

# A Survey on the Medical Use of Cannabis in Europe: A Position Paper

Jørgen G. Bramness<sup>a–c</sup> Geert Dom<sup>a, d, e</sup> Antoni Gual<sup>a, f</sup> Karl Mann<sup>a, g</sup>  
Friedrich Martin Wurst<sup>a, h, i</sup>

<sup>a</sup>European Federation for Addiction Societies (EUFAS), Barcelona, Spain; <sup>b</sup>Norwegian National Advisory Unit for Comorbid Drug Abuse and Mental Illness, Innlandet Hospital Trust, Brumunddal, Norway; <sup>c</sup>Institute of Clinical Medicine, University of Tromsø, Norway's Arctic University, Tromsø, Norway; <sup>d</sup>Collaborative Antwerp Psychiatric Research Institute (CAPRI), Antwerp University (UA), Antwerp, Belgium; <sup>e</sup>Antwerp University Hospital (UZA), Edegem, Belgium; <sup>f</sup>Grup de Recerca en Addiccions Clínic, Hospital Clínic de Barcelona, IDIBAPS, Universitat de Barcelona, Red de Trastornos adictivos (RETICS), Barcelona, Spain; <sup>g</sup>Central Institute of Mental Health, Medical Faculty Mannheim, University of Heidelberg, Mannheim, Germany; <sup>h</sup>Psychiatric University Hospital Basel, Basel, Switzerland; <sup>i</sup>Center for Interdisciplinary Addiction Research, UKE Hamburg, Hamburg, Germany

## Keywords

Cannabis · Medical cannabis · Europe

## Abstract

**Aim:** This study was aimed at investigating the availability and prescription of different medicinal variants of cannabis and their status in European countries. **Methods:** A web-based survey was sent to all member societies of the European Federation of Addiction Societies (EUFAS) in 2 waves during the summer of 2017. All 34 member societies in 19 different European countries were invited to participate. **Results:** We received 28 responses from 17 European countries. The cannabis extract nabiximol (Sativex<sup>®</sup>) is the most prevalent cannabis-based medicinal product marketed in Europe. Synthetic cannabinoids and standardized cannabis are less prevalent, and no country allows the growing of cannabis for personal medical use. The bringing of medi-

cal cannabis products from across borders to countries where the drug is not marketed is quite limited. The use of medical cannabis is restricted to some central medical conditions, but off-label use is prevalent in some countries. **Conclusion:** The use of medical cannabis in Europe seems to be restricted mostly to the use of the cannabis extract, nabiximol. There is only limited use of the cannabis plant as such for medical purposes, possibly indicating a different scenario in Europe as compared to the USA. **Position Statement:** EUFAS as an umbrella association of European addiction societies stresses the need for further studies on the efficacy of medical cannabis and warrants for possible dangers associated with the increasing popularity of medical cannabis. We need regulations at European level concerning registration and medical indications, development of uniform compounds and strength of products, and rules concerning sales and marketing.

© 2018 S. Karger AG, Basel

## Introduction

Based on some evidence [1], albeit debated [2, 3], and a common belief in the medical benefits of the cannabis plant and also based on a public opinion wanting to change drug laws, [4], several US states have allowed the use of cannabis for medicinal purposes.

There is increasing research regarding the possible medical uses of cannabis. The most promising lines of research were into wasting syndrome as part of AIDS [4], spasm in relationship to multiple sclerosis (MS) [5], pain [6], nausea following chemotherapy for cancer [7], and also glaucoma [8]. There are also several reports on the use of cannabis for other maladies, such as post-traumatic stress disorder, amyotrophic lateral sclerosis, Tourette's disease, epilepsy, Crohn's disease, attention deficit and hyperactivity disorder (ADHD), fibromyalgia and others [9]. A meta-analysis performed and published in 2016 concluded that there was moderate evidence for the effect of cannabis on pain and spasm related to MS, but low evidence for their use in chemotherapy-related nausea, AIDS-related wasting, insomnia and Tourette's syndrome [1]. Others are much more skeptical, criticizing this meta-analysis for its methodology and claiming that the evidence for therapeutic use of cannabis is very low [10].

Possibly, as a reflection of the political significance of medical cannabis in the US, the product used has to a large degree been cannabis as such, most often in the form of marihuana. As highlighted by the Irish report of 2017 [11], other products are more often used in Europe. This could be marijuana with known content of  $\Delta^9$ -tetrahydrocannabinol and cannabidiol (e.g., Bedrocan<sup>®</sup>), synthetic cannabinoids such as nabilone or dronabinol, or cannabis extracts (nabiximols; Sativex<sup>®</sup>).

Also in European countries, there is an ongoing debate on the legislation of cannabis. Pressure groups working for the decriminalization and legalization of cannabis are also quite active in the discussions on medical cannabis. Much of the online information on the legislation on medical cannabis produced by such NGOs may in fact present a too optimistic view of the current legislation in different countries.

The aim of the current study was to investigate the status, that is, availability, legal, of different medicinal variants of cannabis and their use in real clinical practice in several European countries. In an online survey of member societies of European Federation of Addiction Societies (EUFAS), the following two questions were asked:

1. To what extent are cannabis and different types of derivatives allowed for medical use in your country? What products have a market authorization?
2. For what medical conditions is the drug used?

## Materials and Methods

### Materials

This web-based survey was sent to all member societies of the EUFAS in 2 waves during the summer of 2017. EUFAS is an umbrella organization connecting national country addiction societies (www.eufas.net). All 34 member societies in 19 countries were asked to name up to 5 individual responders, that is, national researchers or clinicians in the addiction field. If no answer was received, up to 2 reminders were sent. The invitation was sent by personalized e-mails to avoid being caught in the e-mail-programs spam, filters. From the member societies where no response was received, the authors of this paper searched the personal files for country contacts. As a last resort, the web was searched for researchers on medical cannabis in the respective countries, and e-mails were sent to them.

Twenty-eight responses from 17 European countries were received. Where more than one response was received from a country, the answers were aggregated to construct one answer per country.

### Methods

The survey included questions on (a) synthetic cannabis (nabilone, dronabinol), (b) cannabis extract (nabiximol; Sativex<sup>®</sup>), (c) standardized cannabis (Bedrocan<sup>®</sup>, Bedrolite<sup>®</sup>), (d) growing cannabis for personal use and medical purposes, and (e) the use of wild-type cannabis for medical purposes.

For all these, several questions were asked: if there was a market authorization, and if the drug was in fact marketed. What the indications for use and possible off-label use were. We also asked about the possibility for the so-called compassionate prescribing, that is, import for personal use from countries where the drug is marketed after receiving a prescription from a doctor. Lastly, we asked about the possibility of bringing the drug from abroad when travelling, allowing patients to go abroad to get a prescription and returning home with medical cannabis for personal use.

When asking about the medical conditions for which the drug is used, we addressed both the official indications and the other conditions for which the drug was used off-label.

### Ethics

This article does not contain any studies with human or animal subjects.

## Results

The main results concerning the availability of different kinds of medical cannabis products in different European countries are shown in Table 1. Five countries

**Table 1.** The responses to the web-based survey among the EUFAS member societies on whether they have different cannabis-based product on the market for medical purposes

Country (number of responders)	Synthetic cannabis (Marinol <sup>®</sup> , dronabinol)	Cannabis extract (nabiximol; Sativex <sup>®</sup> )	Standardized cannabis (Bedrocan <sup>®</sup> , Bedrolite <sup>®</sup> )	Growing for personal use and medical purposes	Wild-type cannabis for medical use
Austria (2)	Yes	Yes	No	No	No
Belgium (1)	No	Yes	No	No	No
Denmark (1)	No	Yes	No	No	No
Finland (2)	No	Yes	No	No	No
France (1)	No	Yes	No	No	No
Germany (2)	Yes	Yes	Yes	No	No
Italy (1)	No	No	No	No	No
Lithuania (2)	No	No	No	No	No
Netherlands (1)	Yes	Yes	Yes	No	No
Norway (5)	No	Yes	No	No	No
Poland (1)	No	Yes	No	No	No
Portugal (1)	No	No	No	No	No
Romania (1)	No	No	No	No	No
Russia (1)	No	No	No	No	No
Spain (3)	Yes	Yes	No	No	No
Sweden (1)	No	Yes	No	No	No
United Kingdom (1)	Yes	Yes	No	No	No

No response from member societies in: Croatia, the Czech Republic, Greece, Hungary, Ireland, and Luxembourg.

(Austria, Germany, the Netherlands, Spain, and UK) indicated that they had marketing authorization for synthetic cannabinoids. Nabiximol (Sativex<sup>®</sup>) was the drug with most wide spread authorization; it was marketed in 12 of the 17 responding countries and only 5 countries stated that the cannabis drug does not hold marked authorization. Two countries (Germany and the Netherlands) allowed the use of standardized cannabis. No countries allowed personal growing of cannabis for medical purposes or the use of wild-type cannabis for medical purposes.

Judging from the not always identical answers from the countries with several responders, there was a bit of uncertainty whether or not patients are allowed to bring cannabis-based medicines for personal use when traveling from one country to the other or if compassionate prescribing is allowed. These data are not shown. Compassionate prescribing of synthetic cannabinoids was allowed in Belgium, Norway, and Romania, while bringing synthetic cannabinoids for personal use was allowed in Norway and Portugal. Compassionate prescribing of cannabis extracts was allowed in Lithuania and Portugal, while bringing cannabis extracts for personal use was allowed in Portugal. Norway and UK allowed bringing standardized medical cannabis for personal use.

Table 2 shows the different indications allowed for each type of cannabis drug. With regard to comprehensiveness, the data are not presented for each country, even if the indications and the off-label use varied substantially between the countries. The great variation between the responses of the countries and even responders within one country may reveal that there is some confusion regarding the allowed indications and off-label use. Cannabis products were most often used for vomiting and nausea following chemotherapy, but also in general, for glaucoma (only Denmark) and for spasticity and pain in MS. Some countries mentioned depression and sleeplessness (both standardized cannabis in the Netherlands) and Tourette's syndrome (Austria, Denmark, and Norway) as allowed indications.

The conditions for which cannabis is used off-label are of course more varied. Table 2 only mentions the off-label uses not listed among the authorized indications, even if some countries responded that they only used cannabis for one of these indications off-label.

## Discussion

The major finding of this web-based survey among member societies of EUFAS are that: (1) nabiximol (Sativex<sup>®</sup>) is the most prevalent cannabis product for medi-

**Table 2.** The different indications for which different cannabis products are marketed in different European countries

	Synthetic cannabis	Cannabis extract	Standardized cannabis	Growing personally	Wild-type cannabis
Authorized indications	<ul style="list-style-type: none"> <li>- Glaucoma</li> <li>- Vomiting and nausea (also following chemotherapy)</li> <li>- Pain (also MS)</li> <li>- Spasticity (MS)</li> <li>- Palliative medicine</li> <li>- Tourette's syndrome</li> </ul>	<ul style="list-style-type: none"> <li>- Vomiting and nausea (also following chemotherapy)</li> <li>- Pain (neuropathic and MS)</li> <li>- Spasticity (MS; some only treatment resistant)</li> <li>- Spasticity in other neurological disorders</li> <li>- HIV/AIDS</li> <li>- Tourette's syndrome</li> </ul>	<ul style="list-style-type: none"> <li>- Spasticity (MS; some only treatment resistant)</li> <li>- Pain (neuropathic and MS)</li> <li>- Depression</li> <li>- Sleeplessness</li> </ul>		
Off-label use (other)	Cannabis use disorder	<ul style="list-style-type: none"> <li>- Mental disorders</li> <li>- Cannabis use disorders</li> <li>- Inflammatory bowel disorder</li> <li>- Cancer glioma</li> <li>- Treatment-resistant epilepsy</li> </ul>	Many indications (more diffuse mentions)	<ul style="list-style-type: none"> <li>- Many indications (more diffuse mentions)</li> <li>- Pain</li> <li>- Sleeplessness</li> <li>- Spasticity stress</li> <li>- Spain: cannabis clubs</li> </ul>	Many indications (more diffuse mentions)

cal use in Europe. (2) Synthetic cannabinoids and standardized cannabis are less used and only one country allows for growing of cannabis for personal medical use. (3) The bringing of medical cannabis products from across borders to countries where the drug is not marketed also seems to be quite limited. (4) The use of medical cannabis is limited to some central medical indications like vomiting and nausea following chemotherapy and spasticity and pain in MS. (5) Off-label use includes many other medical conditions in some countries.

The context of medical cannabis in Europe is quite different from that in the US [11]. In the US, medical cannabis was introduced largely to bypass international laws regulating cannabis use. In Europe, medical cannabis was introduced through more regular medicinal channels and authorized through the medicinal agencies [12]. Even if debated, there has been an increasing knowledge on the medical possibilities of cannabis-related drugs [11, 13], but still the introduction of medical cannabis has been slower in Europe wanting to lean more on medical evidence than what we have seen in the US. In the US, the widespread use of medical marijuana paved the way for legalization and increasing commercialization. It is difficult to speculate if the medical use of cannabis in Europe will have a similar impact on the attitude towards recreation use of cannabis and the legislation surrounding it [14].

This study has several limitations as it is a short web-based study with limited response. We know from oth-

er publications that, for example, Sativex<sup>®</sup> apparently is approved for marketing in 17 European countries [12]. The results of our survey confirm the prominence of Sativex<sup>®</sup>. It was reported in 12 countries by our responders. However, due to the limited response in our survey, it cannot be concluded whether some of the countries having the drug on the market are non-responders or whether, although approved for marketing, the use (and knowledge of) in real life practice is limited. Indeed, data on the use in real life practices within the different countries are very scarce, and we do not have information on the level of prescribing or use of medical cannabis. Thus, in spite of our low response rate, we think the present data provide an important indication of the medical cannabis context in Europe. Finally, we need to be aware that this is a rapidly changing field and regulations in any given country may change quickly [11].

Given the high variability and diversity of the context of medical cannabis use and policies in Europe, the EU-FAS has taken the results of this survey as a starting point to express its position towards the evolution of medical cannabis in Europe. Within the public opinion, the popularity of medical cannabis use is growing. This trend is being enforced by both the commercial interests involved and the media attention generated. However, caution is needed when several critical elements are still in need of substantiation and generalization (and possible commercialization) and might carry negative public health con-

sequences. The following topics need to be addressed more thoroughly to provide a basis for future policy development:

1. There is as yet not enough critical mass of evidence to support the use of medical cannabis in the treatment of most medical conditions. More studies are needed to explore the effectiveness and safety of cannabis use and identify its effect on specific disorders.

2. There is a need to standardize the different cannabis products. This relates to the administration form (smoking, vapor or oral) and standard dosage of active compounds. Regulations (and registration) on a European level are warranted.

3. The increasing popularity of medical cannabis use and possible future regulation and commercialization initiatives (with associated marketing efforts) pose a great danger of changing the attitudes and perceptions, specifically in adolescents, towards favorable and positive attitudes with respect to cannabis use in general. This can be expected to be associated with an increase in cannabis use [15]. These risks call for well-balanced European level regulations concerning sales and marketing of these products.

## References

- 1 Whiting PF, Wolff RF, Deshpande S, Di Nisio M, Duffy S, Hernandez AV, et al: Cannabinoids for medical use: a systematic review and meta-analysis. *JAMA* 2015;313:2456–2473.
- 2 Deshpande A, Mailis-Gagnon A, Zoheiry N, Lakha SF: Efficacy and adverse effects of medical marijuana for chronic noncancer pain: systematic review of randomized controlled trials. *Can Fam Physician* 2015;61: e372–e381.
- 3 Maule WJ: Medical uses of marijuana (Cannabis sativa): fact or fallacy? *Br J Biomed Sci* 2015;72:85–91.
- 4 Turner AR, Agrawal S: Marijuana. StatPearls. Treasure Island (FL): StatPearls Publishing (LLC), 2017.
- 5 Iskedjian M, Bereza B, Gordon A, Piwko C, Einarson TR: Meta-analysis of cannabis based treatments for neuropathic and multiple sclerosis-related pain. *Curr Med Res Opin* 2007; 23:17–24.
- 6 Campbell FA, Tramer MR, Carroll D, Reynolds DJ, Moore RA, McQuay HJ: Are cannabinoids an effective and safe treatment option in the management of pain? A qualitative systematic review. *BMJ* 2001;323:13–16.
- 7 Duran M, Perez E, Abanades S, Vidal X, Saura C, Majem M, et al: Preliminary efficacy and safety of an oromucosal standardized cannabis extract in chemotherapy-induced nausea and vomiting. *Br J Clin Pharmacol* 2010;70: 656–663.
- 8 Sun X, Xu CS, Chadha N, Chen A, Liu J: Marijuana for glaucoma: a recipe for disaster or treatment? *Yale J Biol Med* 2015;88:265–269.
- 9 Pertwee RG: *Handbook of Cannabis*. Oxford, Oxford University Press, 2016.
- 10 Finnerup NB, Attal N, Haroutounian S, McNicol E, Baron R, Dworkin RH, et al: Pharmacotherapy for neuropathic pain in adults: a systematic review and meta-analysis. *Lancet Neurol* 2015;14:162–173.
- 11 HPR: Cannabis for Medical Use – A Scientific Review. Dublin, 2017.
- 12 Bifulco M, Pisanti S: Medicinal use of cannabis in Europe: the fact that more countries legalize the medicinal use of cannabis should not become an argument for unfettered and uncontrolled use. *EMBO Rep* 2015;16:130–132.
- 13 McKenna GJ: The current status of medical marijuana in the United States. *Hawaii J Med Public Health* 2014;73:105–108.
- 14 Sznitman SR, Bretteville-Jensen AL: Public opinion and medical cannabis policies: examining the role of underlying beliefs and national medical cannabis policies. *Harm Reduct J* 2015;12:46.
- 15 D’Amico EJ, Rodriguez A, Tucker JS, Pedersen ER, Shih RA: Planting the seed for marijuana use: changes in exposure to medical marijuana advertising and subsequent adolescent marijuana use, cognitions, and consequences over seven years. *Drug Alcohol Depend* 2018;188:385–391.

## Acknowledgements

The authors wish to thank all respondents from the EUFAS member societies; data engineer Birgit Hovde at Innlandet Hospital Trust, Hamar Norway for constructing the web-based survey, administering the survey and producing the spreadsheets for data investigation.

## Ethics Statement

This study did not involve any use of human material or research animals, and thus did not need an approval from the regional review board on medical research ethics.

## Disclosure Statement

J.G.B. has no conflicts of interest to report. G.D. has received honoraria from Lundbeck for alcohol research but has no conflicts of interest inflicting on this cannabis survey. A.G. has received honoraria from Lundbeck and D&A Pharma for alcohol research but has no conflicts of interest inflicting on this cannabis survey. K.M. has received honoraria from Lundbeck and Pfizer for alcohol research but has no conflicts of interest inflicting on this cannabis survey. F.M.W. has no conflicts of interest to report.