIMH, Tezpur during the study period and were diagnosed as mental and behavioral disorders due to psychoactive substance use according to ICD-10 by the experienced psychiatrists of the institute after direct interview with the patients and their relatives were included in the study. Patients with Co-morbid psychiatric diagnosis were excluded from the study.

RESULTS:

Out of total 3664 cases, group A consist of 1046 and group B consist of 2618 that means that number of cases of substance use reported to LGBRIMH is increased by more than double in the second half of study period.

During the study period 69.3% of cases were below 40 years. 82.9 were between 21-50 years. In group A 67.3% were below 40 yrs and 85.3% were between 21-50 yrs. In group B, 70% were below 40 years and 82% was between 21-50 years. Minimal age of exposure to a substance was reported to be 8 years. 98% in both groups were male while 2% were female.

Out of total drug users 62.74% were from joint family while 37.2% were from nuclear. In group A 71.7% were from joint family while in group B, 59.1% were from joint family. In group A 28.2% were from nuclear family while 40.18 were from nuclear in group B.

Majority of substance user belonged to Hindu (79.7%) followed by Islam (13%), Christian (6.9%), Sikh (0.4%). In group A, 80.9% and in group B, 79.1% were Hindu.

In both groups majority had completed secondary education – group A (56.8%) and group B (63.6%). Overall 3.65% were students, 1.06% was housewife, 24.12% were daily labor, 16.9% were unemployed, 21.5% were service holder, 18.3% were businessman, 14.7% were cultivator. In both groups common occupations were unemployment, service holder, business and cultivator.

In both groups, majority were married – group A (72.6%) and group B (70.6%), from lower socio-economic status- group A - 66.8% and group B - 71.7% and from rural background - group A -79.5% and group B-80.6%

During the study period most common substance due to which people reported to hospital was found to alcohol (85.3%), followed by tobacco (37.67%) and cannabis (27.4%) of which 13.3% used both alcohol, cannabis and tobacco and 15.36% used polysubstance, 4.5% used opioid, benzodiazepine (2.5%), inhalant (5%) and dhatura (0.19%).

Total reported cases of alcohol users were 3125 of which 30.1% reported during the initial 5 years and 69.9% reported in the next 5 years that is there was 40% increase in reporting of alcohol related problems. Similarly second reported cases were tobacco 1380 of which group A consist of 24.5% and group B consist of 75.5% and there was 51% increase in reporting of tobacco use. Third common substance was cannabis (1004). Group A contains 18.12% and group B contains 81.8% with an increment of 63.68%. similarly total reported cases of poly-substance were 563 of which 25.58% were in group A and 74.4% were in group B.

In the initial 5 years period i.e. in group a most people reported were alcohol user (89.9%). In later 5 years period number of people reported due to use of other substances were increased. Reported cases of cannabis were increased from 17.39% (group A) to 31.4%(group B); opioid was increased from 2.3% to 5.4%; benzodiazepine 1.8% to 2.8%; inhalant 2.1% to 6.15%; polysubsatnce 13.7% to 16%.

Most of the cases reported to our hospital fulfilled the criteria for dependence (48.2% in group A and 52.23% in group B) and psychosis (43.8% in group A and 42% in group B). Other complications were delirium tremens (4.5% in group A and 2.3% in group B), alcoholic liver disease (13.3% in group A and 9.6% in group B), rumfit (14.3% In group A and 13.5% in group B), amnesia (13.4% in group A and 8.5% in group B).

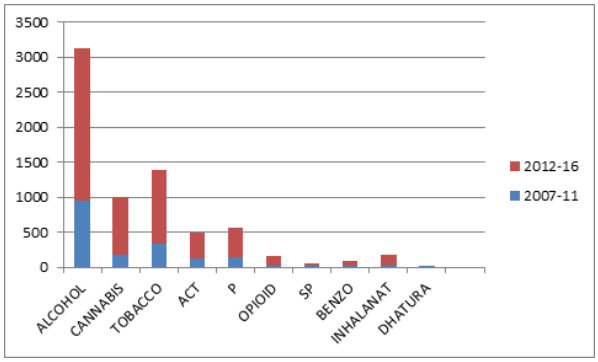

Figure 1: comparison of reported cases of various substances between group A and group B

ACT= ALCOHOL+CANNABIS+TOBACCO, P=POLYSUBSTANCE, SP=SPASMO PROXYVON, BENZO= BENZODIAZEPINE

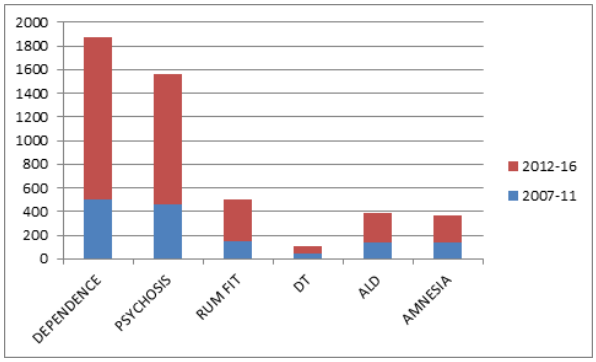

Figure 2: comparison between group A and group B of different reasons for which people visited the institute. DT= DELIRIUM TREMANS, ALD= ALCOHOLIC LIVER DISEASE

DISCUSSION:

In our study we found that in each year number of people reporting to hospital was gradually increasing. Minimum age of exposure of alcohol was reported to be 8 years. In our study 69.3% substance users were below 40 years and 82.9% were 21-50 years with a average age of 36.01 years. In a study by **Din Dayal et al,** 59.8 % drug users were in the age group of 15-34 years with a mean age of 32 years[2].Most common users were Hindus which is in accordance with the study of **Hazarika et al & Seck et al(1994)[3-4].**

Majority of drug users were using alcohol (80%) followed by tobacco and cannabis. In a report published by **national survey on extent & pattern of substance use in India** by ministry of social justice and empowerment, government of india, in 2019 it was found that alcohol was the most commonly used psychoactive substance in india followed by cannabis[5]. **In a study by Hazarika et al 2000, they found that 40.4% were tobacco user and 36.5% used alcohol. Another study done by Bardhan T 2015, found that gutcha was the most common substance use[6].The difference may be due to the fact that** many people using tobacco may not recognize their problem and don't seek treatment Alcohol, tobacco, and cannabis were the most common substance use. It is seen that there is a changing pattern of substance use. Reported cases of cannabis were increased from 17.39% (group A) to 31.4%(group B); opioid was increased from 2.3% to 5.4%; benzodiazepine 1.8% to 2.8%; inhalant 2.1% to 6.15%; polysubsatnce 13.7% to 16%. Most common reason for reporting to hospital were dependence and psychosis.

CONCLUSION-

addiction is a complex interplay between conscious and unconscious mental processes. It starts with a conscious decision to obtain drugs, but the drugs stimulates neurons to produce dopamine and sometimes other chemicals in the brain , an unconscious activity takes over the brain function .the release of dopamine not only creates a feeling of pleasure, it also conditions us i,e creates a long term memory that enables to recognize a environmental cues (smell of cigarette, sight of a needle) that predict pleasure-elicit an intense craving for the drug, which in turn , elicits drug seeking behavior. Hereditability of addiction is moderately high ;roughly 50 percent, ie genetic risk of addiction is greater than that of type 2 diabetes or high blood pressure[12] as addiction is strongly shaped by genetics, it is important to approach addiction as brain disorder, not as moral failing.

Addiction is a chronic disease, affects several neural circuits in brain required a multi pronged approach to treatment. Most addicted people return to using drugs even after completing

best available methods. These high relapse rates reflects long lasting changes in the brain during addiction. Drug addiction is a form of long term memory, the brain becomes conditioned to associates certain environmental cues with pleasure and encountering those cues can trigger an urge to use the drugs . The goal of treatment to help the addicted person forget the pleasure associated with the addictive drugs and counteract the powerful biological forces that drive addiction, thereby enhancing the effectiveness of rehabilitation and psycho social treatment.

Based on these findings, following recommendations can be considered. (i) Maintaining the substance use control through legislation by which controlling of selling substances and prohibition of substance use in public places seems to be effective (ii) early, educational intervention at the school level appears to be the most feasible measure to prevent initiatives toward the use of substances. This needs to include substance use and its adverse effects, management of substance use incidents, communication of refusal skills among students and provision for training, and staff development. Parents and siblings should be involved in school education programs concerning substance use and should be motivated to share a healthy relationship with their children and give more time to them, especially in the growing up stage when deviant behavior can influence them easily. Periodic surveys, possibly every 2–3 years, would be useful to address the substance use issues and to evaluate the impact of the preventive measures. So, strict implementation of legislation is very importent especially regarding availability and purchase of abusive substances and a holistic approach is required involving government, nongovernmental organizations, civil societies, media, and judiciary for combating such problem.

Strength- Reporting from a tertiary helth care setup of mental health as in our study is rare in this part of india as well as the mainland which provides actual picture of existing pattern of substance use and its effect on mental health.

Limitation- Retrospective data review process and missing of some data were the limitations.

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Declaration of interest: None

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