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Qualitative Health Research

Irish general practitioner perspectives toward decriminalisation, legalisation and cannabis for therapeutic purposes (CTP).

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Abstract

Cannabis is the most prevalent illicit drug used globally. Regulatory debate in Ireland on the decriminalisation of cannabis and legalisation for therapeutic purposes (CTP) is on-going. The study aimed to investigate Irish general practitioner (GP) attitudes toward decriminalisation of cannabis and assess levels of support for CTP. An online survey was administered to all GPs in the Irish College of General Practitioner (ICGP) database. A content analysis was conducted on open-ended survey questions, with five themes emerging; *'Young People and Family Impacts'; 'Adverse Health Consequences'; 'Legal Status and Comparisons to Legal Substances'; 'Decriminalisation and Legalisation Debates';* and *'Cannabis for Therapeutic Purposes'*. GPs were concerned around early onset of use and intergenerational impacts, vulnerabilities to drug induced psychosis, patient self-medication with cannabis and potential for misuse of prescribed cannabis. Comments centred on the need for product regulation and a stronger evidence base for CTP. Further research and medical education is warranted.

Key Words

Cannabis, decriminalisation, medical use, general practice; family medicine

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Globally, cannabis or marijuana is the most prevalent illicit drug used (Hall, Renstrom & Poznyak, 2016). In recent times, the legal status of cannabis is increasingly debated in drug policy, medicines control and academic discourse (Kilmer, 2014). Prohibition is the most common drug policy worldwide, followed by decriminalisation and legalisation (EMCDDA, 2015; Rehm & Fischer, 2015). Prohibition appears most expensive in terms of law enforcement cost, and is a potentially ineffective tactic (van den Brink, 2008). In 1995, The Lancet in their editorial entitled *'Deglamorising cannabis'* concluded *"cannabis per se is not a hazard to society but driving it further underground may well be."* In countries with a prohibitionist drug policy (for example the US), lifetime experience of cannabis with probability of use of cocaine is higher than in countries such as the Netherlands who have a liberal cannabis policy (Engelsman, 1989; MacCoun & Reuter, 2001).

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The dynamic policy landscape and contested nature of whether cannabis is a safe drug to use and if criminal sanctions for personal use or possession of small amounts are excessive continue (Joffe & Yancy, 2004; van den Brink 2008), despite the International Centre for Science in Drug Policy, (2015) advocating for policy responses based on best available evidence. Proponents of cannabis legalisation underscore the comparative cost to society in the case of alcohol and tobacco, with the policy shift toward de facto decriminalisation in the form of reduced sanctioning for possession of small amounts or personal use occurring as consequence of widespread use of cannabis

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in Western societies (most European Member States, North America and Australia) (EMCDDA, 2002; Hall, 1997; van den Brink, 2008). Kalant et al. observed that '*cannabis appears to pose a much less serious public health problem than is currently posed by alcohol and tobacco in Western societies'*, (Kalant, Corrigall, Hall, & Smart, 1999:495). In 2012, Colorado and Washington State legalised adult use and sale of cannabis for non-medical purposes, followed by Uruguay in 2013, with regulatory debates in Jamaica, Canada, Spain, Italy, several Latin American countries, and other U.S. states (for example California) in 2016.

This dynamic policy landscape is underpinned by concerns around the dependence potential of cannabis (van den Brink, 2008; Schlossarek, Kempkensteffen, Reimer & Verthein, 2016). The available evidence base is rated as weak and supports lower probability of dependence, and less physical and social harms when compared to other substances such as alcohol, cocaine, opiates and nicotine (Anthony, Warner & Kessler, 2002; International Centre for Science in Drug Policy, 2015; Nutt, King, Saulsbury & Blakemore, 2007). A minority of users develop dependence and withdrawal syndrome on discontinuation of cannabis (Dragt et al., 2010; Hall & Degenhardt, 2009). Reported health risks of cannabis use include development of schizophrenia in vulnerable individuals, respiratory illness and cancers, accidents, and low birth weight and cognitive impairment in babies whose mothers use cannabis during pregnancy (Kalant, 2004; International Centre for Science in Drug Policy, 2015).

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In terms of medical use of cannabis, multiple sclerosis and chronic pain patients are reported to use cannabis for pain management and psychological support (Clark, Ware, Yazer, Murray & Lynch, 2004; Joy, Watson & Benson, 1999), despite smoking being a crude delivery system for the relief of posttraumatic, peripheral and HIV neuropathic pain (Ellis et al., 2009; Ware, Doyle, Woods, Lynch & Clark, 2003; Ware et al., 2010; Wilsey et al., 2008). Some States in the US have shifted their policy stance to permit use of cannabis for therapeutic purposes (CTP) (Chu, 2014). This legalisation in the form of de facto supply for medical use has not caused increased consumption, prevalence of use or related adverse consequences (Nussbaum, Boyer & Kondrad, 2011; Hall & Weier, 2015; Sznitman and Zolotov, 2015; Ziemianski, Capler, Tekanoff , Lacasse, Luconi & Ware, 2015) and according to one study has contributed to heightened patient perceptions of safety and awareness (Trout & DiDonato, 2015).

Research on the views of medical practitioners on decriminalisation and legalisation for medical use of cannabis remains limited (Nussbaum, Thurstone & Binswanger, 2011). Available studies in the US indicate minority support among oncologists for the rescheduling of cannabis for medical purposes (Schwartz, Voth & Sheridan, 1997) and availability of cannabis on prescription (Doblin & Kleiman, 1991). US medical practitioner views on CTP are less in favour of medical use due to potential for adverse mental and physical health harms (Charuvastra, Friedmann & Stein, 2005; Kondrad & Reid, 2013). In Israel, medical practitioners reflect partial acceptance of

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CTP (Ebert, Zolotov, Eliav, Ginzburg, Shapira & Magnezi, 2015), with Israeli rheumatologists observing a majority opinion for the role of cannabinoids in the management of rheumatoid disease (Ablin, Elkayam & Fitzcharles, 2016).

To date no such research investigating the perspectives of medical professionals has been undertaken in Europe. We present here the qualitative findings from a national survey of general practitioners (GP) in Ireland, where in recent years, several regulatory developments and debates have taken place with regard to de facto decriminalisation of cannabis, and legalisation for medical use. In terms of previous Irish attitudinal and prevalence surveys, Irish males report greater use and knowledge of cannabis compared to females (Bryan, Farrell, Moran & O'Brien, 2000), with prevalence rates highest among men and younger adults aged 15-34 years (National Advisory Committee on Drugs and Alcohol (NACDA), 2012). Most recent Irish addiction treatment data shows that cannabis is the most common problem drug among new cases presenting for drug treatment (Bellerose, Carew & Lyons, 2011). Governmental recommendations have centred on decriminalisation with possession of small amounts of cannabis for personal use not to be dealt with through the criminal justice system, and advocating for the treatment of small-scale users with compassion. Another development centred on the Health Products Regulatory Authority granting marketing authorisation in 2014 for the cannabis-based medicinal product (Sativex®) to be used for treatment of spasticity for individuals with multiple sclerosis.

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Method

Participants

The Irish College of General Practitioners (ICGP) is the professional body for GPs in Ireland. Continuing medical education for general practitioners and training for GP registrars in Ireland is provided by the ICGP. Specialist training in the treatment and management of substance use problems is provided by the ICGP in Level 1 and 2 certifications. A national online survey investigating Irish GP attitudes toward decriminalisation of cannabis and assessing levels of support for CTP was administered to all GPs in the ICGP database.

Instruments

A survey tool was designed based on a review of extant literature and consultation between members of the research team. It consisted of the definition of decriminalisation as *'It is no longer a criminal offence for users to possess the drug for their own use'* followed by three sections namely; closed questions relating to participant profile and practice location, specialist Level 1 or 2 registration, experience in treating opioid users; a series of 5 point Likert scale attitudinal statements toward decriminalisation of cannabis, legalisation for CTP, potential for decriminalisation to increase cannabis use, adverse mental and physical health effects of cannabis use, cannabis use in young people and risk of development of schizophrenia, role of CTP in pain management, treatment of multiple sclerosis and palliative care (author cite); and a

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third section consisting of an open question designed to add participant views to the Likert scaled responses. We report here on this qualitative open ended data.

Procedure

Electronic invitations were sent to all GPs on the national register which included information on the study's aims and objectives, informed consent and the link to access the online survey. A notice encouraging response was also placed on the Substance Misuse Division of the ICGP website.

Ethical Considerations

Ethical approval was granted by the ICGP.

Data Analysis

Overall 6,512 words formed the open ended data set. Content analysis was conducted, with text segments referencing distinct views tagged by code names. Codes were not preconceived according to attitudinal scales, but with each new code identifying a new discrete view not previously mentioned. Coding for common and emergent themes was assisted by QSR –NVIVO which linked the codes and related textual passages. Analysis was conducted by author one in consultation with the last and corresponding author. Five themes emergent from the analysis namely; *'Young People and Family Impacts'; 'Adverse Health Consequences'; 'Legal Status and Comparisons to Legal Substances'; 'Decriminalisation and Legalisation Debates';* and *'Cannabis for Therapeutic Purposes'.*

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Results

Participant Characteristics

The response rate for this survey was low (15%) but consistent rates reported in systematic reviews on physician response rates (Van Geest, Johnson & Welch, 2007). All demographics of the participants are consistent with national data on GPs (O'Shea & Collins, 2016). See Table 1 (author cite).

Insert Table 1 about here

Young People and Family Impacts

Many GPs commented on how early onset of cannabis use, and use during childhood and adolescence impacted negatively on the lives of young people, their families and communities in their practice area. Of particular concern for some GPs was presentation of young people with mental health disorders, reported suicide attempts, and general apathy to engage productively in society.

> *'Cannabis is currently one of Irelands leading problem drugs and having a very negative impact on the mental health of young people, academic achievement and career prospects'.*
>
> *'We see a lot of very young teenagers in school in trouble from taking drugs usually cannabis and the whole family and other siblings also suffer.*

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Cannabis use sounds benign but it is ruining some children's lives and their families.'

Some comments were made around young people's perception of safety of cannabis use compared to more socially accepted forms of substance use such as alcohol or tobacco smoking. Many GPs observed the need for more intense efforts at drug education advising young people and their parents of the harms of cannabis use in schools and also via general practice itself, in order to deter early onset of use, and progression toward more serious excessive patterns of use.

'The perception is that it is safe, and no different from alcohol or cigs. I blame us, the medical profession for not highlighting its significant dangers and this needs education at secondary level where to be safe is to say a loud no to drugs'.

'More effort needs to be made to reduce the use and also educate our youth so prevent starting in the first place. We need to do everything we can to try and prevent teenagers using.

Some GPs were concerned with regard to potency of available cannabis on the street. Many described intergenerational impacts of cannabis use within families, the potential progression toward more serious forms of illicit drug use such as heroin and cocaine, and described opioid/cocaine dependent patients in their practices with prior histories of smoking cannabis.

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'Some areas in my practice, drugs have ruined the lives of whole families over two generations, I see it as a gate way drug.'

Adverse Health Consequences

The majority of GP comments underscored their awareness of mental health and dependence consequences of cannabis use over time, particularly when early onset of use is a factor. A minority commented on the associated cancer and respiratory disorders in the case of long term smoking.

'Sadly I have dealt with the mainly psychological negative effect of what is described as 'harmless social use' in a patients past, they are left with a life time of mainly mental health issues, which could have been prevented.'

'I have had to section three young teenagers and have seen many more teenagers seriously affected by smoking it. Many are now attending mental health and addiction services as a result'.

Some GPs were aware of pre-disposition to drug induced psychosis, and development of schizophrenia on excessive/ continual use in vulnerable individuals.

'I have seen several cases of psychosis related to cannabis use but believe this was in cases where there was an underlying tendency towards schizophrenia rather than that cannabis was a single direct cause'.

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A minority of GPs speculated on patient self-medication of underlying mental health issues with cannabis.

'Cannabis increases risk of developing schizophrenia in susceptible patients. And many people with mental health problems self-medicate already'.

Difficulties in treating cannabis use in patients with mental health disorders were described by some GPs, particularly relating to suicidal ideation and self-harm attempts, and who highlighted the need for enhanced psychiatric service supports in their communities.

'It is contributing to some suicides.'

Legal Status and Comparisons to Legal Substances

GP comments around harms of cannabis use and its legal status centred on public and medical practitioners comparisons of cannabis safety to nicotine, alcohol and opioid analgesics in terms of the consequences of use.

'Cannabis is potentially less harmful than cigarette smoking and than a lot of the opiate analgesics used in chronic pain syndrome which are finding their way onto the streets'.

Some comments centred on the acceptability of moderated use.

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'Cannabis use just like alcohol can have a negative effect on mental and physical health if consumed without moderation. Alcohol is legal'.

The majority of GP comments compared the illicit status of cannabis to licit status of alcohol, and the rates of risky drinking behavioural patterns in Ireland.

'It is immeasurably less harmful than alcohol, the great national vice.'

'The harmful effects of cannabis pale in comparison to alcohol but that does not make it harmless'.

Decriminalisation and Legalisation Debates

In many instances GPs used the terms *'decriminalisation'* and *'legalisation'* interchangeably.

'Legalisation' or 'decriminalisation' without regulations would of course be harmful, but right-touch regulation of cannabis would remove the criminalisation of this drug, with multiple positive societal effects.'

GP comments were mixed with regard to the current prohibitive approach in Ireland.

'I feel cannabis and other illicit drugs should be legalised. Prohibition in general does not work.'

'Despite agreeing to all of the harmful effects of cannabis, I feel it should be legalised. It would be better to have regulated use of harmful substances,

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than to pretend that by making them illegal, you would deter people from using these substances'.

Regulatory controls on cannabis itself and the decriminalisation/legalisation were viewed by GPs as potentially ensuring quality standards, standardised strengths of tetrahydrocannabinol (THC) content and ensuring public safety in consumption of the drug. Some commented on the potential revenue income generated.

'Another advantage with decriminalisation would be the ability to enforce quality and strength controls.'

'My version of decriminalisation is that we would have registered suppliers (as with any other drug/alcohol) who would meet certain production values/assessments/tax liabilities etc. They would (like alcohol and tobacco producers be required to label their products with relevant appropriate health warnings. Production or supply of drugs not meeting these criteria would be a criminal offence, with complete regulation of market and users'.

'Legalise and legislate. Have it sold through pharmacies and have taxable revenue stream'.

Some GPs commented on the potential displacement of cannabis out of illicit drug networks if legalised nationally.

If cannabis is to be legalised then it should be seen for what it is: A recreational drug, the use of which carries negative effects, both mental and

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> *physical. It should be managed like alcohol or tobacco and only sold under license. The main reason to decriminalise it is to take it away from the illegal drug pedlars.'*

Decriminalisation comments centred on the benefits of de facto decriminalisations in terms of this reduced contact with street dealers and reduced illicit income generation, versus the potential for increased prevalence of use with resultant negative repercussions and cost to society.

> *'I have mixed feelings about the decriminalisation of cannabis. On one hand, it may reduce the dangers of being in contact with drug dealers/reduce drug industry etc, on the other hand, it may lead to more of the population overall using cannabis and lead to problems of its own (mental health, driving issues...).'*

GP comments were mixed around potential increased public use of cannabis as consequence of decriminalisation.

> *'I think there would be an initial increase in cannabis use but this would balance out over time'.*

Many GPs with experience of significant negative mental health impacts of cannabis use were not in favour of decriminalisation due to concerns around harm.

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'Decriminalisation would inevitably lead to increased availability and I would be concerned that some people may develop psychotic illnesses who wouldn't have otherwise'.

'Those that politically lobby for its decriminalisation are not involved in the long term complicated mental and physical health care of that individual.'

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A minority of GPs commented on the decriminalisation model implemented in Portugal over a decade ago, and how it aimed to address more serious forms of use. They recognised the required investment in terms of medical, treatment and social supports.

'While I believe cannabis is not as benign as its supporters often portray I believe the Portuguese model has more to offer in terms of addressing harmful use and offering treatment to people who find difficulty with it. It should be managed on the medical rather than criminal model'

'The problem I see is the use and early involvement with crime and criminal records in deprived areas and knock on effects in people's lives. The example of Portugal which has decriminalised all drug use is interesting. This has to go hand in hand with more youth resources and community funding. Otherwise we are simply continuing to hand these populations to drug dealers on a plate'.

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GPs underscored the need for an evidence based approach to regulation and control, and cognisant of the input from medical practitioners and educators.

> *'Although cannabis is a toxic substance and it's use is dangerous there are avoidable consequences of its illicit status that could be avoided by decriminalising it. There should still be resources devoted to discouraging its use and informing people of its dangers. However, users should probably be treated for addiction (or possible addiction) rather than through the criminal justice system. Distributors and people who produce or trade in it should still be prosecuted.'*

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Cannabis for Therapeutic Purposes

GP observations around the prescribing of cannabis for medical reasons were mixed and centred on the available evidence base for use in treatment of certain medical conditions, and the need for regulation of products.

> *'If it was regulated, quality controlled and prescribed properly, I feel it would benefit the end user'.*

> *'I regard the potential controlled use of cannabis for these medical purposes, to be a very different thing to legalising the use of cannabis for recreational purposes'.*

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Some GPs were concerned around the prescribing of cannabis and potential for misuse of the product, patient recreational use of cannabis products for intoxication purposes, and risk of escalation toward problematic use, particularly in vulnerable patients.

> *'Decriminalise/legalise recreational use instead of making doctors the de facto drug dealers to "sick patients" (There may well be medicinal benefits but I think the vast majority of "patients" seeking "treatment" would actually be using it recreationally and this would not sit well with me as a doctor).'*

Many GPs voiced concerns around patient misuse of and access to prescribed cannabis medications particularly for patient registered on the Irish General Medical Scheme (GMS) where medical care and prescriptions are subsidised by the government. Some comparisons were made to the recent rise in misuse and dependence on, and street trade in opioid analgesics, benzodiazepines and Z-hypnotic drugs in Ireland.

> *'Giving Irish people access to free cannabis on the GMS is like giving a child a credit card and dropping them off outside a sweet shop. A recipe for disaster! '*
>
> *'Prescribed Cannabis would of course be open to abuse as in the case of opiates and benzodiazepines'.*

Many observed the weak evidence base for CTP, and questioned its place against the availability of better forms of medical therapy.

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> *'I think cannabis should only be legalised for medical use if its efficacy were proven to be beyond that of other medications.*

> *'I personally have not heard definite clear medical benefits over other conventional therapies and I certainly would not like to see medical marijuana in Ireland leading to a scenario where doctors are prescribing marijuana to people with a range of ailments from back pain to epilepsy, as in certain US states'.*

GP views around potential cost-benefits of cannabis in treatment of pain, multiple sclerosis and in palliative care were mixed.

> *'Cannabis if legalised and regulated could offer an additional resource in the management of chronic pain and also help as an appetite stimulant in patients with conditions such as cancer and MS'.*

> *'I believe there would be a true improvement in palliative and chronic illness patients' well-being with the availability of cannabis as a prescribed drug'.*

> *'While cannabis would undoubtedly have a role in pain management, I do not think it should be legalised, even for medical use as it is too open for abuse and there is no gaping hole in pain management where cannabis is the only drug that can help, overall the risk of abuse and all the negative effects which are all too evident far out way any potential benefit'.*

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GP comments on CTP centred on the need for further investigation into the use of standardised formulation of cannabis containing products for medical conditions.

> *'There is a significant accumulation of albeit low quality evidence that suggests it's benefit in some cancers. Regulation for medical use would at least allow for this to be further explored. The potential benefits would in many cases outweigh the risks'.*
>
> *'We struggle to follow evidence based medicine with licensed medication. If cannabis is to be used it should go through the rigorous testing that any licensed medication.'*

For Peer R

Discussion

The study was the first of its kind in Ireland, and Europe, and builds on growing global interest into the debate around de-facto decriminalisation of cannabis, legalisation and CTP. We recognise the limitations of the study given the relatively small sample size of 567 GPs for this open-ended textual analysis. However, the findings are validated in terms of what is reported elsewhere in terms of medical professional concerns around potency of available cannabis on the street, mental and physical health consequences, and dependence, patient vulnerabilities to psychiatric conditions, and the need for an enhanced evidence base for CTP. Concerns were evident around potential misuse of prescribed cannabis containing products and increased prevalence trends occurring on

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de-facto decriminalisation. Studies elsewhere however have indicated that decriminalisation does not result in significant increases in cannabis use (Kilmer, 2002; Maag, 2003; Single, Christie & Ali, 2000); and incurs a marginal effect on onset of cannabis use among young people (Korf, 2002; Reinarman, Cohen & Kaal, 2004; van den Brink, 2008). However, Yuyan, Michela & Ruopeng (2015) in their review of 38 countries reported that partial prohibition of cannabis is associated with higher levels of regular cannabis use among adolescents. Hall and Lynskey (2016) have speculated whether the potential effects of legalising recreational cannabis use may also increase the number of new cannabis users. GP concern for the effect of cannabis use among young people, and intergenerational impacts particularly those living in marginalised areas was evident, and underscored the need for enhanced preventative measures in schools and in community primary care. Studies show that recreational use of cannabis is largely determined by environmental factors, but with dependence genetically inherited and is affected by increased levels of THC (Agrawal, Neale, Prescott & Kendler 2004; Compton Thomas, Conway & Colliver, 2005; Golub Johnson & Dunlap 2006; Schlossarek Kempkensteffen, Reimer & Verthein, 2016)

Barrett and Bradley (2015) have recently reported on relatively low levels of Irish adolescent perceived risk of mental and physical health problems with cannabis use. According to EUROBAROMETER (2014), Ireland has the highest number of young people who have used cannabis in the past year (28%), compared to an EU

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average of 17%; with 46% of young Irish people considering regular cannabis use to be high risk, compared to an EU average of 63%. The great overlap between medicinal and recreational cannabis use in the US has been reported on (Pacula, Chriqui & King, 2016). Previous general population surveys in Ireland have reported on majority agreement with CTP; and disagreement with recreational use of cannabis (NACDA, 2012). The EUROBAROMETER in 2014 also reported that 56% of Irish 15-24-year-olds agreed that the cannabis market should be regulated, which is almost a reverse position of the EU average. We recognise that individuals with personal experience of cannabis use are more inclined to be in favour of legalising (Williams, van Ours & Grossman, 2016).

GPs in this national study were concerned around patient pre-disposition to drug induced psychosis, patient self-medication with cannabis and related health harms. Kondrad and Reid (2013) have also reported on the majority agreement of US physicians with regard to the serious mental and physical health consequences of cannabis use. Early onset of use and excessive long term use of cannabis are associated with dependence, psychosis, suicidal ideation, development of schizophrenia and depression (Nussbaum, Thurstone & Binswanger, 2011; Shapiro & Buckley-Hunter, 2010). Debates continue around the cannabinoid hypothesis of psychosis, whereby exposure to cannabis and cannabinoid agonists is associated with psychosis through activation of CB1R (McLaren, Silins, Hutchinson, Mattick & Hall, 2010;

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Radhakrishnan, Addy, Sewell, Skosnik, Ranganthan & D'Souza, 2012; Sewell, Skosnik, Garcia-Sosa, Ranganathan & D'Souza, 2010). A causal relationship has not yet been established (International Centre for Science in Drug Policy, 2015).

Regulatory controls in the case of legalisation for medical use were viewed some Irish GPs as potentially ensuring quality standards, standardised strengths, and ensuring public safety in consumption of the drug, whilst displacing cannabis out of illicit drug networks. Others voiced concerns around potential misuse in the event of availability of prescribed cannabis. Few similar studies are available on medical practitioner attitudes toward CTP. In 2005, US physicians reported less support of CTP than the public (Charuvastra, Friedmann & Stein, 2005). CTP is driven by public approval without the evidence base to justify new medication regulation (Bostwick, 2012; Porche, 2012). Beliefs in the medical benefits of cannabis are salient for the support of legalisation (Sznitman & Bretteville-Jensen, 2015). Other studies on medical professional views around CTP are mixed and indicative of partial acceptance of CTP as a potential treatment avenue (Kondrad & Reid, 2013; Ebert, Zolotov, Eliav, Ginzburg, Shapira & Magnezi, 2015). Of interest is the reported difference between oncologists and pain specialists who did not agree unanimously that medical cannabis can undermine mental health, whereas other physicians did (Ebert, Zolotov, Eliav, Ginzburg, Shapira & Magnezi, 2015). Despite these mixed views on the merits of CTP, available studies on medical professional views on medical cannabis emphasise the

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need for formal training and medical education on CTP (Ablin, Elkayam & Fitzcharles, 2016; Ebert Zolotov, Eliav, Ginzburg, Shapira & Magnezi, 2015; Kondrad & Reid 2013; Ziemanski Capler, Tekanoff, Lacasse, Luconi & Ware, 2015).

Conclusion

The study is unique in terms of illustrating Irish GP views around cannabis use, decriminalisation, legalisation and levels of support for CTP. Continued efforts to raise medical and public awareness around the changing policy landscape for cannabis, evidence for therapeutic use, and regulatory policy developments are warranted.

For Peer Review

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Table 1 Participant Characteristics[1,2]

	Total (*n* 565)	Male (*n* 278)	Female (*n* 287)	*P*-value
Age ***n*****(%)**				
<30 yrs	41 (7.3)	16 (5.8)	25 (8.7)	0.180
30-50 yrs	300 (53.2)	121 (43.7)	179 (62.4)	0.288
>50 yrs	223 (39.5)	140 (50.5)	83 (28.9)	<0.0001
Membership of the ICGP *n*(%)				
Associate, part-time, other	18 (3.2)	8 (2.9)	10 (3.5)	0.681
Full-Time	403 (71.3)	204 (73.4)	199 (69.3)	0.288
Retired	36 (6.4)	24 (8.6)	12 (4.2)	0.030
Trainee	108 (19.1)	42 (15.1)	66 (23.0)	0.017
Training *n*(%)				
On the GP Specialist Register	435 (77.5)	216 (78.3)	219 (76.8)	0.687
Working in General Practice	482 (85.3)	242	240	0.250

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		(87.1)	(83.6)	
Working in Academic General Practice	129 (23.0)	64 (23.4)	65 (22.7)	0.859
Level 1 trained GP managing opioid users	169 (29.9)	77 (27.7)	92 (32.1)	0.258
Level 2 trained GP managing opioid users	25 (4.4)	16 (5.8)	9 (3.1)	0.130
Practice population *n*(%)				
Mixed	211 (39.7)	110 (41.5)	101 (38.0)	0.405
Rural	88 (16.6)	42 (15.8)	46 (17.3)	0.655
Urban	232 (43.7)	113 (42.6)	119 (44.7)	0.626
Working in an area of deprivation	211 (39.4)	99 (37.4)	112 (41.5)	0.329

[1]Values are *n* (%); [2]Chi-square analysis for categorical variables for comparisons of distributions between gender

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