Origin of Substance abuse, causes,effects and prevention with special focus in District Anantnag, Kashmir

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Introduction

Recent advances in psychosocial research and neurosciences have provided new avenues for prevention of substance abuse at the individual and community level. A series of risk and protective factors affecting the likelihood of using and abusing substances have been identified. The scope of prevention has been broadened, allowing the prescription of different interventions for individuals according to their varying degrees of vulnerability to substance experimentation, continuous use and dependence. An increased awareness of comorbidity between mental and substance use disorders provides an arena for prevention within psychiatry and related disciplines. Emphasis on program evaluation has helped identify cost effective programs and policies. The integration of prevention within healthy lifestyle policies and programs, including interventions at the school, family and community levels, is more likely to produce the desired outcomes.

Prevention is understood as any activity designed to avoid substance abuse and reduce its health and social consequences. This broad term can include actions aimed to reduce supply (based on the principle that the decreased availability of substances reduces the opportunities for abuse and dependence) and actions aimed to reduce demand (including health promotion and disease prevention). Evidence from epidemiology suggests continuous shifts between periods of increasing and decreasing abuse of substances, prevention

can modify the trend, generate or reinforce the downward shift, or help diminish the rising trend.

Reducing the supply of illegal substances has included efforts aimed at destroying crops, crop substitution, prosecution of big scale traffickers and substance dealers, and reduction of substance availability on the streets. Abuse of psychotropic and narcotic medicines with a dependence potential has been controlled through medical prescription and the application of specific regulations for the production and distribution of medical drugs and their precursors. Medical education has a crucial role to play in reducing the availability of prescribed substances for abuse.

Demand reduction can be accomplished through special programs aimed to modify those factors which make individuals vulnerable to substance experimentation, continuous use and dependence, as well as to promote protective factors in the individual and the environment.

The need for an integrated strategy of supply and demand reduction was recognized during the 20th Special Session of the United Nations held in New York in 1998. In the Political Declaration, member states recognized that action against the substance problem was a shared responsibility requiring an integrated, balanced approach. The term "demand reduction" was used to describe policies and programs aimed at reducing consumer demand for narcotic and psychotropic substances covered by the international substance control conventions. The Declaration of Demand Reduction recognized the need to:

a. *assess the problem*, in order to base prevention on a regular evaluation of the nature and magnitude of substance abuse and related consequences;
b. *tackle the problem*, from discouraging initial use to reducing the negative health and social consequences, education, public awareness, early intervention, aftercare and social reintegration, early assistance and access to services for those in need;
c. *forge partnerships*, through the promotion of a community-wide participatory and partnership approach as the basis for the accurate assessment of the problem and the formulation and implementation of appropriate programs, integrated into broader social welfare and health promotion policies and preventive education programs;
d. *focus on special needs* of the population in general and of specific subgroups, with emphasis on youth;
e. *send the right message* (the information utilized in educational and prevention programs should be clear, scientifically accurate and reliable, culturally valid, timely and, where possible, tested on a target population).

DRUG ADDICTION IN KASHMIR

Kashmir has been through the two decades of turmoil that resulted in an increase of psychiatric illness and psychosocial disturbances. A number of psychiatric problems have emerged like Depression, OCD, PTSD, Drug Addiction, etc. As long as the problem of drug addiction in Kashmir is concerned it has observed that this conflict ridden region has had a tremendous rise in substance abusers over the past decade. The United Nations Drug Control Programme (UNDCP) reported that around 70000 people are drug addicts in the Kashmir valley alone among which 4000 are females. Several studies conducted in the valley revealed that youth particularly between the

age group of 17-30 involved in this menace of drug addiction. Government Psychiatric Hospital, the only mental health hospital in the valley in one of its reports stated that most drug addiction cases belong to a very young generation. A renowned psychiatrist in Kashmir Dr. Maqgoob and Dutta in one their books has reported that around 2.11 lakh drug addicts are in Kashmir valley. The common substances used by Drug Addicts in Kashmir are Cannabis, Brown Sugar, Heroine, SP tablets, Anxit, Alprax, Inhalants like Fevicol, SR solution, Thinner, Shoe Polish, Paint varnish and dirty socks are used as substances.

Margoob and Dutta in one of their studies conducted in the year 1993 stated that most drug addicts were males and mainly their substance of addiction is Cannabis.

Naqshbandi in his paper “drug addiction and youth of Kashmir " interviewed 270 young Kashmiri people between the age group of 16-30 in different districts of Kashmir. His findings revealed that Conflict and unemployment were the main reasons for drug addiction among the youth. Several studies have shown that 80% of drug addicts get this addiction before the age of 30 years. Another study conducted related to awareness of drug addiction among college students in Kashmir valley shows that the majority of students believe that people started to take drugs in the age group of 20-30. The study further revealed that smoking often acts as a doorway to drugs or at least a starting point. This study conducted by Bhat et al. further revealed that above 90% don’t have any awareness regarding the drug De addiction process and only 8% know about the drug de addiction center in Srinagar, Kashmir.

In another important study conducted by Mushtaq et al. reported that about 90% drug abusers are poly abusers. The poly abuser is one who takes two or more drugs at a given period of time, for example, a person who is taking cannabis also taking alcohol or Heroin or any other drug. They also reported that the period of initiation of the drug is between the ages of 11- 20. Peer Pressure has been summated as

the main reason of drug addiction with 78% drug addicts revealed that they have turned to drugs due to peer pressure while relief from negative or seeking pleasure is also reported as a cause of drug addiction.

To curb this menace and diminish this horrific picture of substance abuse. The J&K Police have taken an initiative by conducting awareness programs in three districts of Kashmir Srinagar, Baramulla and Anantnag. These awareness programs lead the J&K Police to establish a drug de addiction center at Police Control Room Srinagar [10]. According to the reports of Drug de addiction and rehabilitation center Srinagar, the total numbers of patients seen in the OPD from February 2008 to December 2016 is 15294 and were diagnosed with ICD 10. Among the 15294 patients 472, were diagnosed as alcohol abusers, 1359 as Opioid abusers7860 as cannabis abusers, 352 cocaine abusers, 1080 as benzodiazepines users, 460 volatile abusers and 3741 were poly drug abusers. The drug de addiction center is managed by a Clinical psychologist, Psychiatrists, de addiction Social workers, Counselors, medical officers, and yoga trainer. The center admits a person for detoxification and rehabilitation only after his motivation and proper medical check-up. Usually, a patient is admitted for the period of 3 or 4 weeks. According to center's IPD report, a total number of 1332 patients has been rehabilitated among which 90 were alcohol abusers, 235 opioid abusers, 275 cannabis abusers, 222 benzodiazepines abusers, 25 cocaine abusers, 165 volatile substance abusers and 330 patients were multiple abusers.

The daily routine at the center for patients includes group sessions on weekends, morning sessions, recreational activities like singing, dancing, etc., evening sessions and detailed review of medical, psychological and social interventions. In the late evening, the medical round is conducted followed by supervised medication and the day ends with dinner. Two more drug de addiction centers were also working under the Police supervision on the same pattern in other two

districts of Kashmir Valley viz. Drug De-addiction and rehabilitation center Baramulla and Anantnag.

THE SCOPE OF PREVENTION

In the past, there was a tendency to regard primary prevention (interventions before the onset of symptoms) as the only true form of prevention. It is now recognized that effective prevention approaches are required before and after symptoms become apparent, since substance abuse disorders are chronic and relapsing or recurring in nature. Moreover, personal and financial costs can be largely attributed to episodes that follow a first onset, meaning that the prevention of recurrence and relapse - including relapse after successful treatment - is an essential aspect of a public health strategy to reduce prevalence.

Moreover, primary prevention has been classified into universal, selective and indicated, according to the level of risk of using substances. The US Institute of Medicine defined *universal preventive interventions* as those targeting the general public or a whole population group. *Selective preventive interventions* are those aimed at subgroups of the population whose risk of developing the disorder is significantly higher than average (these persons may be at imminent risk or have a lifetime risk). *Indicated preventive interventions* were defined as those targeting high-risk individuals who are identified as having minimal but detectable signs or symptoms foreshadowing the disorder, or biological markers indicating a predisposition for the disorder, but who do not meet diagnostic levels at the present.

The scope of prevention also includes *early intervention* with individuals that have experimented with substances but are not severely dependent and may therefore be "reeducated" through learning interventions, as well as *treatment of dependence*, *relapse prevention* and *social reintegration*. It is now recognized that interventions within the whole spectrum reduce the burden of the problem for society.

The burden of substance abuse can be divided into two areas: intoxication and dependence. Limiting the damage to the individual and society from intoxication (i.e. driving under the effects of psychoactive substances) and reducing the risk of exposure to substances and thus of developing dependence, are essential components of prevention.

Reduction of harm is a somewhat different approach to prevention. This type of measures has been shown to reduce major health and social consequences. Examples of risk reduction measures include making clean syringes available, which has proved to reduce the risk for human immunodeficiency virus (HIV) infection and hepatitis B, or substitution treatment, which reduces crime levels in the streets.

A broad definition of prevention includes health promotion and prevention of disorders. The former aims to increase well-being by, for example, reducing inequities and building social capital, while the latter seeks to reduce incidence, prevalence, recurrence and time spent with symptoms, prevent relapses, delay recurrence and reduce the severity of symptoms. Decreasing the impact of illness on the person, the family and society is also considered part of prevention.

Prevention also includes reduction of stigma, and consequently of barriers to treatment.

PSYCHOSOCIAL INTERVENTIONS

Variations in personal characteristics and in the socio-cultural environment create differences in the degree of vulnerability to substance experimentation, continuous use and dependence, meaning that prevention also needs to vary both in content and intensity.

Risk factors can be found in different domains: a) at the individual level (e.g., some mental disorders or a sensation- seeking personality); b) in the family (e.g., living with a depressed or substance dependent parent); c) at school (e.g., poor academic performance); d) among peers (e.g., friends that use substances), e) in the community (e.g., easy availability of substances, social tolerance). These factors interact with the individual process of receiving, elaborating, interpreting and responding to stimuli. The significance of these risk factors varies during the developmental stages.

The change in scope from prevention of substance use to the prevention of risk factors opened up new possibilities, particularly since it was expanded to include interventions at the early developmental stages. Nonetheless, it has also been observed that exposure to risk factors, even if these are extremely numerous, does not inevitably lead to substance use or escalation to dependence. In fact, children raised in problematic family environments, even if they

live in environments where substances are easily available, may reach adulthood without having experimented with substances, due to the presence of *protective factors* that offset existing risk factors.

Protective factors can also be found in different domains: a) at the individual level (e.g., high self-esteem or a risk avoidance personality trait); b) in the family (e.g., living with parents able to meet their children's affective needs); c) at school (e.g., school adherence); d) among peers (e.g., close peers with a low tolerance of drug use); e) in the community (e.g., strong social networks). Although these factors can protect the individual from risk, they should not be regarded as the absence of risk. Risk factors indicate where it is necessary to intervene and protective factors show how to do so.

Preventive interventions should encompass disease-specific as well as more generic risk and protective factors. The latter are those common to several disorders and may create a wide spectrum of preventive effects such as poverty and child abuse. Disease- specific risk and protective factors are those that are mainly related to the development of a particular disorder: for example, social tolerance toward alcoholic inebriation and the lack of regulations concerning drunk driving are specifically linked to the likelihood of alcohol-related traffic accidents.

Broad contextual factors - such as inequity, poverty, neighborhood disorganization, lack of health and social services, availability of substances - are important determinants of the level of use and problems. It has been shown that, although the population with higher income levels consumes more substances, substance abuse has a

greater impact on the poor, since it compounds their numerous everyday problems. Societies can reduce this burden by integrating social minorities, providing services and facilitating community networks.

EVIDENCE PROVIDED BY NEUROSCIENCE

Improved understanding of the neurobiological mechanisms underlying substance dependence can lead to better strategies to prevent substance involvement and dependence. A recent World Health Organization (WHO) publication on the neurosciences of substance use and dependence summarizes recent findings in this field. Substances differ with respect to the specific receptors in the brain that they influence, but there are also considerable commonalities. Substance dependence is a disorder that involves the motivational systems of the brain, and despite the fact that each substance has unique mechanisms of action, all substances which cause dependence activate the mesolimbic dopamine system. The neural pathways that substances affect are the same as those involved in many other human behaviors, including eating, having sex or gambling. Dependence-producing substances differ, however, from conventional reinforcers in that their stimulant effects on dopamine release in the nucleus accumbens are significantly greater than natural reinforcers such as food.

Dependence-producing substances have the potential to produce positive effects on the individuals using them, that vary from minor effects such as reduction of stress to major effects such as the "high" or "rush" associated with the use of amphetamines, heroin or crack

cocaine. The presence of the reinforcing mechanism explains why individuals use substances and establishes the basis for continuous use that is a necessary but not a sufficient condition for the onset of dependence.

Repeated exposure increases the reinforcing effects. This process is associated with marked changes in the dopamine mesolimbic system. There are both presynaptic changes (increased dopamine release) and postsynaptic changes (changes in receptor sensitivity). In addition, structural changes in output neurons in the nucleus accumbens and prefrontal cortex have also been seen following sensitization to amphetamines and cocaine. The final step in this process is substance dependence. This enduring process of sensitization can explain relapses after considerable periods of substance abstinence.

There seems to be no linear relationship between the amount of a substance used and the severity of dependence, and no single relationship between pattern of use and onset of dependence. On the basis of available knowledge, it is not possible to predict who will lose control and become dependent.

Knowledge drawn from neuroscience reinforces the need to prevent experimentation and escalation to use and dependence, as well as the need to prevent repeated exposure, by limiting availability, reducing opportunities to use substances and making the individual more resistant to substances through psychosocial interventions. Cognitive behavioral therapies act on the same motivational systems in the brain that are affected by substance dependence and seek to replace the

motivation to use substances with the motivation to engage in other behaviors.

Underlying dependence are individual, genetic and environmental factors that can modulate the reinforcing effects of the first exposure to substances. Genetic differences can make the use of substances more or less pleasurable or aversive to a particular individual, can affect the toxicity of the substance, both in terms of overdose and of chronic health effects, the intensity of psychoactive effects and the likelihood of different aspects of dependence.

Genetic research has so far failed to identify which individuals will become dependent or will experiment with substances, but the significant modulation effects of genes suggest the need to advise individuals with first-degree relatives with substance abuse about their particular susceptibility.

One of the future outcomes of the improved understanding of the mechanisms underlying substance dependence might be the development of immunotherapies preventing substances from reaching the brain to produce their effects. Future research will have to prove this possibility.

Substance users differ in their motivation to use substances, which in turn influences the likelihood of success of interventions. The US National Institute on Drug Abuse has suggested the existence of two broad categories: a) individuals that use substances to "feel better", perhaps in search of the positive effects of substances, often

described as sensation seeking; b) those that use substances to avoid "feeling bad", perhaps as a means of self-treatment. In the former case, prevention should focus on finding alternatives to substance use, while in the latter it should concentrate on treating the underlying illness. The following section deals with the relation between substance abuse and mental disorders.

COMORBIDITY BETWEEN SUBSTANCE ABUSE AND MENTAL DISORDERS: IMPLICATIONS FOR PREVENTION

Despite the frequent co-occurrence of substance abuse and mental disorders, attention to this comorbidity is only recent, and individuals suffering from both disorders are usually treated in different contexts, which affects treatment outcome negatively. When anxiety, affective or externalized disorders pre-exist, there is evidence of a high level of attributable risk of developing substance dependence, which emphasizes the role of the early treatment of mental disorders as an effective preventive strategy.

Five main categories of comorbidity can be identified, although for some patients it might not be clear which category they belong to: a) primary diagnosis of a major psychiatric illness with a subsequent (secondary) diagnosis of substance misuse which adversely affects mental health; b) primary diagnosis of substance dependence with psychiatric complications leading to mental illness; c) concurrent substance misuse and psychiatric disorder, with the former exacerbating or altering the course of the latter; d) the psychiatric disorder exacerbating the course of substance misuse; e) an

underlying traumatic experience resulting in both substance misuse and psychiatric disorders.

The WHO advanced four neurobiological hypotheses to explain this comorbidity: a) psychoactive substance use disorders and other mental illness are different symptomatic expressions of the same pre-existing neurobiological abnormalities; b) repeated substance administration leads - through possibly aberrant or excessive neuroadaptation to acute substance effects - to biological changes that have some common elements with the abnormalities mediating other mental illnesses such as depression; c) substance abuse reflects self-medication intended to reverse pre-existing abnormalities; d) mental illness and substance abuse are independent phenomena and co-exist merely by chance.

There are also other possible non neurobiological reasons for this comorbidity, such as environmental factors related to early exposure to violence, growing up in environments lacking affection and caring, intense and continuous exposure to stress, lack of social networks, especially if they co occur in socially disorganized environments with easy availability of substances.

Comorbidity of substance use disorders with mood and anxiety disorders has been reliably observed irrespective of culture and geographical location. In general the magnitude of comorbidity with psychiatric problems is greater for drugs than alcohol abuse. There is a continuum in the magnitude of comorbidity as a function of the spectrum of the substance use category (use, problems, dependence)

as well as a direct relationship between the number of comorbid disorders and the severity of substance use disorders.

Kessler et al estimated the effects of mental disorders in predicting the subsequent first onset of substance use problems and dependence. They found that the odds ratios for effects on dependence ranged from 3.3 to 14 for anxiety disorders and between 4.4 and 18.6 for mood disorders. The latency between the onset of the primary mental disorder and that of the subsequent substance dependence showed a window of opportunity for preventive interventions: for most mental disorders, this latency period was of 5-8 years. Mental disorders were less powerful predictors of first substance use than of progressing from use to problem use and from problem use to dependence. Primary mental disorders were associated with approximately half of all cases of substance dependence: 54% among men and 48% among women.

EVIDENCE-BASED PREVENTION STRATEGIES

The recent interest in documenting the outcomes of prevention programs has provided some general principles for substance prevention. In general, multiple-component programs (school, family, community) have proved to be the most effective, particularly if they are incorporated into a wider perspective of healthy life styles rather than emphasizing what is forbidden or dangerous. Information in itself has proved to be insufficient: the most commonly used school programs have proved successful in modifying knowledge and attitudes, but sustained change is more difficult to achieve. Better results have been observed when programs include skills training

components and when they can intervene in more than one of the steps in the chain from substance availability to having the opportunity to use substances, experimenting, continuous use, different levels of dependence and abstinence.

The US National Institute of Drug Abuse has developed a list of principles for prevention, drawn from long-term research studies on the origins of substance abuse behaviors and the common elements of effective prevention programs. These include the following: a) prevention programs should enhance protective factors and reverse or reduce risk factors (the potential impact of specific risk and protective factors changes with age; early intervention with risk factors often has a greater impact than later intervention, by changing a child's life path away from problems and toward positive behaviors; while risk and protective factors can affect people of all groups, they may have a different effect depending on a person's age, gender, ethnicity, culture, and environment); b) programs should be tailored to address risks specific to population or audience characteristics; c) prevention programs should be long-term, with repeated interventions (i.e., booster programs) to reinforce the original prevention goals.