Ethical issues in medical cannabis use

European Journal of Internal Medicine
Volume 49, March 2018, Pages 20-22

Highlights

- The increasing use of medical cannabis (MC) in the previous decade has raised several ethical issues.
- Although most of these concerns are common to prescribing any medical regimen, some are unique to MC utilization.
- In the current review we will discuss these issues in the light of the current experience of MC continuously expanded use.

Abstract

The increasing use of medical cannabis (MC) in the past decade raises several ethical considerations for the clinician. Regulatory issues stem from a gap between MC registration and certification in each country. Professional issues derive from the lack of sufficient knowledge of MC characteristics and the intersection between the physician, the patient and commercial interests. Finally, there are medical and psychological implications which are related to the use of MC regimens. We will discuss these issues in the light of the current era, in which policy has rapidly shifted toward legalization of cannabis, which influences the decisions of both clinicians and patients.

Keywords

Medical cannabis, Ethical considerations

1. Introduction

Chronic pain conditions affect an increasing portion of the population worldwide [1,2]. Due to a lack of efficacy and frequent adverse effects of the standard therapies, the use of medical cannabis (MC) has emerged in the past decade in a bottom-up fashion. According to a 2005 survey, half of American adults have suffered from pain in the previous couple of weeks, 20% have rated their pain as “severe” and 6% (12 millions) have treated their pain with cannabis [3]. Similar rate of MC use was also reported in a Canadian survey [4].

There are many other disorders where great potential for the relief of symptoms by the use of cannabis exist but powerful clinical trial date is missing. In the past, large clinical trials which can be very expensive and time consuming have been organized and supported by pharmaceutical companies which have exclusive patent rights to the product. In contradistinction, medical cannabis is not under any patent protection and there is less incentive for pharmaceutical companies to perform the much needed clinical trials. This puts the individual physician in an ethical quandary as for many conditions the relevant clinical data is missing and in many cases the physicians is legally required to use the more expensive and perhaps less efficacious medication. In order to overcome this problem large clinical trials on a variety of medical conditions are necessary not only to look for efficaciousness but also potential side effects and long term outcomes. The growing reluctance among many physicians to prescribe opioids for non-oncological pain disorders also highlights the importance of obtaining the necessary clinical trial date. However, the frequent use of MC also raises ethical issues for consideration by the medical professionals.
In this review we will discuss these issues in the light of the increasing medical use of MC. First, we will discuss regulatory considerations of MC use. Second, we will turn to professional perspectives. Third, we will consider the medical and psychological considerations of MC use.

2. Regulatory and ethical considerations

The synthetic oral tetrahydrocannabinol (THC) named “Marinaol”, has been approved by the Food and Drug Administration (FDA) in 1985 [5]. In the past decade, the oromucosal spray named Sativex which contains THC and cannabidiol in a nearly 1:1 ratio, has been approved for use in the United Kingdom, Canada and several other countries [6]. As opposed to the two approved cannabis agents mentioned above, most popular MC are dried cannabis plant derivates, consist with THC and CBD in variable

levels. Different strains of MC may influence differently due to their THC and CBD content and ratio of these two ingredients [7].

There is insufficient high quality data regarding the efficacy, dose-dependent curve, drugs interactions, expected adverse effects and safety of the commercial available MC products. For instance, smoked MC, a frequent method to utilize CM, has a very low bio-viability and was linked to a wide range of respiratory adverse effects, e.g. cough, phlegm and bronchitis[8]. The poor RCT's data also impairs the ability to define clear clinical indications to use MC. Consequently, physicians can prescribe MC for any indication they choose (e.g. vague indication as “chronic pain”) rather than clear evidence based conditions [9]. Due to these gaps there is a long way to go until more MC regimens will receive FDA approval. Since there is a lack of data especially from RCT's regarding the efficacy and safety of each regimen according to its TCH:CBD ratio, these gaps may impair the decisions made by physicians regarding tailoring the optimal therapy for each patient.

A different regulatory issue stems from the US federal governmental laws. Marijuana is defined as illegal drug by the U.S FDA. It is classified as Schedule I under the Controlled Substances Act, meaning that "it has no currently accepted medical use and a high potential for abuse" [10]. Due to its status, physicians cannot prescribed MC and rather can only give certification to its use.

3. Professional perspectives

The use of MC poses several ethical considerations to the physicians in their practice. As mentioned above, physicians are expected to prescribe unstandardized agents with no FDA approval, but with potentially unexpected effect and adverse reactions. Physicians are also required to discuss with their patients' potential risks and benefits

before prescribing any treatment or medication. Since MC dosing and potency is not regulated, there is an unavoidable knowledge gap. Not surprisingly, most of the family physicians in Colorado (a state with high rate of marijuana use) stress that marijuana's health risks overweight their benefits, and nearly all agreed that routine utilization of MC needs further education [11]. There is also a lack of data on the long term effects of cannabis use [12] which impacts on physician and patient decision making. Moreover, the relationship of some psychiatric conditions with cannabis utilization remained unclear, as previous studies reported an increased risk for developing depression among chronic cannabis users [13].

In several countries MC certification is given only to specific physicians or nurses, who are authorized by the local health ministries [14]. This situation may turn into a reality, where certain caregivers will be involved mostly in the distribution of MC certifications rather than providing routine health care.

The most popular administrating method of MC is by smoking [15] and this topic has several important ethical implications. Besides the effect of smoked MC on the respiratory tracts of the users, it may also be associated with second hand smoke effects on the environment. For instance, second hand cannabis smoke was reported to produce detectable levels of THC in blood and urine, and minor impairment on psychomotor abilities and working memory [16]. Second hand cannabis exposure was also found to be associated with lower cognitive functioning among exposed children [17] and increase emergency visits among children exposed to second hand cannabis smoke after legalization [18]. These findings imply that smoked MC contradicts the harm principle, in which an individual is free to abuse illicit agent unless it does not harm others. On the other hand, smoked MC is administered easily, with a shorter half-life but higher bio-viability compared to oral MC regimens [7]. This issue emphasis the principle of respect of autonomy, since some would prefer to use smoked or vaporized MC, which

will be most suitable for their needs. These two contradicting ethical considerations need to be balanced, and should be kept in mind during routine patient-physician interaction on this topic.

An additional concern relates to the intersection of medicine and commercial interests. Since there is no clear guidelines of when to prescribe MC, the vague indications and relatively high availability of MC may lead to over-use, misuse and eventually to illegal trading with third party similar to the broad use of opioids [19,20]. These undesirable trends may be pushed by commercial interests, which might jeopardize both clinicians' integrity and patients' well-being. For instance, commercialization of cannabis in the U.S has been associated with lower risk perception of cannabis, and was associated inversely with increase use of cannabis among youth [21,22]. Forty percent of adolescents reported obtaining marijuana from someone with a MC license [23]. Consequently, this finding implies that patients with approved MC material may pass or trade the drug with a third un-authorized party. MC exposure was found to be related to cannabis availability of any type and increased frequency of use, especially among the vulnerable group of adolescents. In this case, there is an actual concern that MC dispensaries may be the stalking horse for increased commercial distribution of cannabis to the entire public, rather than to the those who have relevant health concerns. On the other hand, when dealing with those who do receive medical certification to use MC, no insurance companies provide coverage to MC, which further exacerbates the burden on patients.

4. Medical and psychological implications

The use of MC has several risks due to short-term and long-term utilization [24]. Almost 10% of those who use cannabis will become addicted to it [25]. In addition, the development of cannabis withdrawal syndrome makes more difficult the cessation of

cannabis use [26]. Apparently, adolescents are the most vulnerable group, as they show 2–4 folds likely to develop cannabis dependence compared with adults [27]. Moreover, chronic cannabis utilization was found to deteriorate the brain functioning connectivity especially among young adults [28]. This explains why frequent use of cannabis during adolescence period was associated with declines in IQ measurements [29]. Furthermore, several epidemiological studies have reported the role of cannabis utilization as a gateway drug to the consumption of other substances later in life, due to reduced dopamine activity in the brain's reward region [30,31]. The use of MC or legal recreational cannabis can also be seen in the context of self-medication hypothesis of addictive disorders, where patients utilize drugs to relieve painful (physical or emotional) states. These states are important psychological predictors for utilization and in developing dependency on addictive drugs instead of treating with the initial trigger that have created these conditions [32]. Chronic and even short term use of cannabis were also linked to depression, anxiety, acute psychosis disorders and schizophrenia (the latter was reported among users with pre existing genetic vulnerability) [33,34]. There is evidence that even relatively short term exposure to cannabis is associated with poor educational performances and increased risk to dropping out of school [35].

These short and long term consequences of MC use can put the physician who prescribed them in a constant conflict. Although every drug has adverse reactions, as stressed above, quality RCT's on MC regimens and more specifically on substances with alternating THC:CBD ratio are scarce. Consequently, when discussing with patients the expected effect and adverse effect of each regimen there is a substantial information gap that impair receiving proper informed consent from patients prior to any initiation of MC therapy.

5. Conclusion

The increasing use of MC in the past decade consists of regulatory, professional and medical ethical considerations. Although most of these concerns are common to any medical regimen with potential risk, some are unique to MC utilization. Physicians who certify their patients to use MC, encounter several conflicting ethical issues as discussed above. The use of MC is associated with lack of sufficient knowledge regarding the exact content and purity of MC derivatives, expected dose response relationship, adverse events and interaction with other drugs. These gaps impair the patient's ability to reach a fully informed decision since many issues of MC pharmacokinetics and pharmacodynamics are still unclear. The lack of sufficient knowledge may lead to undesirable harm to the patients, which contradict the physician's principle of non-maleficence. On the other hand, since many patients prefer administrating MC via smoking methods, their right to autonomy (choosing the best route of administering for them) interfere with the no harm principle, which stems from the right to self-abuse substances. The involvement of commercial cannabis dispensaries can expose patients to outside influences, thereby impairing their autonomy to make decision unrelated to other influences. The use of legalized substances such as alcohol, tobacco and soon cannabis, accounts for a greater burden than other illegal drugs, due to their widespread use rather than their actual harms [36]. It is important to bear in mind that while the policy is rapidly shifting toward legalization of cannabis and expanding the use of MC, there are still numerous ethical considerations that need to be resolved along the way.

Conflict of interest statement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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