Epilepsy & Behavior 70 (2017) 280–287

Contents lists available at ScienceDirect

Epilepsy & Behavior

journal homepage: www.elsevier.com/locate/yebeh

Review

Social factors in marijuana use for medical and recreational purposes

Magdalena Szaflarski [a,*], Joseph I. Sirven [b]

[a] Department of Sociology, University of Alabama at Birmingham, HHB 460H, 1720 2nd Ave South, Birmingham, AL 35294-1152, USA
[b] Department of Neurology, Division of Epilepsy, Mayo Clinic College of Medicine, Mayo Clinic in Arizona, 5777 East Mayo Boulevard, Phoenix, AZ 85054, USA

ARTICLE INFO

Article history:
Received 27 October 2016
Revised 4 November 2016
Accepted 5 November 2016
Available online 26 January 2017

Keywords:
Epilepsy
Cannabis
Marijuana
Society
Sociology
Culture

ABSTRACT

Of all the various treatment options for epilepsy, no other therapy comes close to the polarity that cannabis engenders. The rationale for this reaction is firmly rooted in the social factors that enshroud the use of marijuana for both medical and recreational purposes. In order to best understand how to approach this controversial treatment, it is essential to explore the social, demographic, and historical variables that have led to the current opinions on cannabis therapy and how this has converged on epilepsy treatment. Utilizing a sociological conceptual framework, this review discusses in depth the social, cultural, and historical dimensions of cannabis use in the US for medical purposes and its impact on epilepsy treatment. Moreover, it posits that cannabis therapy and the opinions surrounding its use are products of history and assesses this treatment option through the lens of our current times.

This article is part of a Special Issue titled Cannabinoids and Epilepsy.

1. Introduction

Marijuana refers to the dried leaves, flowers, stems, and seeds from the hemp plant *Cannabis*, which contains several compounds known as cannabinoids, most notably the psychoactive (mind-altering) chemical delta-9-tetrahydrocannabinol (THC), as well as other compounds such as cannabidiol (CBD). There are two varieties of cannabis, *Cannabis sativa* and *Cannabis indica*. Research has shown that these two species produce different effects, probably due to different concentrations of the main components; *C. sativa* plants have a higher ratio of CBD/THC while the opposite is true of *C. indica* plants [1]. Marijuana is the most commonly used illicit drug in the US. Marijuana is smoked in hand-rolled cigarettes (joints), pipes, or water pipes (bongs); it is also mixed in food or brewed as tea. The short-range effects of marijuana include problems with memory and learning, distorted perception, difficulty in thinking, and loss of coordination. Among youth, heavy cannabis use is associated with cognitive problems and increased risk of mental illness [2].

In 2013, 7.5% (19.8 million) of the US population aged 12 years and older reported using marijuana during the preceding month [3]. Marijuana use is often considered a behavioral problem, but marijuana use is also – and perhaps foremost – a sociocultural phenomenon. Humans discovered marijuana in ancient times, and marijuana has been used for medicinal, ceremonial, and recreational purposes by people around the world (see [4,5] for a review). Marijuana is an illegal substance under the current US federal regulations. Specifically, in 1937, the US government made cannabis possession and transfer illegal and punishable by law. However, many states in recent years have legalized or considered to legalize marijuana for medicinal or recreational purposes. Although the public opinion on marijuana legalization is divided, legal restrictions and social attitudes toward marijuana are relaxing, and cannabis products are becoming more accessible [3]. With these changes, there are continuing and increasing concerns in the US about marijuana use among at-risk populations, especially youth [6,7] as well as about the effectiveness of cannabis-based treatments for health problems. In particular, there is a growing body of literature regarding the use of cannabinoids for a variety of neurological conditions, most notably multiple sclerosis [5,8–12] and epilepsy, and clinical trials are under way [13]. These developments call for a closer examination of social factors in marijuana use. So, what are these social factors and how are they associated with marijuana use?

The use of marijuana is inextricably linked with the key components of human societies – culture, polity, economy, law and order, and other aspects of social life (population/demographic profile, science, health, social stratification, etc.). Here are potential questions that address the different social dimensions of marijuana and marijuana use: (1) *Culture*: What are the cultural conceptions of marijuana (what it is, what purpose it serves)? What are the social attitudes toward marijuana use and different types of use? (2) *Politics*: What is the society's formal position (policy) on marijuana and marijuana use? Is marijuana

* Corresponding author. Tel.: +1 205 934 0825; fax: +1 205 975 5614.
E-mail addresses: szaflam@uab.edu (M. Szaflarski), Sirven.joseph@mayo.edu (J.I. Sirven).

http://dx.doi.org/10.1016/j.yebeh.2016.11.011
1525-5050/

regulated? If so, what aspects and how? Is the political/policy discourse changing and how? (3) *Law and order*: How are marijuana-related laws and regulations enforced? What penalties are there for breaking the laws/regulations? Who are the offenders and what is their motivation? (4) *Economic*: How is marijuana produced and distributed? What is the profile of producers, distributors, and consumers? (5) *Science and health*: What is the scientific evidence regarding recreational marijuana use and as treatment for health problems/conditions? What are the attitudes of patients and providers toward marijuana use for medical reasons?

The purpose of this review is to present and organize what is known about the social aspects of marijuana use. Sociological perspectives – social constructionism, post-structuralism, deviance, medicalization, population health, and social determinants of health – will provide a conceptual framework for understanding the place of marijuana in American society. The aim is to delineate directions for future research that considers social dimensions of marijuana use, especially as treatment for medical conditions, including epilepsy/seizure disorders.

2. Conceptual framework

Any discussion of social factors in health requires a sociological lens. Several sociological perspectives are particularly useful in conceptualizing, contextualizing, and analyzing cannabis use. We provide a brief overview of these perspectives, which are not fully independent but rather build upon and complement each other.

2.1. Social constructionism

Social constructionism is a theoretical perspective grounded in the idea that scientific knowledge and biological discourse about the body, health, and illness are produced by subjective, historically determined human interests which change and are reinterpreted over time [14,15]. Within this approach, cannabis and other drugs are defined through social constructions that emerge during certain historical periods [16]. In contemporary society, drugs are defined according to existing drug policies and related legal terms. Specifically, ideas about certain drugs tend to be grounded in the concepts of 'addiction' and 'prohibition' because of how social institutions and social actors have defined these drugs, based on their 'appreciations' of these drugs and their use [16,17]. The opinions of these actors and institutions are supported by relevant knowledge produced in specific historical periods. An analysis of drugs and drug policies from this perspective focuses on the views held by policy makers and social groups regarding drugs and related social and behavioral problems. Social constructions of drugs during a particular historical period can be found in that period's official documents, political speeches, media messages, and statements of individual opinions [16]. Thus, per the social constructivist view, the main question we would ask about cannabis in the US is: What information about cannabis is available in scientific reports, policy statements, legal documents, media messages, and other sources?

2.2. Post-structuralism

Social constructions of cannabis in a society emerge within a broader sociocultural context which is supported by a particular social system and power structure [16]. Post-structuralists, such as Michel Foucault (1972), have advocated close examinations of the social system (the links and connections between different components of a social context) in which social constructions emerge. Foucault focused on the different discourses about a particular problem, which he called the "archeological material." Following this approach, Acevedo [16] examined how discourses ("archeology") on cannabis evolved in Great Britain in the 2000s (reclassification of cannabis from B to C class of drugs) and what role these discourses played in the drug policy-making process. Acevedo identified eight types of discourses expressed in four dimensions (quadrants): 1) cannabis as a poison for the soul, expressed in prohibition and criminalization discourses; 2) cannabis as a remedy for the soul, expressed in ritual and recreational use; 3) cannabis as a poison for the body, expressed in treatment and public policy discourses; and 4) cannabis as a remedy for physical necessities, expressed in medicinal and economic use. In a review of mass media material, Acevedo found that the majority (56%) of media items reflected negative appreciations of the discourse (prohibitionist, criminalistics, and treatment-related), but many also represented more liberal views of cannabis (recreational, medical, and economic use), favoring its reclassification. The news items frequently featured information from interest groups and other "campaigners" (e.g., pharmaceutical companies). Furthermore, the discourses on public policy regarding cannabis focused primarily on explaining the efficiency and cost-savings of the reclassification. A similar analysis of cannabis discourses in America would be useful to understand the power interests and "campaigners" for or against cannabis in the US.

2.3. Deviance

A common frame for analyzing marijuana and other drug use is deviance [18]. Deviance is defined as non-conformity to social, cultural, or behavioral norms. People who engage in antisocial activities, substance abuse, and criminal behaviors or who otherwise live outside social norms are considered deviant. Sociologists posit that deviance can only be defined in the presence of norms or rules. Strong norms that are linked with social values that are held sacred by a society (e.g., don't kill) are written into a code of law and enforced through the criminal justice system. Laws and other social norms regarding cannabis and cannabis use vary across societies and historical periods and can be weak or strong, resulting in varying forms and levels of social punishment for cannabis use, possession, or transfer. The social construction of drug use as a deviant behavior is typically based on the vested interests and ideologies of those who have power over deviance-defining processes, especially legislative bodies and the mass media [19]. Criminalization of marijuana in the US has been framed as a process of moral entrepreneurship – to send a clear message regarding society's disapproval of marijuana use [18].

2.4. Medicalization

Medicalization is the process by which previously nonmedical problems become defined and treated as medical problems [20]. The transformation of deviant behavior, such as drug abuse, into mental or behavioral disorder, which can be treated within the medical paradigm, is the classic case of medicalization. Medicalization is often linked with evidence that suggests that a certain behavior or condition impacts health/functioning and can be treated using biomedical therapies. Marijuana use has been medicalized in the Western world as a health-risk behavior, and marijuana abuse or dependence can be treated as an addictive disorder. On the other hand, cannabis has medical uses including its current accepted use as an agent for post chemotherapy nausea and vomiting or to increase appetite [21] and has been studied as a viable medical treatment, with addiction and other side effects being a serious concern. This adds another layer of complexity to medicalization of marijuana use.

2.5. Population health

Evidence shows that substance use disorders take an immense toll on population health and other aspects of social life (e.g., families, education, and economy) [2]. In the US, drug and health policies are in place to reduce the burden of substance use disorders. Based on these policies, population-level interventions, typically within the domain of public health, are developed to target substance abuse. Among other efforts, the US has extensive surveillance programs in place to track substance