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Research paper

Medical cannabis: An oxymoron? Physicians' perceptions of medical cannabis

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ABSTRACT

Background: Medical cannabis policies are changing in many places around the world, and physicians play a major role in the implementation of these policies. The aim of this study was to gain a deeper understanding of physicians' views on medical cannabis and its possible integration into their clinic, as well as to identify potential underlying factors that influence these perceptions.

Methods: Qualitative narrative analysis of in-depth interviews with twenty-four Israeli physicians from three specialties (pain medicine, oncology and family medicine).

Findings: Physicians disclosed contrasting narratives of cannabis, presenting it as both a medicine and a non-medicine. These divergent positions co-existed and were intertwined in physicians' accounts. When presenting cannabis as a non-medicine, physicians drew on conventional medicine and prohibition as narrative environments. They emphasized the incongruence of cannabis with standards of biomedicine and presented cannabis as an addictive drug of abuse. In contrast, physicians drew upon unconventional medicine and palliative care as narrative environments while presenting cannabis as a medicine. In this narrative, physicians emphasized positive hands-on experiences with cannabis, and pointed to the limits of conventional medicine.

Conclusion: Physicians did not have a consolidated perspective as to whether cannabis is a medicine or not, but rather struggled with this question. The dualistic narratives of cannabis reflect the lack of a dominant narrative environment that supports the integration of cannabis into medical practice. This may in turn indicate barriers to the implementation of medical cannabis policies. An awareness of physicians' views and the different levels of their willingness to implement medical cannabis policies is essential for policy developments in this evolving field.

Medical cannabis regulations have been evolving around the world in recent decades (Wilkinson, Yarnell, Radhakrishnan, Ball, & D'Souza, 2016), and Israel is at the forefront of this development (Mechoulam, 2015). As medical experts, physicians are active participants in the shaping of regulations and in the associated public debate (Kleber & Dupont, 2012). Moreover, they hold a dominant role in the implementation of medical cannabis policies by issuing or recommending licenses to patients. Given the emergence of medical cannabis policies and the key role of physicians in the implementation of such policies, the objective of this study was to gain a deeper understanding of physicians' views of medical cannabis and its possible integration into clinical practice.

Background

Cannabis has been used for different purposes throughout history; even before medicine was established as a discipline, cannabis was used to treat various medical symptoms (Zuardi, 2006). However, around the turn of the 20th century the medical use of cannabis became less popular due to regulations that required standardization and to the emergence of new synthetic pharmaceuticals (Frankhauser, 2008; Pisanti & Bifulco, 2017).

In addition, by the 1930s cannabis had become subject to federal regulations in the U.S., which eventually prohibited its use (Bonnie & Whitebread, 1970). The prohibition was accompanied by moral demonization of cannabis, as it was presented to the public as a harmful drug associated with crime and insanity (Ferraiolo, 2007). The demonization of cannabis, and support for prohibition of cannabis, was

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partly achieved by associating cannabis use with marginalized groups in society, such as Mexicans and African-Americans (McWilliams, 2001). Laws of prohibition propagated in the U.S. and around the world, and cannabis was ultimately classified under the U.N. conventions of 1961 and 1972 as a Schedule I drug – a dangerous substance with no medicinal value (Bewley-Taylor, 2003).

The strict punitive approach towards cannabis use, together with its classification alongside highly potent substances, such as heroin and cocaine, further contributed to the negative stigma associated with cannabis. Indeed, laws and regulations are strong forces behind the shaping of a negative public image of cannabis (Rubens, 2014; Szaflarski & Sirven, 2017). Thus, current policies – of prohibition and criminalization of cannabis – may contribute to sustaining the social classification of cannabis use as a deviant behavior, as well as perceptions of cannabis users such as criminals, addicts and altogether "abusers" (Ferraiolo, 2007). In addition, medical and epidemiological studies on cannabis have traditionally focused on its potential harms, such as schizophrenia and addiction (Hall & Degenhardt, 2009; Moore et al., 2007). Studies have shown several adverse effects of cannabis use, both physical and mental (Hall, 2015; Hall & Degenhardt, 2014), and the medical community has specified pathologies that are associated with cannabis use (Hasin et al., 2013).

Notwithstanding, in recent years there has been a shift in cannabis policies around the world, such that more and more jurisdictions allow legal access to medical cannabis. These regulatory changes might be associated with a change in the perception of cannabis – from a harmful and illegal substance to one that has medical properties. Indeed, recent changes in media reports and changing trends in social media propose a change in the attitudes towards cannabis (Sznitman & Lewis, 2015, 2018; Thompson, Rivara, & Whitehill, 2015). On the other hand, medical cannabis users may be vulnerable to stigmatization (Belle-Isle et al., 2014; Bottorff et al., 2013; Satterlund, Lee, & Moore, 2015), and the use of medical cannabis remains highly controversial.

Across all the different regulatory systems around the world, physicians play a major part in the implementation of medical cannabis policies. However, only a few studies have examined physicians' perspectives on medical cannabis. While several of these studies have shown that physicians, in general, are skeptical towards medical cannabis (Charuvastra, Friedmann, & Stein, 2005; Doblin & Kleiman, 1991; Kondrad & Reid, 2013; Michalec, Rapp, & Whittle, 2015), other studies reported supportive opinions (Carlini, Garrett, & Carter, 2015; Uritsky, McPherson, & Pradel, 2011). Two surveys among Israeli physicians found partial acceptance of medical cannabis, but also a lack of knowledge and a low level of confidence for recommending it to patients (Ablin, 2016; Ebert et al., 2015). A recent qualitative study conducted in the U.S. found that oncologists' beliefs regarding medical cannabis ranged from strong acceptance of medical cannabis to reservations due to lack of evidence and standardization (Braun et al., 2017). The objective of this study was to gain a deep understanding of physicians' views on medical cannabis and its possible integration into their clinics, as well as to identify potential underlying factors that influence physicians' perceptions.

Conceptual and analytical framework

Our analysis is informed by Socio-narratology (Frank, 2010), which suggests that people use narratives and language to facilitate their management of thought and action. Narratives are structured resources that people use to disclose meaningful information to others while additionally guiding intentions and actions. As argued by Frank (2010), every individual develops a narrative identity over his life course, which predisposes him to use and endorse specific narrative structures. Narratives thus represent a personal perception of one optional reality, so that "every way of seeing is also a way of not seeing" (Burke, 1984, p. 49).

Narratives are structured templates that are shaped in response to the social environment and they situate people in groups. Over the course of their education and through their medical career, physicians develop specific narrative structures that define the identity, values and scope of the medical practice (Coburn & Willis, 2000; Foucault, 1994; Freidson, 1988). As noted by Gubrium and Holstein (2008), narratives exist within a 'narrative environment' that dictates which stories are told and how they are told. The narrative environment may be a physical one (e.g. a medical setting such as a hospital), but could also be considered as a broader socio-cultural environment. Such narrative environments encourage and support specific narratives and perceptions, while devaluating others (Gubrium & Holstein, 2008). In order to reach a better understanding of physicians' views on medical cannabis and the underlying factors that influence physicians' perceptions, the current study set out to identify the narrative environments that inform, support and shape the medical cannabis narratives presented by physicians in in-depth interviews.

Method

The study was approved by the Institutional Review Board of the Faculty of Social Welfare & Health Sciences, University of Haifa (#70/14). The purposive sample comprised of 24 Israeli physicians who were specialists or currently specializing in oncology, pain medicine, and family medicine. These specialties were selected in order to represent physicians who regularly encounter cancer and chronic pain patients – who jointly make up the majority of licensed medical cannabis patients in Israel.

Potential participants were identified through the professional network of the researchers, as well as through official websites of Israeli hospitals and HMOs, and invitations were sent by email. Physicians who did not reply were sent a second email, followed by a phone call to their office if they did not respond. Additional participants were recruited through snowball techniques. The sample included physicians from various geographic areas in Israel, working in different settings, in a range of positions and professional stages, including one hospital manager and a few heads of units and departments, as well as interns. The average seniority of participants was 19 years, and most physicians (n = 22) had experience with recommending medical cannabis. The characteristics of the sample are presented in Table 1.

Table 1
Sample characteristics.

Participant's number	Gender	Seniority (years)	specialty	Recommended medical cannabis
1	female	17	family	✓
2	female	22	pain	✓
3	male	30	pain	✓
4	female	18	oncology	✓
5	male	21	family	✓
6	make	7	pain	✓
7	male	13	family	✓
8	male	33	pain	✓
9	male	30	oncology	✓
10	female	3	oncology	✓
11	male	28	family	X
12	female	6	oncology	✓
13	female	4	pain	✓
14	male	12	pain	✓
15	male	22	family	✓
16	male	10	oncology	✓
17	male	22	family	✓
18	male	28	oncology	✓
19	male	12	family	✓
20	female	24	oncology	✓
21	male	33	family	X
22	male	19	oncology	✓
23	male	30	family	✓
24	male	16	oncology	✓

Interviews were conducted face-to-face in physicians' clinics throughout Israel from January to May 2015. Each interview started with a brief explanation of the study's objectives and an assurance of anonymity and confidentiality, followed by obtaining physicians' consent for participation. Physicians were asked about their seniority, medical specialty and if they had recommended medical cannabis to patients during the previous 6 months. The semi-constructed interview guide included open questions that targeted physicians' views and experiences in general (e.g. tell me about your experiences with medical cannabis). Additional questions referred to more specific realms, such as attitudes (e.g. what advantages/disadvantages do you think there are in recommending medical cannabis to your patients?) and normative beliefs (e.g. what groups or individuals are approving/disapproving of you recommending medical cannabis to your patients?). The questions were developed so that they would invite a natural and free conversation, and physicians were encouraged to elaborate on their experiences and thoughts. Interviews lasted 30–45 min, and all sessions were recorded and subsequently transcribed verbatim. The data analysis was facilitated by Atlas.ti computer software.

Findings

Two major narratives were identified, namely cannabis as a non-medicine and cannabis as a medicine. These narratives represent two polarities in a range of physicians' perceptions of medical cannabis, and are presented below as separate for the purpose of representational clarity. Nevertheless, in their talk most physicians moved freely between both of these narratives, so that they were not clearly separated, but rather intertwined with one another. Thus, after presenting these two narratives as distinct we examine the reciprocal interaction between them in the last section of the results.

Cannabis as a non-medicine

Physicians' narrative of cannabis as a non-medicine was based first and foremost on narrative templates that were grounded in the biomedical model of medicine, as well as on templates related to the status of cannabis as an illicit drug.

The biomedical model understands and explains illness and health as biological processes of the human body, and endorses rigorous scientific approaches for the study and treatment of biologically-based diseases (Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996). Following this rationale, the dominant paradigm of healthcare in the past century is evidence-based medicine (EBM), which prioritizes scientific evidence as a base for clinical decisions (Sackett, 1997).

Throughout the interviews, physicians established a conceptualization of conventional medicine that is based on the biomedical model and on evidence-based medicine (EBM). Conventional medicine was seen as the ideal and physicians pointed to different ways in which medical cannabis fails to comply with the standards of biomedicine. In this way, conventional medicine served as a dominant narrative environment for presenting medical cannabis as incompatible with acceptable clinical practices.

> *There are different varieties [of cannabis], and we don't know which is better for what. We don't know the needed amount of THC and CBD for specific conditions, so there's not enough research, not enough good strong, hard evidence, which is what doctors need. We need strong evidence. We need to know that when we prescribe a specific drug, it has a standardized concentration because we want to receive a certain effect, with expected side effects and so on (Physician 3, pain physician).*

The narrative of cannabis as a non-medicine was achieved by accentuating the lack of scientific evidence on the safety and efficacy of medical cannabis. Additionally, as pointed out by the physician quoted above, while conventional medications typically contain exact amounts of active ingredients and information about side effects, cannabis is an herbal substance that contains many different compounds with varying potencies (ElSohly et al., 2016). This complexity and lack of standardization were presented as barriers for developing solid scientific evidence on the therapeutic effects of cannabis. Physicians emphasized that they "don't know what's in there [in medical cannabis]" (physician no. 19, family physician), and these unknowns were used to discern cannabis from medicine and to exclude it from the boundaries of the medical domain.

Physicians relied heavily on their medical training to present cannabis as antagonistic to conventional medicine. Medical education was presented as the cradle of physicians' professional identity; it was a main source of their institutional knowledge, which accredited their authority and position as experts. In addition, based on the narrative environment of conventional medicine, informants emphasized that medicines should not only comply with standards of EBM, but must also be approved by regulatory institutions. Pointing to the fact that cannabis has not gone through these processes, physicians argued that medical cannabis does not fall into the category of acceptable medicines to be used in their clinical care.

> *In our medical education they taught us not to give something that did not have quality control performed on it, with the necessary double-blind research, with results that are statistically significant. This is how we learned that medicines are approved… We have loyalty to evidence-based medicine, and we don't like to deviate from it. (Physician 7, family physician)*

As seen in the quotations above, physicians exemplified how negative views may be conceived from the narrative environment of conventional medicine by expressing their opinions and experiences using plural pronouns ("…We need strong evidence… Our medical education… We don't like…"). The plural construction has the effect of rendering the voiced experiences and opinions as representing the medical community rather than physicians' personal viewpoints. Physicians based their opinions on professional norms, possibly with the objective of adding validity to their claims and positions (Pennebaker, 2011).

The narrative of cannabis as a non-medicine was also supported by focusing on administration by smoking, while neglecting to mention other possible forms of administration. Physicians had multiple concerns about smoking: it cannot be measured and standardized properly, and it is associated with various morbidities. As one physician explained, 'As a physician, the idea of a patient who smokes a medicine is almost against what I believe in. Actually, it is completely against what I believe in' (Physician 3, pain physician).

In addition to conventional medicine as a socio-cultural environment, narratives of cannabis as a non-medicine were also rooted in the prohibition of cannabis as a popular and illegal drug of abuse. The therapeutic potential of cannabis was sometimes disregarded, and instead, the focus was placed on cannabis as a recreational drug that has potential harms for both the individual and society.

> *You have 20,000 pot-heads in Israel and you don't know how it affects their judgment or their driving abilities. And patients, once they start using cannabis, they will never stop. Why should they? They feel good, they smoke, and they're high. They didn't solve anything… I think this is wrong medically. It's the easy way. So we can also inject a bit of heroin, or give them cocaine or ecstasy. Why not ecstasy? It gets you high (Physician 11, family physician).*

Based on the narrative environments of prohibition and addiction, physicians emphasized the blurred boundaries between cannabis for medical and recreational use. Focus was placed on "getting high" as a reason for cannabis use, and physicians generally presented an unclear distinction between recreational and medical use of cannabis. Furthermore, as seen in the above quote, medical cannabis users were presented as merely drug addicts, so that cannabis use was not presented as medical, but rather as pathological. Physicians occasionally

compared cannabis to other drugs, such as cocaine or heroin, thereby drawing on a moralistic perspective of cannabis use. Informed by this narrative environment of prohibition and addiction, medical cannabis was presented by physicians as a social and criminal matter, which does not, or should not, fall under the professional domain of medicine. As the following quote exemplifies, physicians felt vulnerable as they described cannabis adrift to the boundaries of their professional domain:

What happens in my clinic is like a social wave of people that are using cannabis all the time, and now it is a festive opportunity for them to facilitate legalization. I think many physicians are concerned about this (Physician 7, family physician)

Based on the narrative environments of prohibition and addiction, patients themselves were sometimes presented as illegitimate and problematic. Physicians emphasized difficult encounters with patients coming to their clinics seeking a physician's recommendation for a medical cannabis license. Family physicians were particularly reluctant to integrate cannabis into their practice, explaining that they usually work alone in a primary-care setting, without administrative or security staff, and are thus less protected from confrontations with patients. Patients' demands for medical cannabis were often accompanied by a refusal to use conventional medications, which caused even more contention in these patient-physician interactions. At times, physicians expressed mistrust towards patients, suspecting them of providing false information or demanding medical cannabis without a proper medical justification. In more extreme cases, physicians recounted instances in which they were the target of patients' aggression and even violence.

A drug addict who had cancer a very long time ago came to our pain clinic on this ticket of cancer patient, and requested cannabis. His treatments for cancer have long since ended, and he doesn't suffer from pain. When I told him that he was not eligible for cannabis he started to scream and go wild, and he threatened me. And that was one of the cases that ended with police interference (Physician 6, pain physician).

Physicians additionally described patients as addicts and as potential criminals, suspecting that they were selling or giving away medical cannabis. In turn, these suspicions and mistrust led physicians to explicitly reject their responsibility for recommending cannabis to patients, thus leaving it out of the boundaries of their medical practice.

I think that many of the people who have this license don't really deserve it. And I know that it is sold. I know that people sell it. There is no doubt that when we're talking about something that is illegal, then there is an illegal market around it (Physician 21, family physician).

Cannabis as a medicine

Alongside the narrative of cannabis as a non-medicine, an opposite view was evident in the data, in which physicians presented a narrative of cannabis as a medicine. This narrative was anchored in physicians' clinical experience, and it was grounded in the narrative environments of unconventional medicine and of palliative care.

Hands-on experience was mentioned by many physicians as having a crucial impact on their views and on the way they practice medicine. While still acknowledging the many complexities, ambiguities and objections associated with medical cannabis, physicians also seemed to be remarkably affected by their real-life positive experiences of treating patients with cannabis in their practice.

I think that we see in the clinic much more efficacy of cannabis than what has been proven in the literature. At least this is the feeling I get. I feel that it does help. De-facto. (Physician 12, oncologist)

Physicians described positive impressions with how medical cannabis helped their patients, and viewed medical cannabis as a useful and legitimate medicine based on the narrative environments of "real-life evidence" (physician 17) and their "own evidence" (physician 9). By the use of such words as "literature" and "efficacy," the physician quoted above exemplifies how physicians were talking from within the narrative environment of biomedicine; but when presenting medical cannabis as a legitimate medicine, their hands-on experience took central stage and was presented as an integral part of their professional expertise, with no less significance than that of scientific evidence.

There isn't enough evidence-base on tailoring the treatment with medical cannabis to specific patients. I don't know enough about which patients should use it, and how to include it in treatment plans. The classic research with randomized control, with two blinded groups, is anyway not well-adjusted to the oncological-palliative setting. There is some evidence on medical cannabis, but I am looking for evidence that can guide me practically on a day-to-day basis. Yet, we are dealing with the same question regarding many medications and interventions. To what extent can the evidence in medical journals be integrated into my own clinic? I am not sure (Physician 5, family physician).

Physicians drew from the narrative environment of unconventional medicine while pointing to the limitations of EBM, which in turn supported the narrative of cannabis as a medicine. More specifically, physicians argued that not only cannabis, but also other aspects of healthcare are unsupported by sufficient evidence, so that they cannot rely solely on EBM in making clinical decisions. Both the high standards and the need for "hard evidence," which were emphasized to support the narrative of cannabis as a non-medicine, are critically assessed when presenting cannabis as a medicine. In addition, physicians expressed their difficulty in translating the results of randomized control trials into complex day-to-day practice, similarly to general criticisms of EBM previously raised by the medical community (Goldenberg, 2006; Parker, 2005).

Speaking from the same narrative environment, cannabis was also presented as a medicine by emphasizing problems in standard medications. While often referring to their "conventional tool-kits," some physicians expressed concerns about the safety and efficacy of standard medications, at least in certain patients or for specific conditions. By pointing to conventional medications as either potentially harmful or ineffective, cannabis could be viewed by physicians as a justified treatment option, and as a "lesser of two evils."

With medical cannabis there's also the chance that you could decrease the amount of other medications that a patient receives, some of them have more side effects [than cannabis], so this would be an indirect advantage of using cannabis – to decrease use of other drugs or other medications with their side effects (Physician 3, pain physician)

Another narrative environment physicians used when presenting cannabis as a medicine was the treatment of very sick patients. For this patient population, physicians gave much less weight both to the lack of sufficient scientific evidence supporting medical cannabis and to the potential harms of cannabis use. In addition, physicians expressed a more compassionate position toward the suffering that such patients undergo:

I'm an oncologist, so I became much easier on the trigger with palliative medications, not only with cannabis but also with opioids. When you understand how much these patients suffer, then many of the concerns about side-effects, like addiction, are not so relevant. I don't care. If a patient with metastatic cancer gets addicted, I don't care. If it helps him, even if he might have these side-effects, I am not very concerned. (Physician 12, oncologist)

This physician acknowledges potential harms of cannabis, yet she devalues these concerns in the case of cancer patients. Indeed, when presenting cannabis as a medicine, palliative care was a narrative environment that stood in contrast to conventional medicine. While conventional medicine aims to cure, palliative care presumes cure is unattainable and aims to relieve patients' suffering, and it was thus associated with the limits of curative medicine. Physicians thus used

terms such as 'compassion', 'well-being' and 'palliative care' in explaining how cannabis can be used as a medicine. It is, however, noticeable that based on this narrative environment, physicians set narrow limits around patient eligibility and cannabis was seen as appropriate mainly for terminally ill patients.

> *It would be easier to recommend cannabis to a cancer patient because you can be sure, you are confident in the diagnosis, and you know that those patients really suffer. You have more objective information. Whereas in pain, back pain or other pain, it is much more subjective (Physician 15, family physician).*

As this quote exemplifies, physicians created a narrative around cannabis as a medicine for patients who have an uncontested diagnosis that can be proven with objective laboratory procedures, such as biopsy. This view shows physicians' strong reliance on the narrative environment of biomedicine. Cancer patients were in this sense framed as 'real' patients, who are a "group of patients that we don't know how to cure" (physician 7, family physician). By bringing up the limits of curative medicine along with the confirmation of patients' diagnosis and acute suffering, physicians opened up the option of medical cannabis for "real" patients that experience "real" suffering.

Reciprocity of contrasting narratives

In the preceding sections, the opposing narratives of cannabis were presented as distinct for analytical and clarity purposes. Nonetheless, in their actual talk, physicians presented a "continuous dialogue" between these contrasting voices (Frank, 2010). Indeed, the narrative of cannabis as a non-medicine was intertwined with a contrasting narrative of cannabis as a medicine.

> *Cannabis is not… it is not a medicine. Cannabis is poisonous and addictive. This is what we've learned. And we also have our own prejudices. And it's hard, hard to get it out of my [head]… I prescribe [other medications] much more freely than I would have prescribed cannabis. That's it. That's a fact. But I am willing to be persuaded that I'm wrong. Especially after I heard Mechoulam, Professor Raphi Mechoulam. I heard him several times, two or three times. I was very impressed. (Physician 19, family physician)*

As with other physicians, this physician decisively presents a narrative of cannabis as a non-medicine as his default standpoint, suggesting that the narrative environments that support this narrative may be more available when creating meanings. In the above quote, elements already discussed in previous sections are evident, namely reliance on medical school as a main source of knowledge and professional identity and cannabis as an addictive dangerous substance. However, the physician simultaneously suspects that this view might be erroneous or biased, and that he might be affected by cultural and moralistic scripts. Indeed, after presenting as "a fact" that cannabis is a non-medicine, he reasons how other perceptions might also be true.

Rather than complete dismissal of cannabis as a medicine, a complex ambivalence is revealed toward the use of cannabis in clinical practice. Prof. Mechoulam is an Israeli scientist who has won worldwide esteem for his scientific accomplishments in basic research on cannabis (Pisanti & Bifulco, 2017). This physician is willing to reconsider what he has been taught (that cannabis has no therapeutic value), but only if new information is provided by such an authoritative figure, once again pointing to the institutional paths in which medical knowledge is acquired.

For many physicians, the contrasting views on medical cannabis were presented as interactive with the dynamic evolvement of medical cannabis policies and with on-going regulatory changes. On the one hand, as one physician stated: "the fact that I can legally give cannabis to patients has changed my position about it to be much more positive" (Physician 2). Indeed, many physicians mentioned that the legalization of medical cannabis in Israel enabled them to consider the therapeutic potential of cannabis and thus to begin viewing it as more of a medicine. Hence, medical cannabis policies were understood as important for perceiving cannabis from a different and new perspective. However, physicians also referred to current policies as the source of their dualistic views on medical cannabis. One physician stated:

> *There are still no clear guidelines to inform us on what to do – neither in the medical sense nor in the administrative process. I need more. Now it's still like a jungle, and dissimilar to anything else that we do in healthcare (Physician 24, oncologist).*

Physicians' ambivalence and dualism about the integration of medical cannabis into clinical practice were thus inspired, at least in part, by the incoherence in current regulations.

> *I don't have this switch in my mind yet – that would make me think of cannabis as an optional treatment. I don't know why… I am not sure it's rational, but currently this is how it is (Physician 20, oncologist).*

As exemplified by the quotes above, physicians' perceptions on medical cannabis are in a process of change. As the above physician proposes, some of the factors that underlie physicians' views on medical cannabis may remain tacit. More importantly, the quote exemplifies the lack of a narrative environment that enables physicians to make a clear sense of medical cannabis and how to integrate it into their clinics ("I don't have this switch in my mind yet…"). The many complexities, ambiguities and challenges which physicians associated with medical cannabis resulted in hesitation, and at times reluctance, to view cannabis as an integral part of their clinical practice.

Discussion

Medical cannabis policies are evolving around the world, and physicians hold a vital role in the implementation of such policies and in the integration of medical cannabis into clinical practice. While previous studies on physicians and medical cannabis reported merely on survey results, the current study brings empirical data drawn from qualitative interviews, and thus allow for a deeper understanding of physicians' views and ambivalence towards medical cannabis. By focusing on narrative environments, and on the distinct ways in which physicians narrate cannabis both as a non-medicine and as a medicine, our findings elucidate the origins of the ambivalence related to medical cannabis and accentuate the innate conundrum of turning a Schedule I substance into a medical treatment – in unconventional and non-orthodox processes.

Our findings show that medical cannabis policies challenge different identities that are integral to the role of physicians as professionals. On the one hand, as ethical professionals, physicians are expected to comply with biomedical standards and abide by professional norms, which, as the analysis shows, exclude medical cannabis from clinical practice. On the other hand, an essential part of physicians' role is to aid patients by relieving their pain and suffering – for which cannabis may be appropriate. Thus, medical cannabis policies prompt an interplay of physicians' identities and duties as professionals and healers, which may, in fact, be contradictory.

This study shows how biomedicine and prohibition serve as dominant narrative environments through which physicians structure a narrative of cannabis as a non-medicine. These negative perceptions are in line with previous studies that have found unfavorable views towards medical cannabis among physicians (Charuvastra et al., 2005; Kondrad & Reid, 2013; Michalec et al., 2015), and with various concerns raised by the medical community (Desai & Patel, 2013; Fletcher, 2013; Kalant, 2008). Specifically, physicians emphasized the lack of scientific evidence of medical cannabis and lack of standardization as main strategies for creating a narrative of cannabis as a non-medicine, and they used the narrative environment of conventional medicine as a dominant ground to exclude cannabis from the boundaries of medicine. Similar processes of exclusion from the medical boundaries have been found in

regards to complementary and alternative therapies (Shuval & Mizrachi, 2004). However, some physicians have integrated such unconventional therapies into their clinical practice (Mizrachi & Shuval, 2005; Shuval, Gross, Ashkenazi, & Schachter, 2012), which suggests that the boundaries of the medical domain have the potential to be reshaped by medical cannabis.

Our findings additionally resonate with earlier studies in which medical cannabis patients reported experiencing stigmatization in their encounters with physicians (Belle-Isle et al., 2014; Lucas et al., 2016; Pedersen & Sandberg, 2013). Drawing upon the narrative environment of addiction and prohibition, physicians recurrently marginalized medical cannabis users by passing on moralistic judgments of patients and describing them as malingerers or manipulative. This is similar to reports of interactions between physicians and opioid users (Merrill, Rhodes, Deyo, Marlatt, & Bradley, 2002), and with patients that have unexplained symptoms (Mik-Meyer & Obling, 2012; Ring, Dowrick, Humphris, Davies, & Salmon, 2005).

Interestingly, physicians repeatedly referenced conventional medicine when presenting medical cannabis as a legitimate treatment option as well. In those cases, however, it was the limitations (rather than the strengths) of conventional medicine that were emphasized. When presenting cannabis as a viable treatment, physicians discounted the purity of science and highlighted the importance of hands-on experiences. This critical position towards conventional medicine echoes general criticisms of this paradigm (Feinstein & Horwitz, 1997; Greenhalgh, Howick, & Maskrey, 2014). For instance, conventional medicine has been criticized for devaluing the clinical experience of the individual practitioner, as well as patients' preferences (Haynes, Devereaux, & Guyatt, 2002). It has also been suggested that randomized controlled trials do not hold enough external validity to allow clinicians to integrate scientific evidence into their practice (Rothwell, 2005).

Consistent with previous studies that found more permissive attitudes towards medical cannabis among healthcare providers who treat cancer patients (Ananth et al., 2018; Uritsky et al., 2011), the physicians in our study were particularly willing to consider cannabis as a treatment option for patients who suffer from a non-curative disease (such as late-stage cancer), and even more so in end-of-life situations. In regards to chronic pain, on the other hand, and given that the diagnosis of pain is subjective, pain physicians may be prone to more skepticism. Indeed, pain physicians emphasized their vulnerability to malingering patients and were concerned about patients who would want to 'launder' their recreational use of cannabis. Acknowledging that physicians' narratives are partly grounded in their occupational biography (Atkinson, 1992), makes it evident that the medical specialty of physicians may predispose or influence them to endorse, or reject, specific narrative environments. It is thus possible that oncologists are more likely than chronic pain physicians to rely on narrative environments that enable a representation of cannabis as a medicine. This may in turn explain different levels of support for medical cannabis in different fields of medicine. Future research should explicitly test this as it may enable a more nuanced understanding of the integration of medical cannabis into medicine and different training and policy needs.

Another factor that may be related to physicians' willingness to integrate medical cannabis into their clinics is the organizational setting in which physicians work. Indeed, family physicians, who usually work in a primary care setting which is a "solo practice", voiced their concerns of being "alone in the front", and thus more vulnerable to demanding patients who would put a burden on their day-to-day work and put them at risk of violence. Hence, not only the medical specialty, but also the organizational setting may influence physicians' perspectives of medical cannabis, and future studies should examine this in more detail.

Clearly, physicians currently lack dominant narrative environments that would enable them to coherently present how cannabis can be integrated into their clinical practice. Thus, a gap remains between medical cannabis policies that allow cannabis for a wide range of patients and physicians' acceptance of this treatment. Nevertheless, some physicians felt that their exclusion of cannabis from the boundaries of their clinical practice was temporary. Indeed, physicians' ideas and feelings towards cannabis as a medicine were in flux, so that current negative views may not be stable.

These findings have implications for policy and practice. Physicians' perceptions of medical cannabis were dominated by the biomedical model, but also partly based on moralistic positions that echo the prohibition of cannabis. Indeed, physicians do not make clinical decisions based merely on results of randomized controlled experiments (Malterud, 2001). Instead, views, experiences and other tacit factors are also influential in the construction of medical knowledge and practices (Upshur, 2002). Thus, while previous studies have emphasized the importance of physicians' educational needs related to medical cannabis policies (Lamonica, Boeri, & Anderson, 2016; Ziemianski et al., 2015), our findings suggest that physicians views are based, to a large extent, on non-homogeneous narrative environments. Therefore, while further knowledge and evidence may serve to integrate cannabis into medical practice, new narrative environments may also be needed in order for a coherent implementation of medical cannabis policies to take place. In addition, there may be a need for differential training for physicians in different areas of specialty.

In conclusion, this study exemplifies the dual perspective that is encapsulated in the term "medical cannabis" – of cannabis as a harmful and illegal drug, but also as a potential medicine. Physicians did not have a consolidated perspective as to whether cannabis is indeed a medical treatment or not, and there was no consensus on whether cannabis falls into the boundaries of medicine. This ambivalence stems in part from contrasting environments that made it difficult for physicians to develop a coherent perspective of medical cannabis and its integration into their practice. While medical cannabis policies are rapidly shifting across the world, the different views that physicians have on cannabis are expected to continue to challenge the integration of cannabis into medical practice.

Declaration of competing interest

None.

Conflict of interest

None.

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