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REVIEW ARTICLE

Principles of drug addiction treatment: a review

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ABSTRACT

Background: Drug addiction is considered a multi-factorial health problem that increases the risks of relapsing chronic disease. A multidisciplinary approach could be used to prevent and treat people who are drug addicts. Therefore, the current review aims to investigate the principles of drug addiction treatment.

Methods: Scientific articles that were related to the present topic were obtained using an online search process. The search process included various scientific websites such as Google Scholar and PubMed. We obtained 20 articles that matched with the current subject and were written in English. Of those 20 articles, four were excluded as they were published before 2000, or did not focus on the present topic, or were written in a language other than English; therefore, only 16 papers were included.

Results: Articles were selected depending on the inclusion criteria and the discussion of the subject is performed under the subheadings.

Conclusion: Drug addiction is a growing health problem that adversely affects personal life and the whole community. It had a harmful impact on the brain. Effective treatment programs, prevention strategies, or techniques, and modalities should be incorporated depending on research-based principles. Therefore, a set of treatment principles have been developed to prevent drug addiction among youth and adolescents and supporting/encouraging the people who are addicted to drugs to access treatments. Cooperation between drug addiction treatment services and society and families is essential to remove any barriers restricting people to seek treatments.

Keywords: A relapsing brain disease drug addiction, drug use disorders, drug abuse, HIV transmission.

Introduction

Drug addiction is a chronic/growing health problem among people worldwide, which resulted from disorder use of drugs in a mount over the permissible limits which become harmful/toxic [1]. Drug addiction is characterized by compulsive drug-seeking, and it is considered a relapsing brain disease, according to the National Institute on Drug Abuse (NIDA) [2]. Drug addiction adversely impacts the psychological, physical, and socio-occupational functioning, mental, and behavioral status of the individuals that in turn might increase the mortality rate globally and increase the incidence of HIV [1]. Drug addiction, especially in learning, motivation, memory, and reward adversely affect multiple brain circuits; therefore, addiction is a brain disease. There are some major factors related to drug addiction among individuals, such as the age of exposure to drugs, genetic makeup, and environmental effects [3]. Additionally, drug addiction is associated with poverty, criminal behavior, violence, loss of productivity, highly expensive, family income, related to corruption, and workplace and traffic accidents, and all these increases the economic costs, as well as wastes human resources that are unacceptable [4,5].

Other health problems are linked to drug addiction, particularly injecting drug use, such as HIV, Hepatitis B (HIB), and Hepatitis c (HIC) transmission due to sharing the needles among the individuals [6]. HIV transmission is commonly reported with non-injecting drug addiction due to increasing high risk sexual behaviors [7].

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Approximately ten million injection drug users globally and 10% accounted for HIV infection that is attributed to sharing of contaminated injection equipment [7]. Also, drug addiction has a negative impact on increasing the level of the neurotransmitter dopamine in the brain's reward circuits [8], gene factors (nicotine dependence) [9], cognitive and psychodynamic viewpoint [10,11], and socio-cultural Perspective [12]. Taheri et al. [13] conducted a study in Iran to explore factors affecting drug addiction among 32 patients who attended an addiction treatment center. Environmental factors, family factors, personal factors, and social factors were the main four main factors among the patients (38%, 28.5%, 22.2%, and 11.1%, respectively). Due to these harmful/toxic effects of drug addiction on the individual and the whole society, effective treatment programs, prevention strategies, or techniques, and modalities should be incorporated depending on research-based principles. Therefore, principles of drug addiction treatment were developed by the NIDA [14], and the joint UNODC-WHO document articulated the principles of drug addiction [15], which will be discussed in detail in the discussion part of this review article.

Methods

Scientific articles that linked to the present topic were obtained by using an online searching process. The searching process included various scientific websites such as Google Scholar and PubMed, using several keywords such as A relapsing brain disease, Drug addiction, Drug use disorders, Drug abuse, HIV transmission. We obtained 20 articles that matched with the current subject and written in English. Of those 20 articles, four were excluded as they were published before 2000, or may not have focused on the present topic, or written in a language other than English; therefore, only 16 papers were included, and they were published till 2020.

Discussion

Principle 1: availability and accessibility of drug dependence treatment

In this principle, individuals could be treated effectively if they have access to continue affordable and available treatments and also access to rehabilitation services in a definite proper time [16]. There are several factors contributing to treatment accessibility such as geographical accessibility, linkages, and distribution. This factor includes the healthcare sector, social services, institutions like civil society organizations, self-help groups, and schools that could cooperate and provide essential prevention strategies and treatment services, which support people and help them access treatment. Also, a large-scale treatment system facilitating proper response for every person seeking treatment. The treatment should be suitable for all levels of income and outreach services should be available and are required to reach non-motivated people and discover drug addictors early. The second factor of the 1st principle is timeliness and flexibility of opening hours, which means shortening the waiting time for structured services or admission availability on the same day. Also, working persons and those who have family responsibilities need a wide range of opening hours so that seeking treatment is easy. The third factor is the availability of a legal framework (register drug adductors officially through official records). The fourth factor of the 1st principle is the availability of low threshold services (flexibility). The fifth factor is affordability (the public healthcare system should afford the treatments and provide insurance coverage) to remove any barrier that might restrict the treatment. The sixth factor of the 1st principle is cultural relevance and user-friendliness to encourage patients to access treatments by removing sensitivity [16]. The 7th factor is the responsiveness to numerous requirements. The 8th factor is about the availability of the criminal justice system (law enforcement officials and courts might cooperate with healthcare sector encouraging drug addictors seeking treatments. The final one regarding gender-sensitivities of services such as child-care needs, responding to different stigmatization, and pregnancy issues [16].

Principle 2: screening, assessment, diagnosis, and treatment planning

An effective approach for engagement and planning the patient into treatment need diagnostic, assessing process, and considering the addictive symptoms in a standardized way. The components of this principle including screening which is important to identify and determine the hazardous or toxic drug use or drug addiction among the general population. Also, to examine the most associated risk behavioral, such as suicide risk, the transmission of HIV due to sharing of a contaminated needle, violence, and unprotected sexual activity. The degree of severity could be assessed through various tools that can be applied in school counseling services and the primary healthcare system. Secondly, assessment and diagnosis are considered core requirements for initiating the treatment. Diagnosis is used in the mental health field by psychiatrists who are effectively trained. The 3rd component of the 2nd principle is a comprehensive assessment to determine the severity and the stages of the disease, legal situation, mental and somatic health status, family, and social integration, and personal traits. A proper assessment process created a suitable climate for developing a therapeutic alliance to access patients into treatment. Finally, the treatment plan according to patients' needs and monitored periodically to follow-up and respond to the patient's changing situation [17,18].

Principle 3: evidence-informed drug addiction treatment

Accumulated scientific knowledge and awareness about drug addiction' nature should help in investments and/or interventions in drug addiction treatment. This principle includes several components, such as the presence of

evidence-based psychosocial and pharmacological intervention, hence there is no single treatment suitable for all patients. This means that moderate cases could be handled in a primary care setting, while severely addicted patients (e.g., co-morbidities) who need multidisciplinary interventions [19]. Also, they need sufficient duration for treating complex diseases and prevent relapse. Integration of pharmacological and psychosocial treatment approaches to improve the outcome, in addition the whole persons are treated even addicted or not to have better results and prevent relapse. Multidisciplinary teams (including all healthcare workers, physicians, psychologists, psychiatrists, nurses, counselors, and social workers) could respond to the need of patients. Brief interventions and outreach and low treatment, which provide a comprehensive package measure to prevent social consequences that are related to drug addiction and prevent HIV transmission. Additionally, basic services are required which provide critical support to reduce drug use and to be widely available and medically supervised withdrawal which is highly recommended for persons who are heavy addictors due to addiction to alcohol, sedative/hypnotics, and opioids. Another component of the 3rd component is maintenance medications which is effective in preventing relapse and stabilizing drugs for only opioid addiction. Also, psychological and social interventions which are effective in relapse prevention and rehabilitation. Besides, self-help support groups, socio-cultural relevance, knowledge transfer and ongoing clinical research, and training are also this principle's components [19-21].

Principle 4: drug addiction treatment, human rights, and patient dignity

Drug addiction treatment services responded to the human rights obligations to identify all individuals' inherent dignity. The first component of the current principle is persons who are drug addicts should be discriminated and ethical treatments should be applied. Additionally, access to treatment and care services to prevent the social consequences of drug use in all disease' stages should be provided. Compulsory treatment should be applied under definite conditions and for specific periods of time, according to the law. Patients can reject the treatment and select the penal sanction as an alternative. There is no discrimination depending on any grounds, be it religion, health, gender, social, or legal condition, political belief, and economic status. Human rights should be enforced during treatment and rehabilitation [22-24].

Principle 5: targeting special subgroups and conditions

There are several subgroups who require special care and have specific needs, such as women in general and pregnant women, adolescents, sex workers, people with psychiatric co-morbidities, and ethnic minorities. Proper strategies and suitable implementation of treatment require targeted treatment and service organizations to access the treatment. Among the components of this principle are the adolescents, multidisciplinary groups that include outreach workers, adolescent psychiatrists, counselors, and psychologists who should be available and perform specialized trainings. Women and pregnant women, both who are addicted to drugs are stigmatized in many cultures that restricts their access to treatments. In addition, pregnant women who resemble one-third of people with drug addiction (women of childbearing age), which increased the risks on pregnancy among them, so require a multi-professional approach. Other components of this principle are people with medical/psychiatric comorbidities, sex workers who can afford to buy drugs are exposed to increased risk of infection, social exclusion, and violence, therefore, social support and rehabilitation program are needed to prevent viral transmission and sexually transmitted diseases [25-27].

Principle 6: addiction treatment and the criminal justice system

Drug addiction increases the prevalence of crimes, and many people become offenders, such as offenders for gaining money and offenses related to drug distribution itself. Therefore, effective adherence between the health/drug addiction treatment and the criminal justice systems is essential to identify the problems of drug use related crime, treatment, and care required. The most component of this principle is diversion schemes from the criminal justice system into treatment, human right principles and continuity of services are essential to be available to reduce the behavior risks [28-30].

Principle 7: community involvement, participation and patient orientation

A community response to drug addiction could encourage behavioral changes in the community and individuals who are addicted to drugs should establish ownership for community-based health care services. The most components are patient active involvement to change the behavior among persons and improve the quality of the provided healthcare services. Additionally, accountability to the community, community-oriented interventions, mainstreaming enables the treatment for many patients. Also, linkages between drug addiction treatment services and hospital services and finally non-governmental organizations (NGOs) that play a significant role in providing services for patients and facilitates rehabilitation programs [31,32].

Principle 8: clinical governance of drug addiction treatment services

A drug addiction treatment service requires an effective method of clinical governance to ease achieving the goals. All therapeutic team members and target population should receive a clarification about policies, procedures, programs, and coordination mechanisms. The most components are service policy and protocol, treatment

protocol, qualified staff, supervision, financial resources, communication structures, monitoring systems, and updating services [33,34].

Principle 9: treatment systems: policy development, strategic planning, and coordination of services

An effective approach to drug addiction and patient needs the treatment. Therefore, good planning and integration of services require a logical sequence linking policy to treatment planning and implementation in order to could evaluate and monitor. The most components are a good treatment policy, the link between treatment services and systems broaden links to prevent addiction among youth and adolescents. Situation assessment, coordination, multidisciplinary approach, capacity building, and quality assurance, monitoring, and evaluation (the quality of drug treatment) [35,36].

Conclusion

Drug addiction is a growing major health problem that adversely impacts the population, life, and the whole community. It had a harmful impact on the brain and results in brain diseases. An effective treatment program, prevention strategies or techniques, and modalities should be incorporated depending on research-based principles. Therefore, a set of treatment principles has been developed to prevent drug addiction among youth and adolescents and supporting/encouraging the people who are drug addicts to access treatments. Cooperation between drug addiction treatment services and social/ families is essential to remove any barriers restricting people to seek treatments.

List of Abbreviations

HIB	Hepatitis B
HIC	Hepatitis c
HIV	human immunodeficiency virus
NGOs	non-governmental organizations
NIDA	National Institute on Drug Abuse
UNODC-WHO	United Nations Office on Drugs and Crime - WORLD HEALTH ORGANIZATION

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