Editorial Open Acces

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Introduction

Marijuana (both *Cannabis indica* and *Cannabis sativa*) was criminalized in the U.S. in 1937, and has been classi ed as a Schedule I medical plant, meaning it has no currently accepted medical use and a high potential for abuse, since 1970 [1]. Various medical organizations including the AMA, American Academy of Pediatrics and the American Society of Addiction Medicine, have taken positions opposing the use of marijuana for medical purposes. However, the pendulum of public opinion has clearly begun to swing the other direction. At the present time, 23 states and the district of Columbia have approved the use of marijuana to treat various medical conditions, notwithstanding the continuing Federal ban [2]. e conditions for which medical marijuana use has been approved vary from state to state, and in most cases do not meet the standards that would be required for FDA approval for a new medication [3]. In part, this re ects the current paradoxical position of marijuana in the eld of medicine where use for speci c conditions is being approved on an ad hoc basis by state legislatures, while Federal law prevents the type of large-scale randomized placebo controlled trials that would normally be required for FDA approval.

Recent reviews have addressed the risks/ bene ts of the use of marijuana for speci c medical conditions [1,4,5] as well as potential adverse e ects associated with its use [6]. Here, I present brie y evidence for some of these proposed medical uses as well as special considerations related to use of medical marijuana in patients with major psychiatric illness.

Evidence supporting medical marijuana for speci c indications

Chronic pain: Medical marijuana is currently approved for treating chronic pain in 19 states [5]. e review by Hill et al [5], which included 6 trials involving patients with chronic pain (total n=325) and an additional 6 trials related to neuropathic pain (total n=396), concluded that there was high-quality evidence favoring use of medical marijuana for chronic or neuropathic pain. While the review by Whiting et al [4], which included 28 studies (total n=2454) regarding use of cannabinoids for chronic pain (including both neuropathic pain and pain related to cancer), found that the evidence favoring use of medical marijuana was only moderate. Of the 28 studies included, 2 studies were felt to be at low risk for bias, 9 at unclear risk, and the remainder had high risk for bias. Overall, the number of patients who reported a reduction in pain of at least 30% was greater with cannabinoids than with placebo (OR, 1.41 [95% CI, 0.99-2.00]).

Spasticity related to multiple sclerosis (MS): Medical marijuana is currently approved for the treatment of spasticity and/or MS in the District of Columbia and all of the states that have authorized the use of medical marijuana [5]. e review by Hill et al. [5], which included 12 trials (n=1600) of cannabinoids in patients with MS found that there was high qualify evidence supporting the use of medical marijuana in this patient group. e review by Whiting et al [4], which included 14 trials of spasticity related to MS (11 studies, total n=2138) or paraplegia caused by spinal cord injury (3 studies, total n=142) found that there was moderate evidence supporting use of cannabinoids.

Nausea/vomiting related to chemotherapy: Medical marijuana is currently approved for treating nausea in 19 states, and is approved in the District of Columbia for patients undergoing chemotherapy or radiotherapy [5]. Whiting et al. [4] analyzed 28 studies (total n=1772) that have examined the use of cannabinoids (not marijuana) for the treatment of nausea/vomiting related to chemotherapy. ese studies were consistent in nding a greater bene t for cannabinoids over either placebo or active comparators such as prochlorperazine or chlorpromazine. However, the overall quality of the evidence supporting medical marijuana for this indication was felt to be low since the majority of studies (23/28) had a high risk for bias, and only 8 included a placebo control.

Glaucoma: Medical marijuana is currently approved for treating glaucoma in 19 states and the District of Columbia [5]. Experiments in animals indicate that both synthetic and natural cannabinoids (THC, cannabinol, and nabilone) are able to decrease intra-ocular pressure in rabbits [7]. Older studies of intra-ocular pressure in human subjects suggest that smoking marijuana may have similar e ects [8-10]. e recent review by Whiting [4], identi ed only a single controlled study involving 6 subjects, and found no di erence between placebo and cannabinoids on measures of intraocular pressure.

Other indications for which medical marijuana has been approved include: hepatitis C (9 states), Crohn's disease (13 states), Parkinson's disease (5 states), and Tourette's syndrome (2 states), and epilepsy (16 states), and amyotrophic lateral sclerosis (10 states). None of these indications was found by either Whiting et al. [4] or Hill et al. [5] to have high or even moderate quality evidence supporting them.

E ects in individuals with speci c psychiatric disorders:

Schizophrenia (Or Prodrome): Cannabis use, especially in adolescents, greatly increases the risk for later development of psychotic disorders, and appears to play a causal role in individuals with high risk genotypes [11]. e psychosis-inducing e ects of cannabis are strongest in those with both high-risk genotypes and a history of childhood abuse [12, 13]. Cannabis use also appears to mediate the e ect of genetic risk scores (based on a large number of risk alleles for Schizophrenia

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