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PREVENTION OF PSYCHOACTIVE SUBSTANCE USE

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ABSTRACT — Substance use disorder in a severe mode is called addiction, it is a chronic disorder of the brain determined by biological and social factors that have unhealthy consequences to individuals and to community. Understanding substance use disorder has improved our perspectives in the last thirty years due to major advancement in researches related to genetics and neuroscience. In addition to the evolution of new technologies and methods that helped us create advanced prevention techniques and interventions.
METHODS: PubMed was used to conduct the literature searches, observational and interventional studies focused on adult substance use were obtained. Findings were collected and arranged to cover the main points of epidemiology, neurobiology and prevention.
RESULTS: substance-related use patterns have evolved over time, which are informed via peer behaviors, environmental factors, messaging platforms, availability of various substances, and other different variables. Many risk factors in addition to resiliency factors contributed to individual differences in substance use and related results. Prevention methods have achieved mixed results, although many evidence-based treatments were developed for substance use disorder, the results are limited to a moderate level, suggesting the need for additional research to evolve prevention methods and treatment.
CONCLUSION: It is necessary to mention that there is a high demand to identify cost effective prevention methods. The integration of prevention methods and techniques, including interventions at the school, family and society levels, is more likely to achieve the results needed.

KEYWORDS — substances, abuse, prevention, dependence.

INTRODUCTION

Psychoactive drugs are the foremost utilized psychotropic substances all over the world. The word "psychostimulant" can be characterized as a psychotropic substance that's able to stimulate the central nervous system (Rădulescu et al., 2020). It causes excitation and elevated mood, in expansion to expanded alertness and excitement. Its major impact is to speed up signals into the brain. In other words, it can be characterized as a substance other than a depressant or a hallucinogenic substance (Favrod-Coune & Broers, 2010).

Genetic epidemiology of drug use disorders

Several studies have demonstrated that substance use disorders are particularly related to genetics. This finding focuses to the important role of developmental and environmental factors in determining who is exposed to those substances or at risk of initiating illegal drug use, as well as genetic factors that contribute to determining an individual's continued risk of developing a substance use disorder (Schulden et al., 2012).

Etiology and types of psychostimulants

1. The Etiology of Substance Disorders

The triggers of substance use disorders include both genetic and environmental factors. These occur along a continuum starting from the macro level which consists of broad social influences, to the micro level, which consists of influences at the molecular level. These are often seen as external to internal levels. Macro factors, including societal availability and desirability of materials, geographic and temporal differences, pricing, laws, and advertising. Mid-level factors include religiosity and parent and peer social influences. Moving increasingly towards the micro and intrinsic levels, taking into account cognitive and personality variables, subjective responses to substances, specific risks as well as protective genes (Hasin & Keyes, 2010).

2. Types of psychostimulants

Humans have used naturally occurring psychological stimuli for many decades. They include: cocaine (coca leaf), betel (areca nut), ephedra and khat.

In addition to psychostimulants of plant origin, there are many synthetic products, such as amphetamine-type stimulants and their derivatives (Latt et al., 2009).

Vulnerability to substance use disorders

As with most other chronic diseases, 40% to 70% of a person's risk of developing a substance use disorder is genetic, but many environmental factors interact with a person's genes to modify their risk.

On a personal level, major risk factors include a family history of substance abuse or mental disorder, low school participation, a current mental health problem, a history of abuse and neglect, family conflicts and violence.

Some important personal protective factors conflict with: participation in school, development of good coping skills, participation in healthy recreational/social activities.

Prevention science concludes that there are three main points of vulnerability. First, no individual personal or environmental factor can determine whether an individual will develop a substance use disorder or problem. Second, most risk and protective factors can be modified through preventive programs and policies to reduce vulnerability. Finally, although substance use problems and disorders can present in any age group, the greatest risk was greatest in adolescents and young adults.

Regarding substance use disorders, research now indicates that more than 85% of those who meet the criteria for a substance use disorder at some time in their lives do so during adolescence. In other words, young adults who transition into their teenage years without meeting the criteria for a substance use disorder are not likely to develop them at all (McLellan, 2017).

Substance Use Prevention in primary health care settings:

A screening test for alcohol, smoking, and psychoactive substances (ASSIST) was developed under the auspices of the World Health Organization in response to the enormous global public health burden associated with psychoactive drugs. ASSIST was created for use in primary health care settings, where harmful drug use among visitors may not be detected. The package includes an 8-item questionnaire created to be administered by a primary health care worker to the visitor. It was created for use in the screening of the following substances: tobacco products; amphetamine-type stimulants; hemp; alcohol; cocaine; hallucinogens; inhalants; sedatives, including benzodiazepines; opioids; other medicines.

ASSIST specifies a risk score for each substance, which is used to initiate a discussion with primary care visitors about their use of these substances. This score falls into the *low*, *moderate* or *high* risk category which identifies the intervention most appropriate for this level of use (ie *no treatment*, *brief intervention*, or *referral for specialist assessment and treatment* respectively).

Finally, these questions provide an indication of the extent of the risks that can be associated with the abuse of a PHC visitor substance, and whether use is risky and likely to cause harm, now or in the near future, if use continues (Renstrom et al., 2017).

METHODS

PubMed was used to conduct the literature searches, observational and interventional studies focused on adult substance use were obtained. Findings were collected and arranged to cover the main points of epidemiology, neurobiology and prevention

RESULTS

Prevention programs

1. Universal Prevention Interventions

Comprehensive interventions seek to reduce specific health problems across all people in a given population by reducing a variety of risk factors and providing a broad range of protective factors. Examples of universal interventions include policies; such as limiting the availability of substances in the community and setting a minimum drinking age; In addition to providing school programs that enhance social and emotional competencies to reduce stressful events students face, express their feelings appropriately, and develop resilience abilities related to negative social influences.

2. Selective Interventions

Selective interventions are made for specific communities, families or children who, because of their higher exposure to risk factors, are at increased risk of developing substance abuse problems. The target audience for selective interventions may include children with difficulties with social skills, children of depressed or drug-abusing parents, or families living in poverty.

Selective programs are more efficient because they can focus efforts and resources on those who are most likely to develop behavioral health problems.

3. Indicated Interventions

The indicated preventive interventions are conducted directly for those who already engage in risky behavior, such as drug use, or who have begun to experience problems, but have not yet developed a substance use disorder. Such programs are often intensive and costly but may still be cost-effective, given the high probability of costly disruption or other costly negative outcomes in the future (Surgeon General, 2016).

Effective prevention programs in each of these categories address the protective factors and risk factors associated with drug use. At different stages of development, young people are exposed to different combinations of protective factors and risk factors, and these effects can be altered by the presence of preventive interventions. For example, it has been found that children and adolescents who have been exposed to positive youth development programs are less likely to use tobacco, alcohol and other harmful substances (Thombs & Osborn, 2019).

In summary, the level of progress in behavioral treatment for substance abuse in recent years has exceeded the expectations of many researchers and practitioners. Effective behavioral therapies exist, and patients can be treated with a combination of behavioral and drug therapies that are more effective than either type of therapy alone. More work can be done to improve effect sizes in research on behavioral therapies and to develop strategies to assist substance users who do not respond to current treatments (Carroll & Onken, 2005).

CONCLUSION

The insistence on program evaluation succeeded in identifying cost-effective prevention methods. Integration of prevention methods and techniques, including interventions at the school, family and community level, is more likely to achieve desired goals.

While amphetamine-type stimulants remain a concern in many areas, other substances will undoubtedly appear in the coming years. Thus, when addressing ATS-specific concerns, it is important to build a protective infrastructure for all substances. If this infrastructure is not currently in place in an area or community, a comprehensive and sustainable approach to addressing the use of amphetamine-type stimulants, despite its effectiveness in preventing or delaying the use of amphetamine-type stimulants, would be a step towards building capacity for substance use prevention (United Nations Office on Drugs, 2007). When this happens, the benefits to individuals, families, and communities will be noticeable.

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